

Fact sheet 3: evaporation & seepage in dams

Evaporation control

Issues

- evaporation losses on exposed dams can exceed 50%
- evaporation rates are highest when the relative humidity between the air and water is the greatest
- the three factors that contribute to evaporation are:
 - *sun* (provides energy to convert water into a gaseous state)
 - *dry air* (evaporation is highest when the air immediately above the water is driest)
 - *wind* (because it removes the insulating layer of moist water immediately above the water's surface)
- evaporation losses are greatest in shallow dams because of their high surface area: volume ratio



Actions

- plant windbreaks around dams (avoiding deep-rooted trees on dam banks)
- consider deepening shallow dams (a permit may be required)
- consider one deeper dam instead of several shallow dams
- reticulate to troughs, rather than relying on open dams for watering stock
- reduce the amount of surface area exposed to the *sun* and *wind*:
 - *silicon films* eg Aquatain (top left)
 - *flotation devices* eg Agfloat (middle)
 - *covers or screens* for small dams or troughs

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Seepage & Leakage Control

Issues

- all unlined dams experience some seepage
- seepage losses can go unnoticed
- dry weather is causing cracks in dams
- cracks, holes, destabilisation and/or erosion caused by stock, yabbies, and burrowing animals (rabbits, wombats, foxes)
- pest & weed control
- *funding and other assistance is available through BCLN*



Actions

- monitor dams for seepage & leaks (look for damp or unusually green areas at base of banks)
- fence off dams from stock to protect dam base and banks
- plant native grasses to stabilise banks, reduce erosion and reduce siltation
- dig out and backfill yabby holes with moist clay when dam is low
- rip and re-compact fox, rabbit and wombat holes
- control vermin (see BCLN Fact Sheet : pest control)
- consider lining dams eg silage wrap
- secure liners eg perimeter trench
- protect dam liners from wildlife with a heavy layer of gravel
- fill large cracks with compacted clay or sand mixed with bentonite
- refill a dry dam slowly to encourage any cracks to reseal