






Groundwater Quality

Groundwater contains various kinds of dissolved salts (minerals) depending on the soil and parent rock of the area. Groundwater is a major source of water for human and livestock consumption including irrigation for crops. The information contained in the table below provides a summary of the water quality guidelines for Australian drinking, agricultural and livestock waters.

Water Quality Parameter	Guidelines - Acceptable levels for use				Comments
	Human consumption		Livestock	Irrigation	
	Aesthetic (mg/L)	Health (mg/L)			
					
TDS (total dissolved solids)	None set	500	Cattle: 7000 µS/cm Chickens: 3000 µS/cm Horses: 6500 µS/cm Pigs: 6000 µS/cm	Most crops: 0-280 µS/cm Plants with medium salt tolerance: 280-900 µS/cm Salt tolerant plants: 900 - 2300 µS/cm Not suitable: >2300 µS/cm	Water with a TDS level of 1000 and above, can cause excessive scaling and corrosion of pipes and fittings.
pH	None set	6.5 – 8.5	5.5 – 9.0	5.5 – 7.0	A pH of 7 is neutral, above 7 the pH is alkaline and below 7 the pH is acidic. A pH below 6.5 may be corrosive to pipe work. A pH above 8.5 may cause scale and taste problems and decreases the disinfection efficiency of chlorine.
Nitrate	Not applicable	Babies: 50 mg/L Adults: 100 mg/L	Cattle: 40 mg/L Horses: 30 mg/L Pigs: 30 mg/L	Most crops: 0-100 mg/L	The nitrate level has been set to protect bottle-fed infants less than 3 months old. Up to 100 mg/L can be safely consumed by adults and children above 3 months of age.

Potassium	None set	None set			Potassium is an essential element for humans.
Calcium		0-500 mg/L	0-1000 mg/L		High calcium carbonate forms scale in pipes, pumps and fittings. Not considered toxic Some chemical treatments may be incompatible with high calcium
Fluoride		1.5 mg/L	2.0 mg/L	1.0 mg/L	Fluoride is added to many town water supplies and levels up to 1 mg/L protect against dental caries. Levels above 1.5 mg/L can cause dental fluorosis (mottling of teeth).
Sulphate	250 mg/L	500 mg/L	Young cattle: 0 -100 mg/L Cattle: 900-1000 mg/L		The aesthetic value is based on a taste threshold. Negative health effects do not occur below 500 mg/L of Sulfate, and can include dehydration and diarrhoea.
Magnesium		0.1 mg/L	Suitable for all stock: 0-600 mg/L	Non-toxic Needs to be considered together with sodium and calcium levels	
Iron	0-0.3 mg/L	None set	0-0.3 mg/L	0-0.1 mg/L	Above this value the water may taste strange. High iron can give water a rusty-brown appearance and can stain laundry and fittings.

If your water analysis results are outside the guideline values given in the above table or you would like to discuss the quality of your drinking water further, contact your local Environmental Health Office for further information. Check out the following links for more information on water quality guidelines:

www.environment.gov.au/water/quality www.health.nt.gov.au/environmentalhealth/waterquality

Water treatment options can include the following:

- Carbon filters
- Water magnets
- Reverse osmosis
- Ion exchange
- Iron separation tank

For further information investigate the above items on the internet.

Further Information:

Water Resources - Department of Natural Resources, Environment, the Arts and Sport

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Katherine - 32 Giles Street, PMB123, Katherine NT 0852, **Ph:** 8973 8831

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