

# Salinity – watertable induced

**Capillary action causes salts to rise from a shallow saline watertable into the rootzone and surface soil layers**

**Watertable induced salinity** is soil salinity caused by the presence of shallow, saline groundwater, where capillary action brings salts into the rootzone and surface soil. The severity of salinity is primarily determined by the depth to groundwater, groundwater salinity and soil texture. In some districts, salinity occurs as isolated patches (saline seeps) in a landscape which is otherwise unaffected. In other districts, the effects of salinity are more uniform across the landscape.



High salinity ground dominated by salt-tolerant grasses

## Land assessment in southern South Australia

Assessments are based on a combination of soil test results and observations of vegetation type (e.g. samphire species are very common on land with high to very high levels of salinity). For lower levels, where effects are commonly sub-clinical except in sensitive species, soil test results are used (i.e. electrical conductivity measurements) in combination with knowledge of local stratigraphy, landscapes and groundwater.

Soil properties can vary metre by metre across the landscape in a subtle or dramatic fashion. [Mapping at a regional scale](#) is not able to display this level of variability, however proportions of each *Salinity – watertable induced* class (e.g. S1, S2, etc.) have been estimated for each map unit.

Further information can be found in [Assessing Agricultural Land](#) (Maschmedt 2002).

## Area statistics

Degree of limitation	Vegetative indicators	Area	Cleared land	Class*
Negligible	No evidence of salt effects	86.33%	84.23%	S1
Moderately low	Deep rooted horticultural species and pasture legumes affected	5.88%	7.78%	S2
Moderate	Many field crops and lucerne affected - Halophytes usually evident	2.26%	2.50%	S3
Moderately high	Too salty for most field crops and lucerne - Halophytes common	1.03%	1.27%	S4
High	Land dominated by halophytes with bare areas - Puccinellia and tall wheat grass thrive	1.25%	1.22%	S5
Very high	Land is too salty for productive plants - Supports only hardy halophytes	1.19%	0.84%	S7
Extreme	Bare surface, may be salt encrusted	0.69%	0.50%	S8
Not applicable		1.37%	1.65%	SX
TOTAL HECTARES		15,765,460	10,439,300	

\* The letter 'S' denotes classes that are specific to *Salinity - watertable induced*

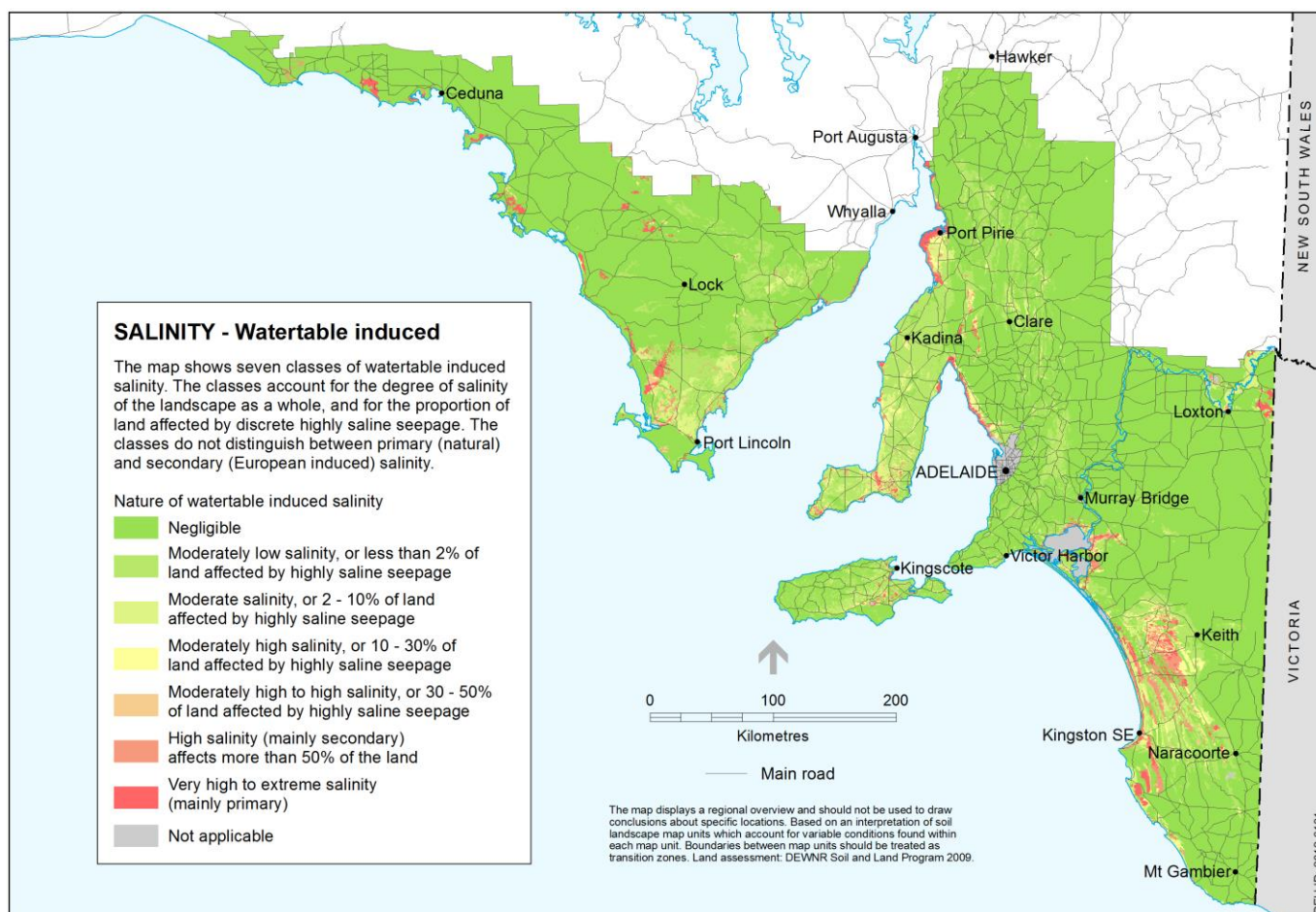


## Displaying data in soil maps

Soil attribute maps display a simplified version of the underlying data. Mapping classes are based on soil landscape map units. In this case, map units display the degree of salinity of the landscape as a whole, and the proportion of land affected by discrete highly saline seepages. Map units are ranked according to the severity of salinity and proportion of land affected. The latter criterion is important, as in many landscapes, the distribution of salt affected land is highly erratic.



Previously productive land degraded by salinity



## Further information

- View data on [NatureMaps](#) (→ Soils)
- Read the [metadata](#) for this layer
- Read more about [soil attribute mapping](#)
- Contact [Mapland](#)

Download from Enviro Data SA:

- [Statewide map](#) and [spatial dataset](#)
- [Assessing Agricultural Lands](#) (Maschmedt 2002)
- Soils of Southern SA book [Part 1](#) and [Part 2](#)



This work is licensed under the Creative Commons Attribution 4.0 International License.

To view a copy of this license, visit <http://creativecommons.org/licenses/by/4.0/>

© Crown in right of the State of South Australia, through the Department of Environment, Water and Natural Resources 2016. Last updated June 2016.

