



Central West
catchment
management authority

Salinity

REPORT CARD INFORMATION SHEET

Salinity is the accumulation of salt in the soil and one of the seven Natural Resource Management (NRM) themes of the Central West Catchment Management Authority (CMA).

Our Catchment Action Plan (CAP) identifies nine salinity management targets to be met by 2016. This information sheet gives a summary of what salinity management is and the work done in this area through the Central West CMA.

Salinity in the Central West Catchment

Salinity is one of the major issues facing the NSW landscape. This problem affects both urban and rural areas.

Increasing salinity harms production in dryland farming and irrigation areas; changes vegetation; damages wetlands and rivers; causes erosion; lowers the quality of drinking water; and damages infrastructure such as buildings and roads.

While salt occurs naturally in our landscape, human activities such as land clearing, inefficient water use and vegetation changes can cause water tables to rise. These activities bring salt to the surface, causing a range of problems.

In the Central West Catchment, large areas of upland landscapes have geological systems prone to salinity development. These sites give us an opportunity to control recharge through establishing plantation forestry and highly productive pasture systems and shrubs.

Another part of our Salinity Program seeks to change farming systems on cropped and grazed landscapes. Increasing perennial components in these systems will lead to increased organic matter and lower recharge, minimising salt mobilisation in the landscape.

Our areas of focus attempt to reduce the level of salt that enters water courses within the Catchment. Reduced Salt Load and Electrical Conductivity (EC) levels in our river systems are the primary indicators of the success of our plan.



SALINITY MANAGEMENT

in action

Grant McAlpine and his family gained a new skill through recent Central West CMA incentive funding – picking, drying and grading saltbush seeds as part of a waterponding project.

The McAlpines matched CMA funding in the project dollar for dollar. However their contribution was not in cash, but the equivalent in saltbush seed – one thousand kilos of it.

Waterponding (see photo above) has been used for the last 25 years on their Girilambone property to regenerate pastures and groundcover on scalded claypan country. This process involves laser surveying a scalded site and grading a series of horse-shoe and circular banks around 70 centimetres high. These banks then hold rainfall and are seeded with saltbush to re-establishing groundcover on the scalded bare ground.

Mr McAlpine describes the results as “terrific”.

“It just makes healthy country out of it when the saltbush starts to grow naturally, seeding itself and then the perennial bushes, natural clovers and barley grass start regenerating.”

Apart from reducing salinity through establishing perennial groundcover, Mr McAlpine also estimates his lambing has improved by about 14 percent.

“It’s very rewarding to see the result on the country, and that has been made possible because of the CMA. Ray Thompson at the CMA in Nyngan was tireless in his efforts to help us.”

Work done against our 2016 CAP targets

The following diagram illustrates our progress against the nine Salinity CAP Management Targets as at June 2007.

(Refer to key below)

[M TSA1]

EC and Salt load levels at 50th and 80th percentiles (various).

Modelling to be commenced

[M TSA2]

Large interception plantings on 30,000ha of key upland landscapes

7346ha

[M TSA3]

Remnant vegetation in 150,000ha of key saline landscapes

2541ha

[M TSA4]

Large forestry plantings within 2000ha of key saline landscapes

Industry yet to take up option

[M TSA5]

Perennials increased by 100,000ha in identified recharge landscapes

56,210ha

[M TSA6]

Water efficient farming systems in 300,000ha of dryland cropping farming

24,527ha

[M TSA7]

Increase water use efficiency in 35,000ha of irrigation farming systems

Pilot water use efficiency training and systems assessment in sub-catchments

[M TSA8]

All 17 local government councils involved in urban salinity management

11 Councils

[M TSA9]

5000ha of salinity discharge sites have improved perennial based management

No work done yet

Definitions

Electrical Conductivity	The saltier water becomes, the better it conducts electricity. Measuring electrical conductivity (EC) tells us how salty water is. Measurements are in micro siemens per cm.
Interception plantings	are plantings of perennial vegetation that intercept sub-surface flow. This may be trees, shrubs or pastures.
Perennials	are types of vegetation that continues growing for at least three years, though usually much longer. These usually deep-rooted species will intercept sub-surface flow. They may be trees, shrubs, forbs, native grasses or pastures.
Recharge	occurs where more water enters the soil than can be used by the plants. It escapes downward through the root zone and can 'fill up' the water table. If this is in a salt store area the salt may be brought closer to the surface. Using plants that can use more water (i.e. perennials) can help overcome this.
Salinity	is the accumulation of salt in the soil.
Salinity discharge sites	are areas of the landscape where the watertable is close to or reaches the surface, bringing salt to the root zone.
Saline landscapes	are landscapes that have a high hazard of becoming saline, or currently contribute large salt loads or concentrations.
Salt load	is the amount of salt carried in a specific volume of water within a certain time period.
50th / 80th Percentile	means that 50% of the time levels (i.e. EC and salt load) will be below agreed target levels. However, because high spikes occur in the readings (e.g. first shower after an evaporation period), the reading will be below an agreed higher target level 80% of the time.

[KEY]



No work done specifically in this area yet



Programs in development



Programs implemented and contributing towards 2016 targets



Programs implemented and on track to meet 2016 targets

To find out more about our Salinity Program and how you can be involved please contact the Central West CMA

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vibrant communities ... healthy landscapes

