Inherent fertility

For most primary production, highly fertile soils are most desirable, yet natural plant diversity is often greatest where fertility is low

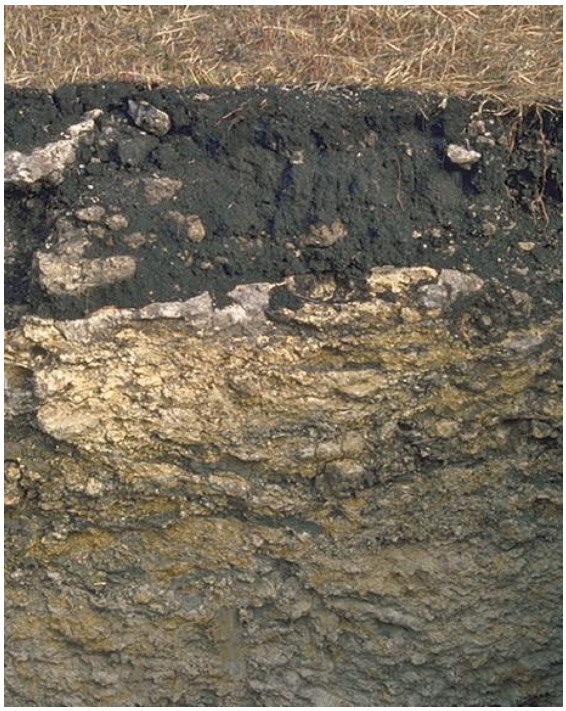
Inherent fertility is a relative indicator of the soil's capacity to retain and release nutrients for uptake by plants. The organic matter and the clay fraction hold virtually all plant nutrients and they also largely determine soil structure which in turn affects productivity. Soils at the extremes of fertility set the limits of the classification, and all other soils are fitted in between. Self-mulching black cracking clays are considered to be representative of South Australia's most chemically fertile soils, while highly leached sands are the least fertile.

Land assessment in southern South Australia

Each of the 61 soils representative of the range found across SA's agricultural zone has been given an inherent fertility ranking (score) on a scale from 1 to 5. Soils are categorised on the basis of soil texture, leaching capacity, exchangeable cation characteristics, susceptibility to acidification, carbonate and ironstone content and recorded fertilizer requirements. These scores are subjective and relative and should be treated as guidelines only.

Soil properties can vary 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 *Inherent fertility* class (e.g. N1, N2, etc.) have been estimated for each map unit.

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



This shallow dark clay loam on limestone (B5) soil has very high inherent fertility

Area statistics

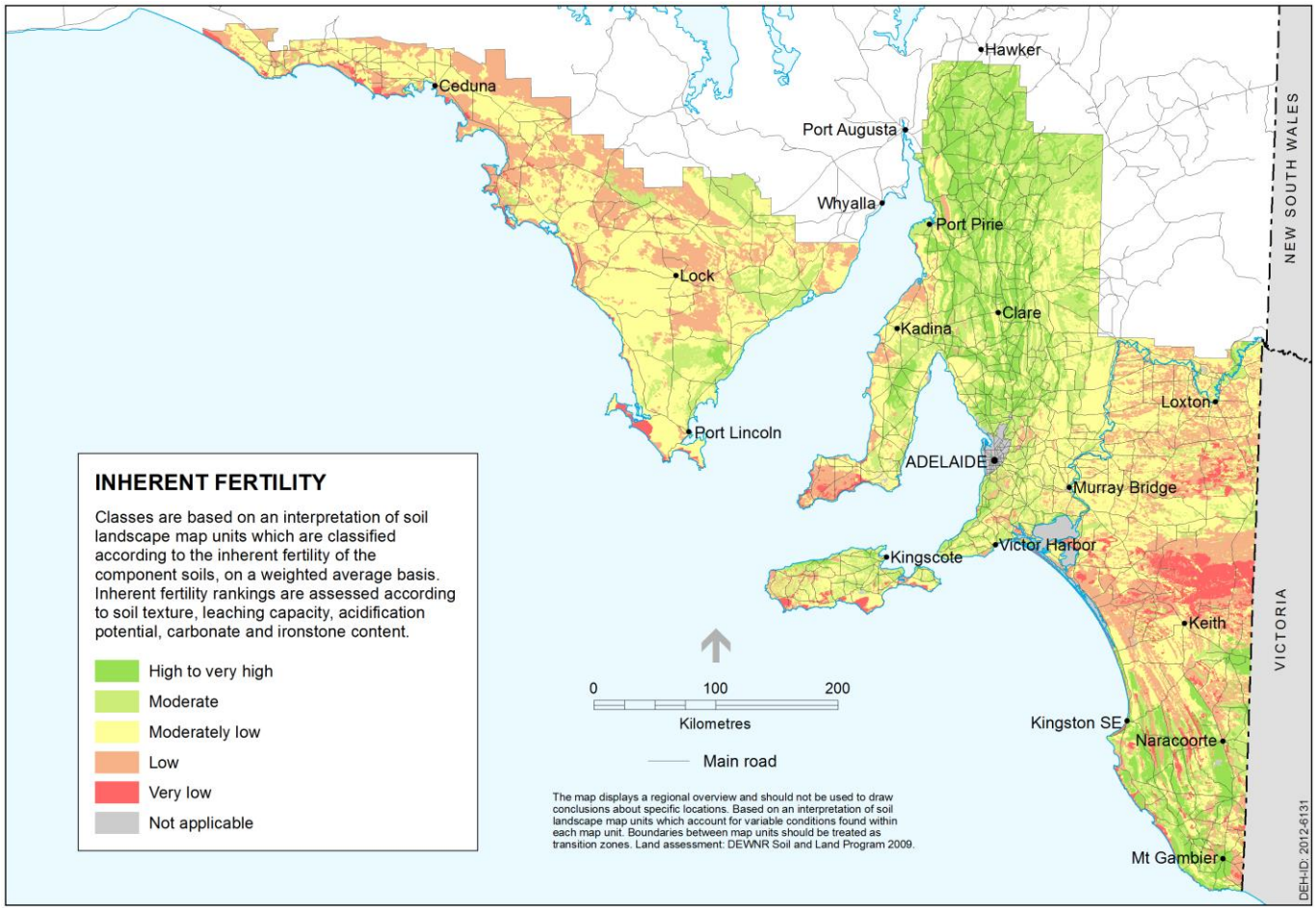
Inherent fertility	Area	Cleared land	Class*
High to very high	12.47%	14.31%	N1
Moderate	23.75%	23.20%	N2
Moderately low	38.19%	38.45%	N3
Low	19.04%	18.75%	N4
Very low	5.10%	3.55%	N5
Not applicable	1.46%	1.74%	NX
TOTAL HECTARES	15,765,460	10,439,300	

* The letter 'N' denotes classes that are specific to *Inherent fertility*

Displaying data in soil maps

Land and soil attribute maps display a simplified version of the underlying data. This is because, at the scale of mapping, a number of landscape elements and a range of *Inherent fertility* classes may be captured in each map unit. In this case, map units display a weighted average *Inherent fertility* score, based on the area proportions of different soils.

Highly calcareous sandy loam soil has low inherent fertility



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