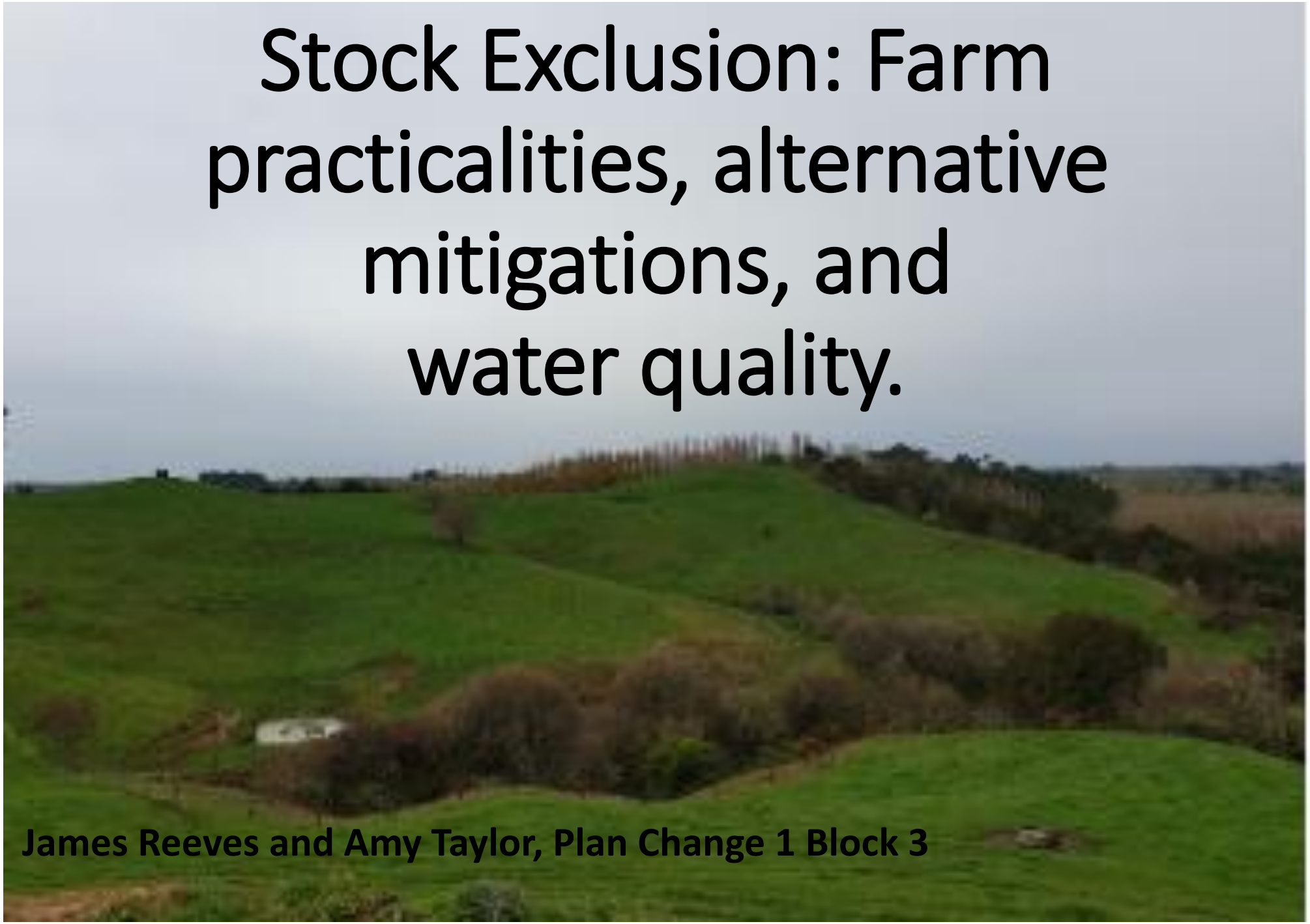
Stock Exclusion: Farm practicalities, alternative mitigations, and water quality.



James Reeves and Amy Taylor, Plan Change 1 Block 3

Stock exclusion?

Unfenced retention dam. PC1 rules state we must fence this

- Paddock also has trough water
- Never been dry – spring fed, but often dam level is below outlet (slow spring!)
- Deliberately left unfenced. Our ace in the hole if water supply fails (1 of 3…)
- Very cheap to build – 3 hrs digger time
- Also note the erosion immediately adjacent

What are the water quality impacts…?

- Traps sediment/E.coli/phosphorus from overland flow paths
- Buffers heavy rainfall events (acts as detention dam) on occasion
- But surely direct deposition causes problems??

But …. Look at the bigger picture

- Dam in top 1/3 of catchment
- Feeds down into a fenced-off wetland approx. 200m long (not quite planted up yet, but soon)

What are the water quality impacts…?

- P/E.coli/sediment filtered
- Any N also reduced

Wait, there's more….

- Wetland feeds into another dam (fenced off this time!)
- Which then feeds into another wetland (only about 50m long though), before dropping through a steep stream , another 10m wetland, & finally a large stream, which itself then enters….

What are the water quality impacts…?

- Most (all??) residual P/N/E.coli/ & sediment removed
- Unknown water quality levels at exit

So why does the dam at the top need to be fenced?

Stock Exclusion cont'd…

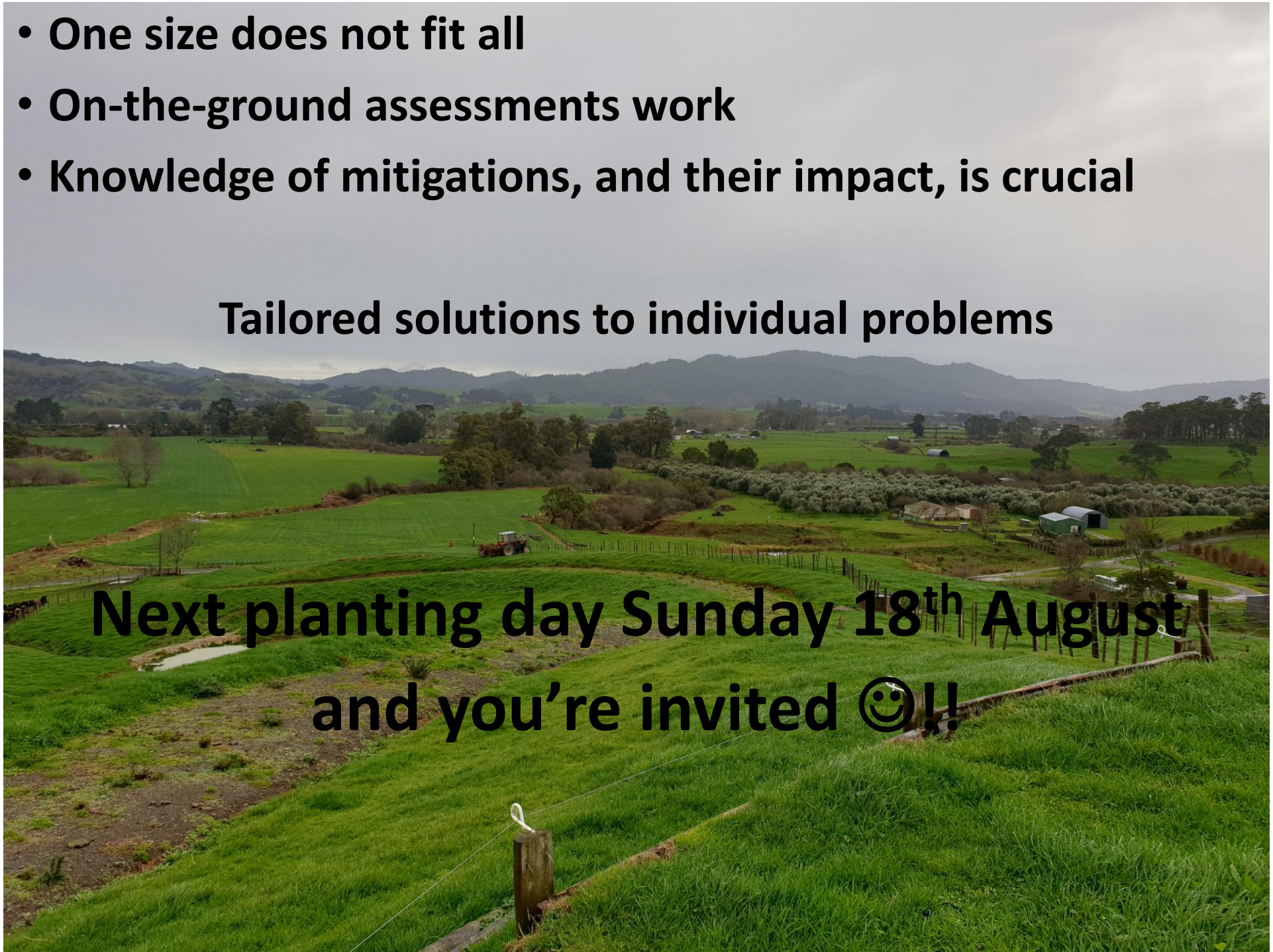
Another unfenced dam (again spring-fed), this time with an unfenced ephemeral farm drain. Drain is dry for normally 6 months of the year. PC1 says both should be fenced…

- Stream goes through culvert under the farm track, then through a drain in a fenced-off area
- Then into re-generating wetland area
- Then into a retention pond, a stream, another pond (all fenced off)
- Finally exiting into the Tangirau wetland – largest lowland wetland on the Waipa River
- All this occurs on land <15 degrees slope

Will fencing the pond and ephemeral stream actually achieve anything for water quality???

- One size does not fit all
- On-the-ground assessments work
- Knowledge of mitigations, and their impact, is crucial

Tailored solutions to individual problems



Next planting day Sunday 18th August

and you're invited ☺!!