

Lower Blackwood LCDC

Dung Beetles: The Hardest Working Farmhands

How dung beetles improve soil, pasture,
and farm productivity



Lower Blackwood Catchment
Land Conservation District Committee

What Happens to All the Dung?

Each cow produces about 10–12 dung pats per day. That's over 4,000 pats per cow per year!

Depending on the climate, the cow's diet, and beetle activity, a cow pat can sit in the paddock for a couple of days to a year.

Without the presence of Dung Beetles, dung pats just sitting in the paddock mean lost nutrients, lost grazing area, more flies, more parasites and more smell.



The Might of the Dung Beetle

- Improve soil health and pasture productivity
- Incorporate nutrients back into soil
- Improve drainage and soil structure
- Reduce pasture fouling,
- Reduce flies and parasites
- Keep nutrients out of waterways
- Build soil carbon
- Reduce fertiliser needs
- It's free farm labour!



Above: Release of Bubas Bison – winter active beetle

A Secret Helper

- Phoretic mites!
- They hitch a ride on dung beetles to move between fresh dung pats.
- Feed on eggs and larvae of pest flies and some livestock parasites in dung.
- Helps reduce parasite numbers without chemicals.
- No harm to the dung beetles



Local Dung Beetles

Not all dung beetles are around all the time



Summer

Euoniticellus fulvus
Onthophagus taurus



Winter

Bubas Bison



Local Species

Onthophagus binodis





How to Spot Dung Beetle Activity

- Soil piles around dung
- Small tunnels
- Dried “shells” of dung with nothing underneath
- Broken up dung
- Dung disappearing



Parasite Treatments

- Some products affect dung beetles
- Impacts vary depending on species and season
- There is a lot we still don't know about dung beetles and the impacts that drenches/backlines might have
- We have a Farm Management Guide Booklet available to take home!



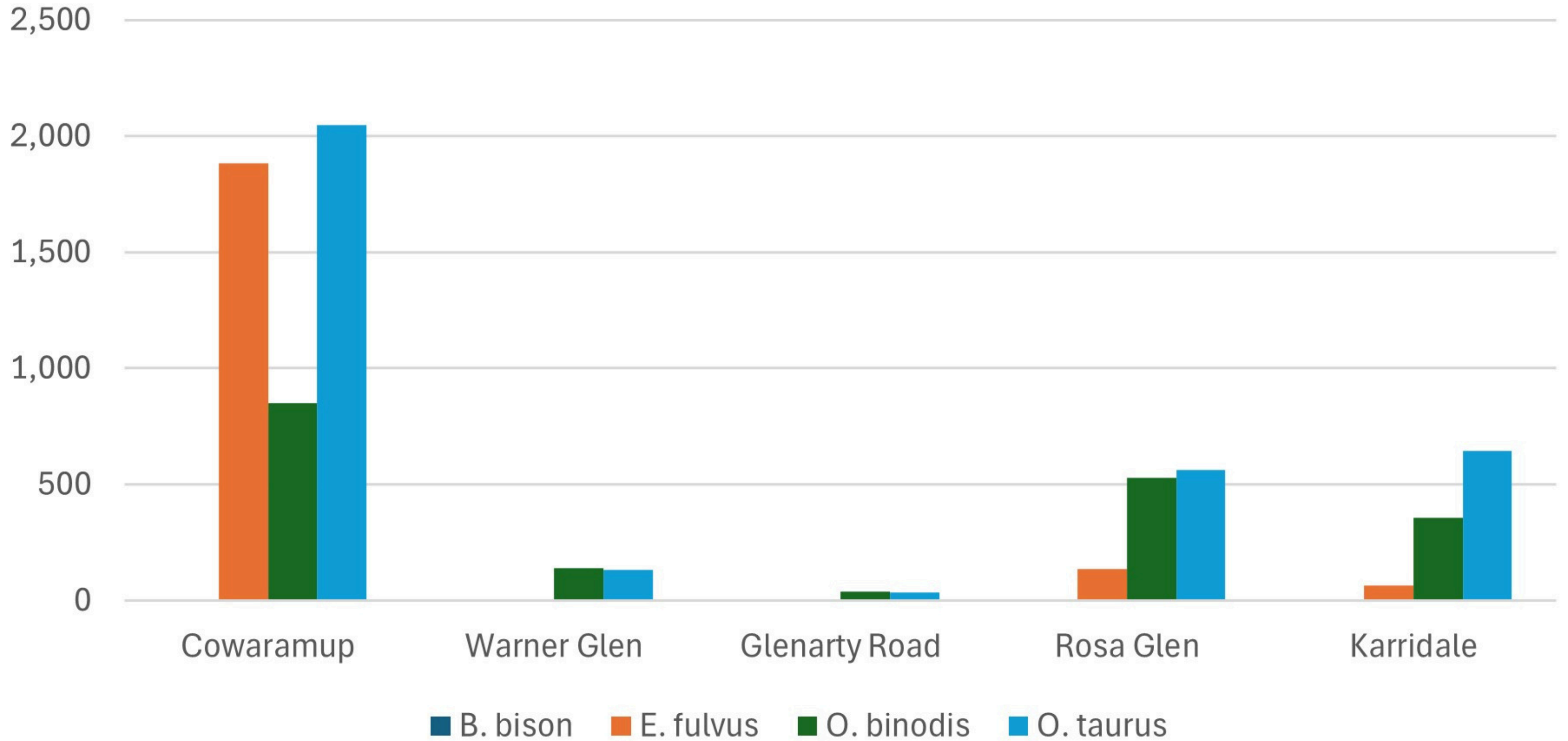
Pesticide group	Group	Chemical example	Significant excretion pathway	Impact on dung beetles
1A	CM	propoxur	urine	low
1A	CM	bendiocarb	urine	low
1B	OP	dichlorvos	urine	probable #
1B	OP	chlorfenvinphos	urine	probable #
1B	OP	diazinon	urine	probable #
1B	OP	naphthalophos	urine	probable #
1B	OP	fenthion	urine	probable #
1B	OP	chlorpyrifos	urine	probable #
3A	SP	deltamethrin	dung and urine	high
3A	SP	permethrin	dung and urine	high
3A	SP	bifenthrin	dung	high
3A	SP	cypermethrin	dung and urine	high
3A	SP	flumethrin	dung and urine	high
4A	NN	acetamiprid	urine	low
4A	NN	imidocloprid	urine	low
5		spinosyns	dung	high
6	ML	daramectin	dung	high
6	ML	ivermectin	dung	high
6	ML	eprinomectin	dung	high
6	ML	abamectin	dung	high
6	ML	moxidectin	dung	low
7	IGR	cyromazine	dung and urine	low
7	IGR	dicyclanil	dung and urine	low
7	IGR	diflubenzuron	dung and urine	low
7	IGR	fluzaron	dung	low
	BZ	albendazole	urine	low
	BZ	fenbendazole	dung	low
	BZ	oxfendazole	dung	low
	LV	levamisole	urine	low
	SA	closantel	dung	low
	IQ	praziquantel	urine	low
	AAD	monepantel	dung	low
	AAD	nitroxynil	urine	low
	SF	clorsulon	dung and urine	low
19	FA	amitraz	urine	low

Dung Beetle Soil Health Initiative

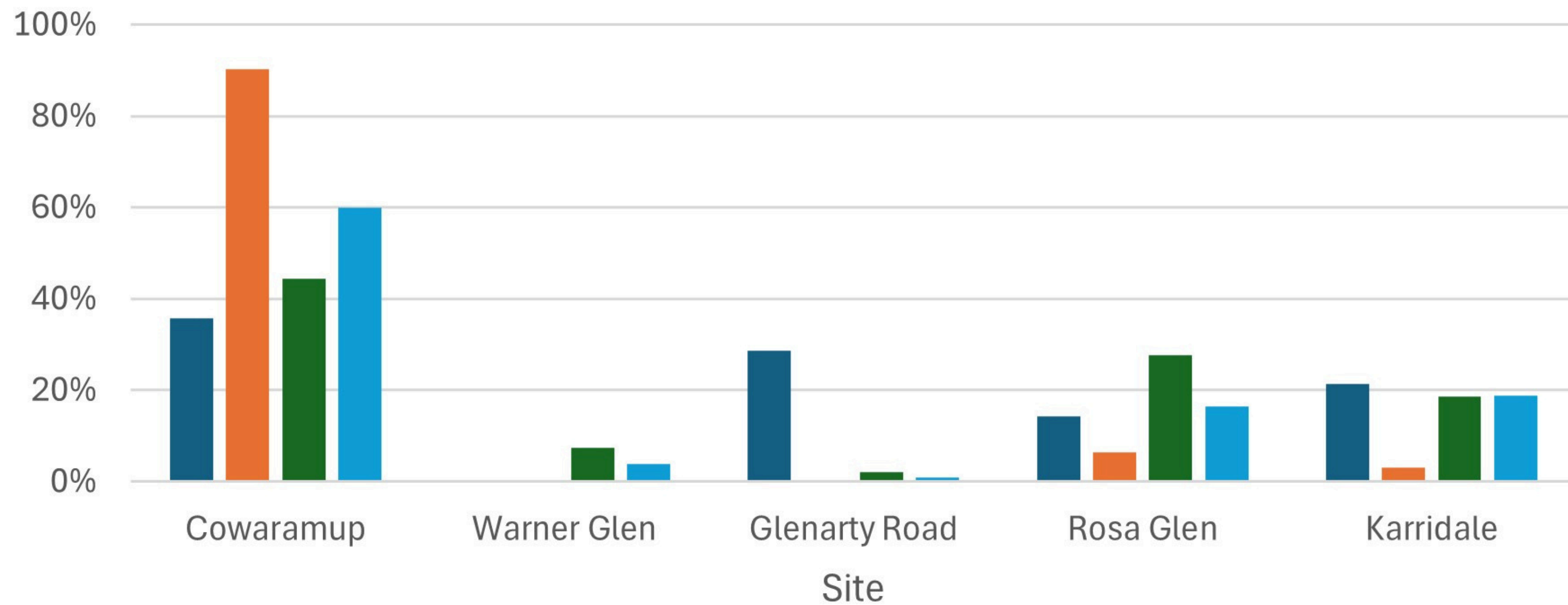
- Partnership of 8 landcare groups
- Monitoring beetles and fly numbers
- Identifying gaps in beetle activity
- Promoting beetle-friendly practices
- The aim was to help establish base data and the need for more research by DPIRD
- Eventually, to get some dung beetle releases done in the South West!



Total trap capture by Site



Proportion of individual species captured by Site



■ B. bison ■ E. fulvus ■ O. binodis ■ O. taurus

Instant Monitoring

01.

Collect fresh dung

02.

Put the fresh dung in a bucket

03.

Fill the bucket with water
Make sure it's not too hot or too cold!

The beetles will float to the surface!
You can scoop them out, count them and identify using the
booklet

You can tip them all out and release them

Fun Facts!

- The strongest dung beetle award goes to *Onthophagus taurus*. This beetle can pull over 1,000 times its own weight – for humans, this would be like moving 80 tonnes.
- Some beetles navigate by the stars to find their way back to their dung. Scientists figured this out by putting tiny hats on dung beetles to block their view of the sky – with the hats on, they couldn't find their way.
- Dung beetles sometimes hop on top of their dung balls because cooler than the hot soil, to cool off their feet. Scientists tested this by putting tiny silicone booties on the beetles' feet – beetles with boots on needed fewer rests than the barefoot beetles.

Thank you to:

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