

'Bringing soil back to life through waterponding'



**West
Kimberley
LCD C**

Land Conservation District Committee



Australian Government

**National
Landcare
Program**



Rangelands NRM
Western Australia



**GOVERNMENT OF
WESTERN AUSTRALIA**

**Department of
Primary Industries and
Regional Development**

RANGELAND REHABILITATION

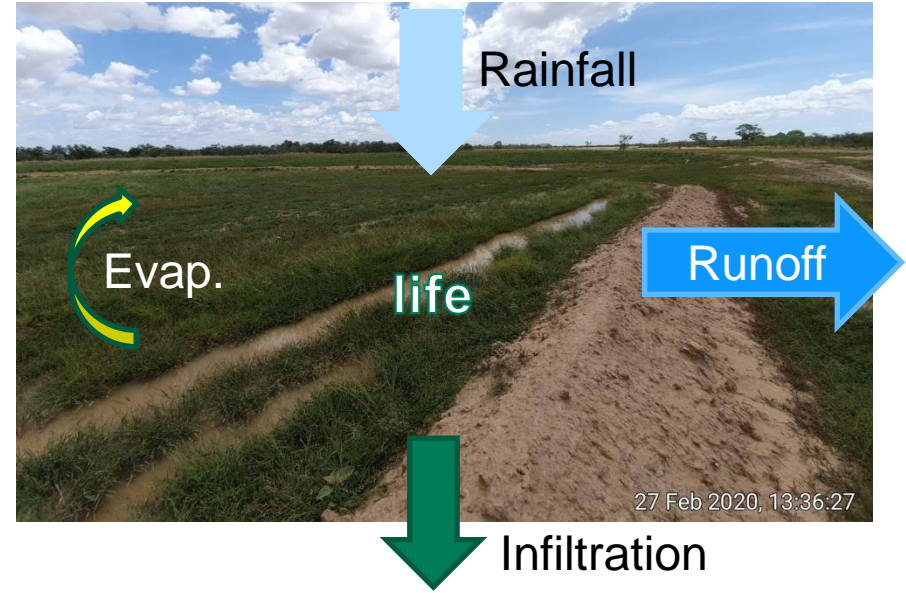
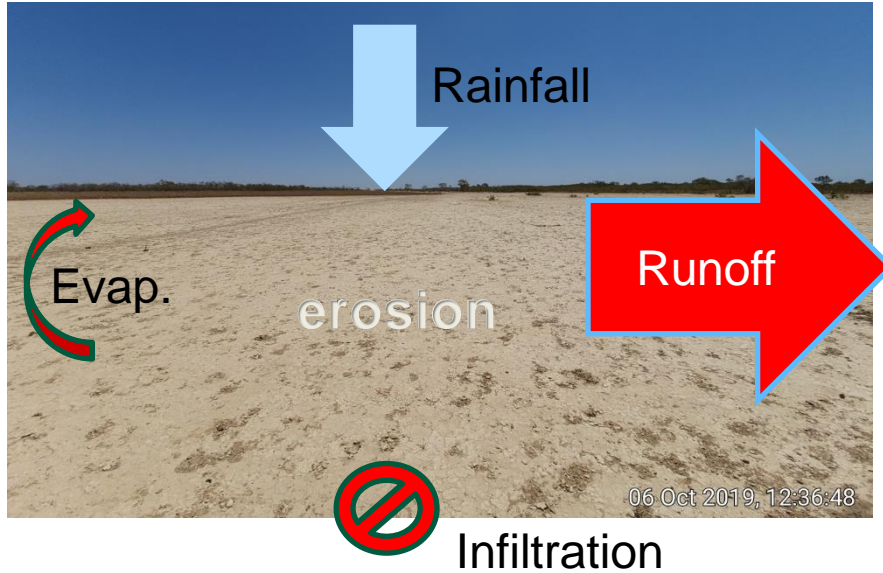
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What we did

- ✓ 155 ha of professional waterponding survey & construction demonstration
- ✓ 565 ha and 1,360 waterponds in total thanks to station contribution
- ✓ Work across multiple West Kimberley stations with 2 on-station workshops
- ✓ How-to video: 'Building waterponds with a road grader' (see Rangelands NRM or FutureBeef Youtube)



Restoring balance to water cycle



- Returns EXCESSIVE runoff to the soil
- Stop cycle of erosion – Start cycle of plant growth
- Waterponds are not permanent – only a kickstart to rebuild functional soil lost to erosion

Before and After



Before and After



Before and After



Before and After



- Best response: nil ground cover to >80% cover
- Variable growth response
- Av. increase of 40% ground cover (usually ~20% increase in one season)
- Around median rain of 350mm since construction – wet season spelled.

Monitoring site photo



Monitoring site photo



Before and After – Grazing management



- Separate paddock - Couldn't rest over this wet season
- Demonstrates value of wet season spelling for growing grass and soil

Numbers

16G Grader

- ❑ Av. 2.4 ponds / ha
- ❑ Av. 1.3 ha / Grader hour (16G with experienced operator)
- ❑ Approx. 10 - 15 ha / day construction

Survey

- ❑ Approx. 20 – 50 ha / day

Table - Indicative Waterponding Costs (based on 2018/2019 rates):

Cost Item	Cost per Hour	Cost per Ha
Professional Survey and grader supervision (\$700/day)	\$ 70	\$ 41*
16G Grader Hire and Operator	\$ 194	\$ 150
Fuel (approx 30L/hr at \$1.50/L)	\$ 45	\$ 34
Total Waterponding Cost/ha - Kimberley 2019		\$ 225

Not Including: Mobilisation, contractor meals and board, fuel for survey vehicle, seeding, GST.

*Survey only (without follow up supervision) was calculated as approx. \$20/ha.



Key Lessons – review from station

1. Professional survey
2. Experienced grader operator
3. Wet season spelling

Key Challenges

- Mobilisation costs
- Machinery wear and tear / waterponding premium.
- Dozer for ripping
- Seeding for WA Rangelands

Where to next

- Take feedback from this video
- Another video coming out re: how surveying is currently done
- **Lack of capacity** – need to train up more professionals across country
- Options to integrate new tech
- Look at different pasture species to plant during construction to speed up regeneration process



Thank you

Question time

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Important disclaimer

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