

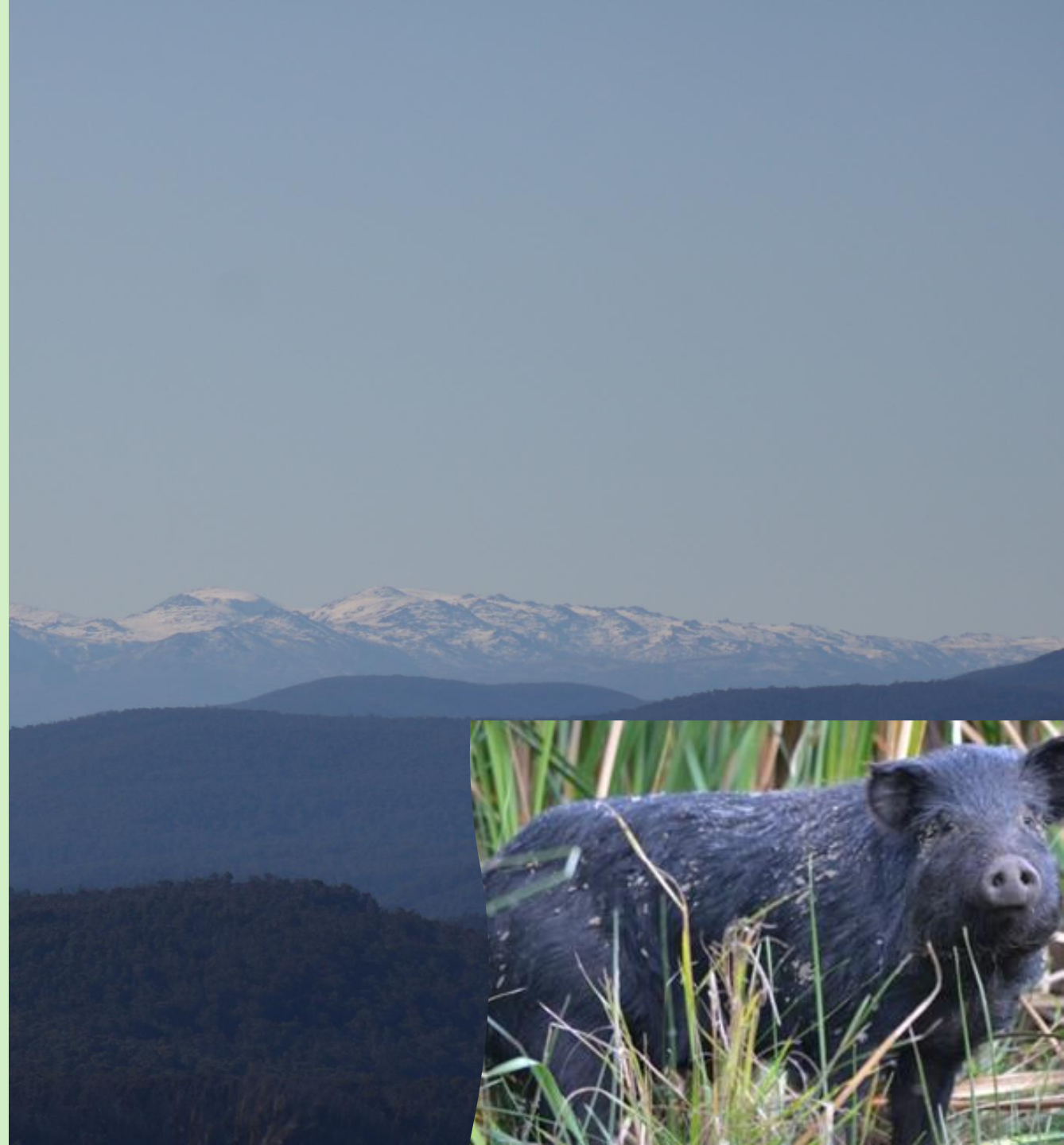
Designing an eDNA fragment length panel to detect terrestrial species across remote environments

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Pigs and Alpine National Park

- Devastating impacts by pigs
- Study site Alpine National Park
 - Park in Victoria, Australia
 - High endemism, endangered ecosystems
 - Difficult to access areas, difficult to monitor
- Pigs move in and out of region





17 days



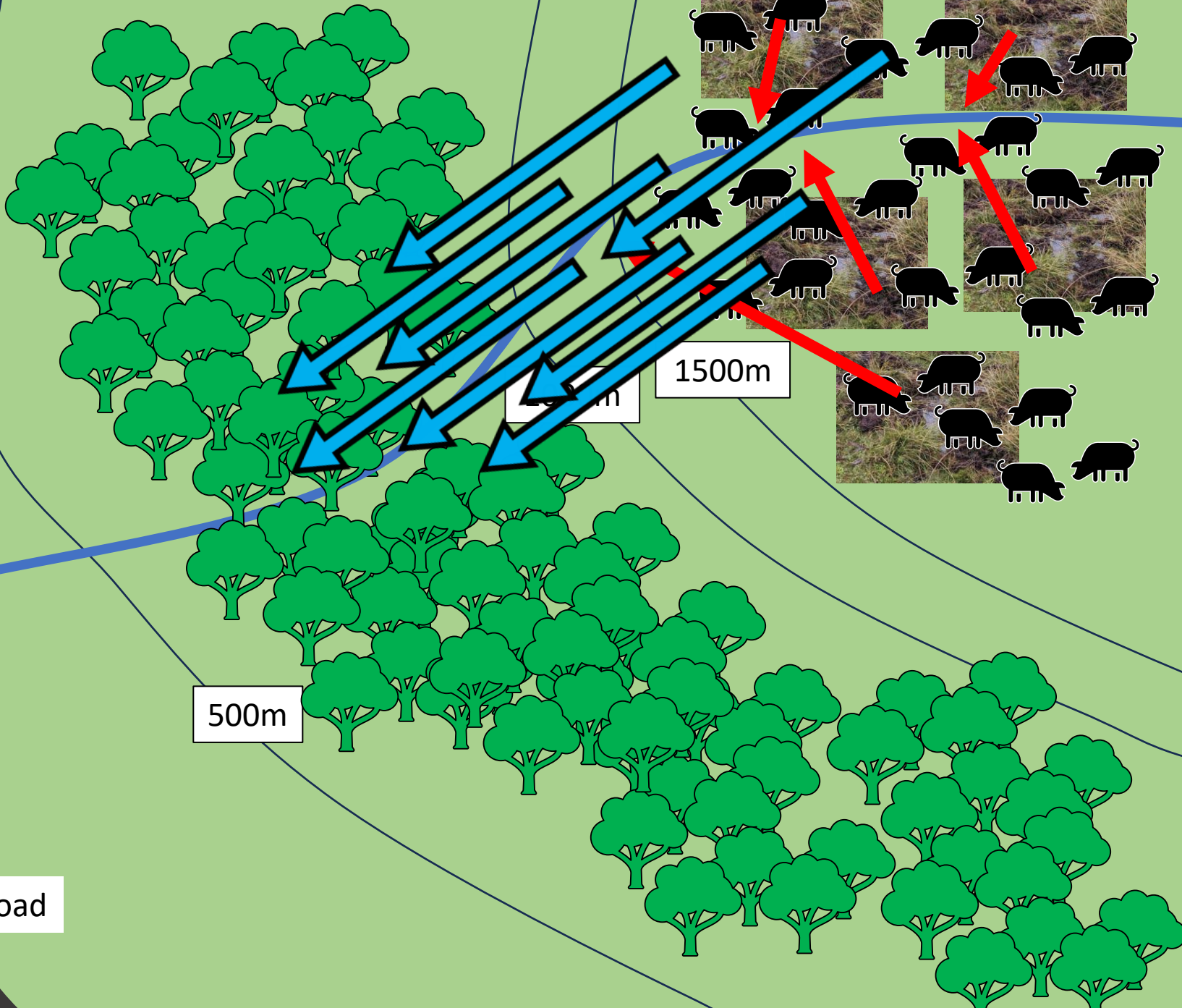
250m

Limestone road

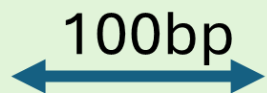
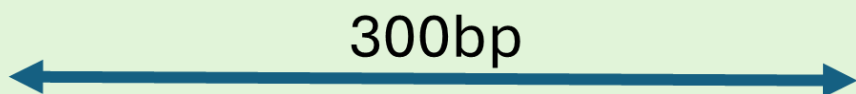
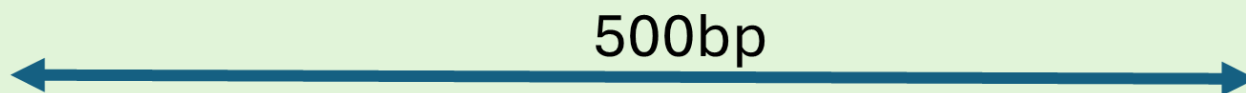
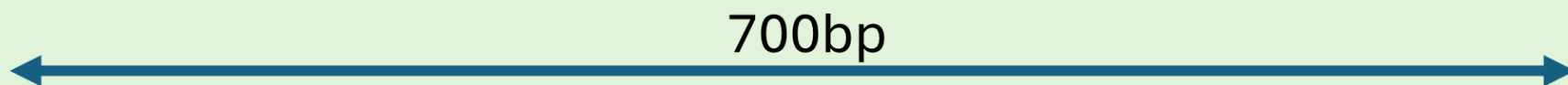
500m

1000m

1500m



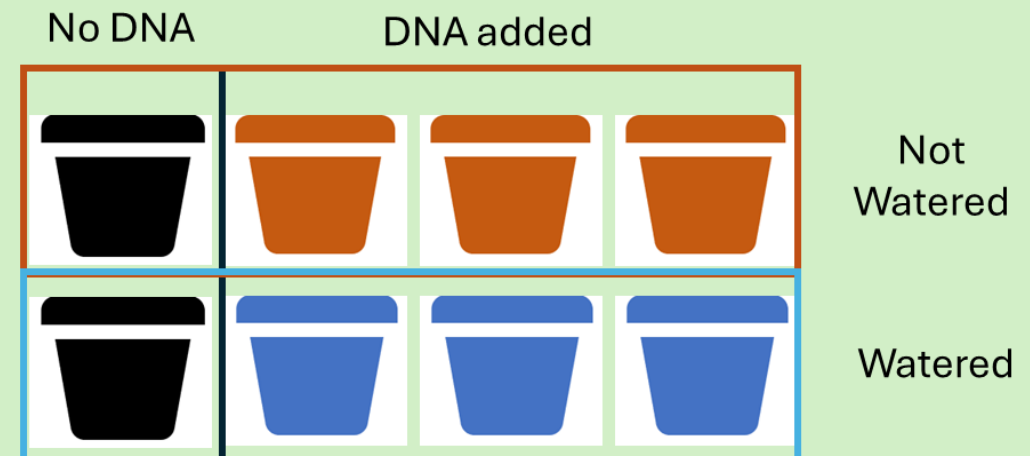
Fragment length panel



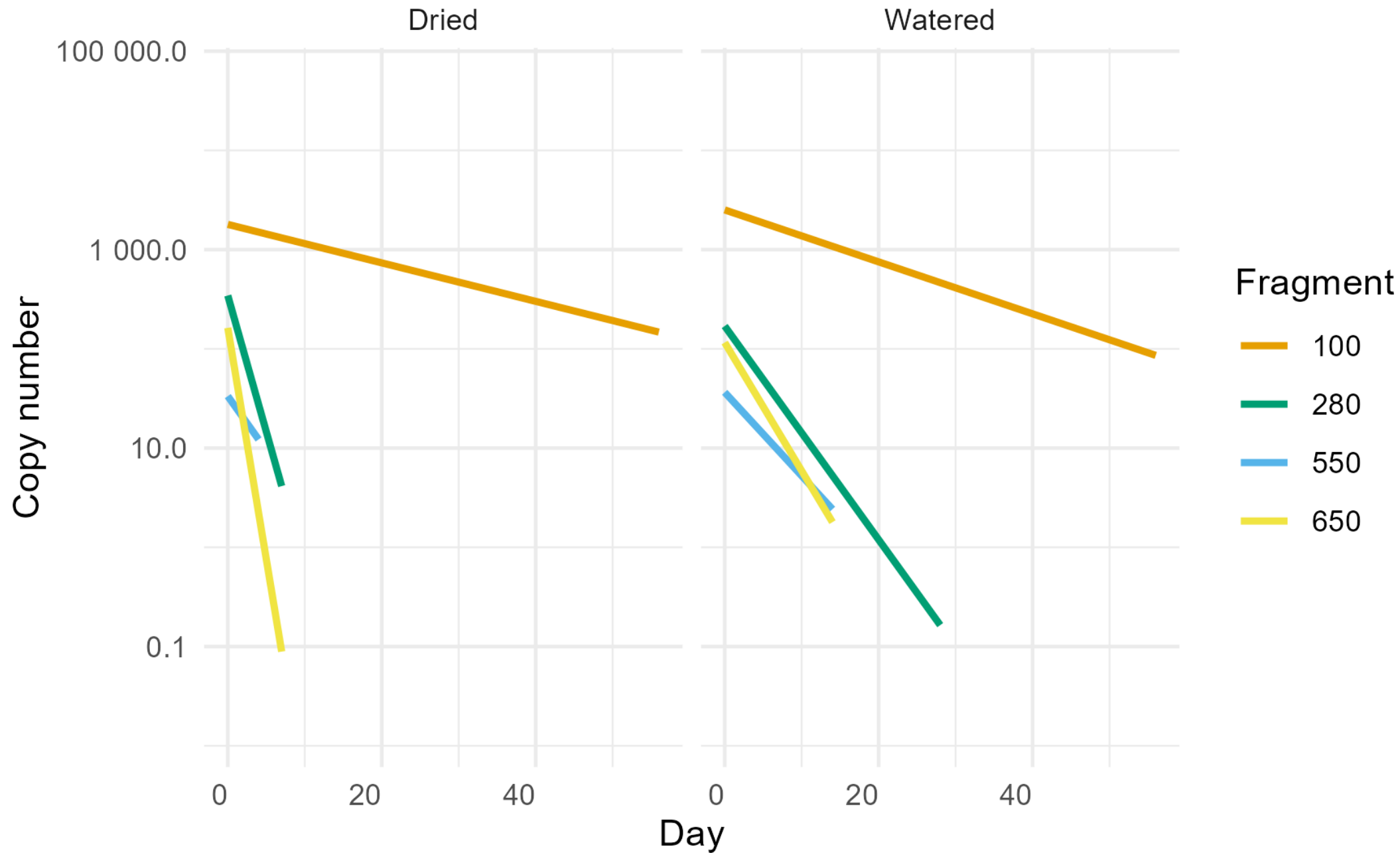
- Target multiple lengths
- Distinguish new and old detections

Degradation trials

- Controlled environment, observe eDNA detection over time
- To contrast degradation across DNA fragments in soil and water, detecting a terrestrial species from an aquatic environment
- Water work ongoing
- Both trials sampled over two months



DNA Concentrations of Soil Mesocosm Samples

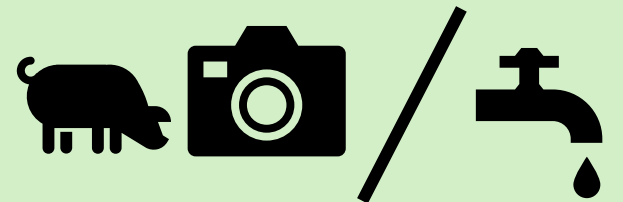


Significance

- Short fragments detected in soil after 2 months
- Larger fragments less detectable, possible more affected by degradation
- Longer fragments used alongside typical short fragment lengths could help distinguish recent presence of feral pigs

Next Steps

- Complete water trial
- Field detections compared to eDNA detection, collaborating farms or land managers



Thank you for listening!

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