

SOUTH GIPPSLAND
LANDCARE NETWORK



Greening Gippsland's dams
Victoria Drought Hub

Managing farm dams for stock & biodiversity



Stock vs biodiversity?

or

Stock + biodiversity?

Restricted stock access?

or

No stock access?

Process

4 dams across 2 properties

Water testing

Camera monitoring

Frog ID app

Fish release in 3 dams
(Spring, Causeway, Ramp)



Spring dam (no stock access)

Fenced off & revegetated 8 years ago, also natural regeneration

Feeds troughs in each of the paddocks on the home farm

Very high water quality

Stock shade & shelter

Peak load: 100 lactating cows & calves October - March



Ramped dam (Restricted access)

Fenced off & revegetated 1 year ago

Erosion concerns: outflow was collapsing into next paddock

Surface/water table - reliability?

Calving paddock

Very windy - evaporation

Experiment!

Peak load: 100 lactating cows & calves October - March



Control dam (Unrestricted access)

Close to and same catchment as Ramped dam

Open to stock at all times

Azola

Good comparison to Ramped dam but:

- smaller
- further downslope
- possibly higher nutrient load
- more protected (warmer, less wind?)



*Peak load: 100 lactating cows
& calves October - March*

Causeway dam

No stock access

Gully

Steep sided, deep

Very high water quality but
low dissolved oxygen

Lots of wildlife!





Fish release

Conservation strategy

Added logs to each dam

Island in Ramp dam

Dwarf galaxis

Southern pygmy perch



Ramped dam: Why?

Loss of land & water

Clogging outflow

Regular cleaning needed

Poor water quality

Calving risk



What were we hoping to achieve?

Arrest erosion

Better water quality

Biodiversity

Safer calving

Reduced evaporation

Shade & shelter

Reduced carbon footprint



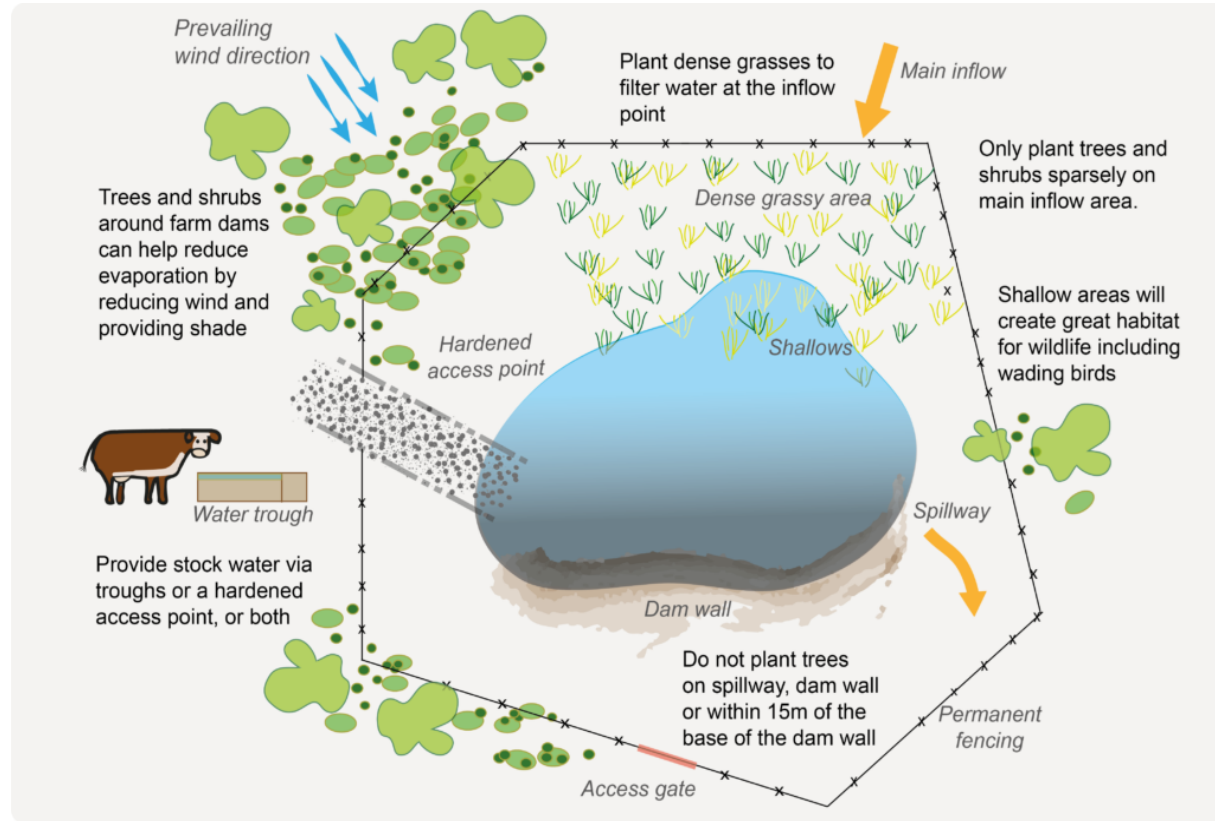
How?

Guided by:

“Natural Asset Farming”
(Lindenmayer et al)

Contractors
(Steve Collins,
Dave Harris)

Wonthaggi Seed Bank
(species selection)





Erosion



Water quality

October 2023
Ramped dam



October 2023
Control dam





Biodiversity

Ducks, herons, ravens,
magpies, grebes
Common froglet, banjo frog
Tiger snakes
Wombats
Bush rats
Fish

Foxes & deer (grrr)



BGLY 22°C 2020-01-22 20:42:29

2020-01-22 21°C 2020-01-22 20:27:42

15°C 2020-01-22 10:02:52

Were we successful?

Arrest erosion



Better water quality



Biodiversity



Safer calving



Reduced evaporation

TOO EARLY

Shade & shelter

TOO EARLY

Reduced carbon footprint

TOO EARLY

Other?

Easier stock management
Better grazing distribution

How much did it cost?

Fencing around dam (150m)	3565
Pump hire & fuel	453
Earthworks	3355
Concreting & fencing ramp	8337
revegetation (0.161ha)	1020
	\$16730



Compare trough system

Monopump	8135
Energiser	250
Tank	5000
Fencing around dam & tank (180m)	3500
Piping	3000
Trough & float	650
New pump *	4387
Revegetation (0.119ha)	500
	\$25422



	RAMP DAM	TROUGH
COST	MORE EXPENSIVE; SOLE UNIT COST	CHEAPER ESP IF DON'T NEED PUMP AND/OR CAN WATER SEVERAL PADDOCKS
WATER QUALITY	SLIGHTLY LESS BUT STILL HIGH	VERY HIGH
FAILURE RISK	FOOLPROOF	HIGH RISK
MONITORING	EASIER AND SAFER TO CHECK WATER LEVELS ETC	CAN GET OVERGROWN
ACCESSIBILITY	EASIER, ALSO FOR LARGER WILDLIFE	SOME WILDLIFE HAS TO GO THROUGH FENCES



Stock vs biodiversity? ❌

Stock + biodiversity? ✅