

KEEP AN EYE ON YOUR WATER QUALITY

Over time fine sediments, salts and nutrients can be washed into dams. These naturally sink to the bottom of dams and as water evaporates and water levels drop, concentration levels increase, reducing water quality.

Desilting empty dams will help remove accumulated sediments, salts and nutrients.

Poor water quality can lead to poor stock health or deaths and reduced production and livestock profitability and algal blooms can do the same: Essentially any aspect of water quality (salinity, taste, smell, organic pollution, pH etc) that makes water unpalatable to stock is a problem.

Maintaining vegetation cover in the drainage lines feeding your dam and limiting stock access to dams will improve the water quality in your dam. Keep an eye on your water quality and try to provide your stock with the best quality water you can.

SALINITY

Water salinity is generally the most important water quality limitation for livestock, as they can refuse to drink excessively saline water, leading to loss of production. Excessively saline water may also cause salt poisoning in livestock. Please see **Table 1 on the other side of this document** to check salinity tolerances of livestock.

You can contact the Kangaroo Island Landscape Board or the Department for Primary Industries and Regions SA (PIRSA) if you would like help testing the salinity or pH of your dam's water or advice on your waters suitability for stock or garden use.

NUTRIENTS AND BLUE-GREEN ALGAE

Nutrients come from inflow of water containing fertilisers, animal excreta and decaying organic matter. Excessive phosphorus and nitrogen in warm water may promote rapid blue-green algae growth and multiplication. Blue-green algae can produce toxins that are harmful and potentially fatal to livestock.

Blue-green algae blooms are a result of an imbalance of micro and macro-organisms. Blooms are more likely to occur in calm shallow water during summer and autumn when temperatures exceed 18 degrees Celsius in surface water with insufficient microscopic organisms to feed on algae and keep algal levels under control.



Signs of a blue-green algal bloom:

- A scum, looking like green or khaki paint or oil slick,, forms on downwind surfaces of water
- Algae are vulnerable to the effects of winds or currents so the scum may disappear and reappear on subsequent days
- An unpleasant odour is released, smelling like foul sewerage.
- Refusal of stock to consume water
- If you poke a wooden stick into the water and the algae sticks to the stick it is likely to be blue-green algae

WHERE CAN I GET ADVICE ON WATER QUALITY?

If you suspect that you have Blue-green algae or other water quality issues and need advice, please contact the **Kangaroo Island Landscape Board on (08) 8553 2476**, or **PIRSA on (08) 8553 4949**.

Table 1. Approximate tolerances of livestock to dissolved salts (salinity) in drinking water (TDS in mg/L).

Adapted from the Australian and New Zealand Guidelines for Fresh and Marine Water Quality

For quick approximate conversion from electrical conductivity (EC) expressed in the following units:			
EC units or $\mu\text{S}/\text{cm}$ to TDS (mg/L) use, or			$\text{TDS} = 0.64 \times \text{EC}$
dS/m or mS/cm to TDS (mg/L) use			$\text{TDS} = 640 \times \text{EC}$
Livestock	A: No adverse effects on animals expected (mg/L)	B: Animals may have initial reluctance to drink or there may be some scouring, but stock should adapt without loss of production (mg/L)	C: Loss of production and decline in animal condition and health would be expected. Livestock may tolerate these levels for short periods if introduced gradually (mg/L)
Beef cattle (mature, dry on pasture)	0–4000	4000–5000	5000–10 000
Sheep (mature, dry on pasture)	0–4000	4000–10 000	10 000–13 000
Sheep (mature, dry, confinement feeding)	0–4000		>7000
Sheep (weaners, lactating and pregnant on pasture)	0–4000		6600

For more information about the Australian and New Zealand Guidelines for Fresh and Marine Water Quality, scan the QR code or visit: www.waterquality.gov.au/guidelines/anz-fresh-marine.

