



PROJECT 3.8

Feral-ungulate control to reduce greenhouse gas emissions from wetlands

The challenge

Large populations of ungulates (feral pigs, cattle, and buffalo) roam across northern Australia. They damage the structure and function of native ecosystems that are not adapted to the animals' foraging and drinking behaviours, nor their hard hooves. Ungulate activity changes vegetation cover, disturbs soils, increases erosion, reduces water quality, impacts biodiversity, and increases greenhouse gas release through trampling of wetland substrates.

Despite the well-known extent of ungulate damage and community concern, paucity of funding has limited the consistency, and therefore success, of control efforts.

If feral ungulate control can be developed and justified as a novel carbon abatement methodology, the current funding shortfall for control activities can likely be addressed via the Emission Reduction Fund and Nature Repair Market frameworks.

However, strong evidence is needed to participate in these programs; currently, this is lacking.

This project aims to provide this evidence by quantifying greenhouse gas emissions under various ungulate impact and control scenarios; and, to also assess the feasibility of participation by calculating the potential profit versus the cost and effort.

The approach

This project will work collaboratively with Traditional Owner organisations and others, to gather evidence and assess cost-effort by:

- measuring greenhouse gas emissions from different types of wetlands;
- comparing emissions resulting from varying degrees of ungulate activity;
- measuring soil carbon, ground disturbance, and vegetation features;
- assessing current and past control methods and programs; and
- costing various control measures to support cost/benefit analyses for land managers.

Expected outcomes

- Natural resource protection and greenhouse gas emission abatement.
- Indigenous communities' aspirations for ungulate control met, and funding for control-jobs accessed.
- An evidence-based case for ungulate control as a novel carbon abatement system.



FRONT: Assessing GHG emissions from damaged wetland soils by A Pearse. BACK: Oscar Jones laying down a quadrat to collect in feral exclusion plot.

Project leaders

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National Environmental Science Program















