Planning for Kiwikiu Reintroduction: Habitat Restoration in Nakula NAR

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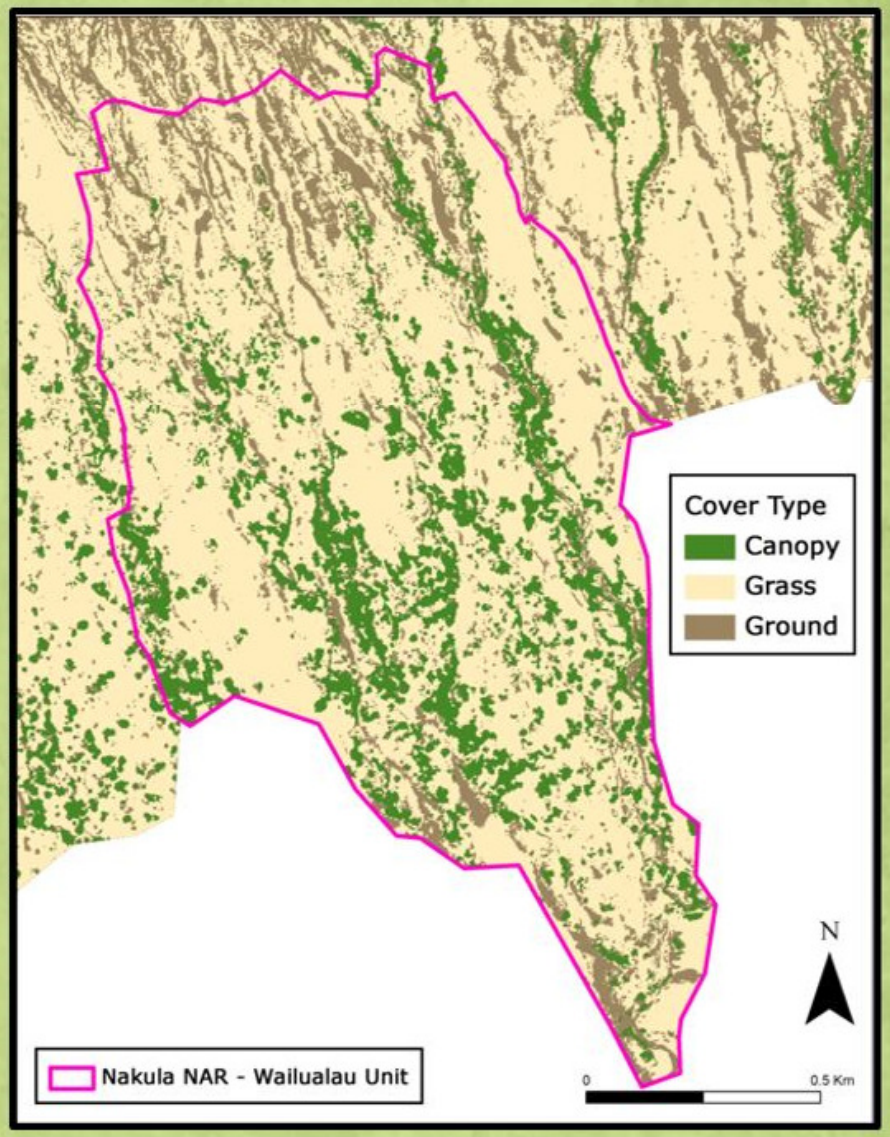
Maui Forest Bird Recovery Project

MFBRP Nakula objectives

- Increase habitat for Kiwikiu
- Experimental trials
- Large outplantings
  - "Corridors"
  - Erosion Scars



The Problem
GRASSES

1. Natural regeneration limited in grassland/savanna habitat

2. Challenges of outplanting

Experimental Trials

- Factors:
  - Natural regeneration
  - Outplanting
  - Seed scatter
  - Tree canopy
- Four treatments

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Landscape Level Restoration

- Outplanting Corridors
- Erosion Scars

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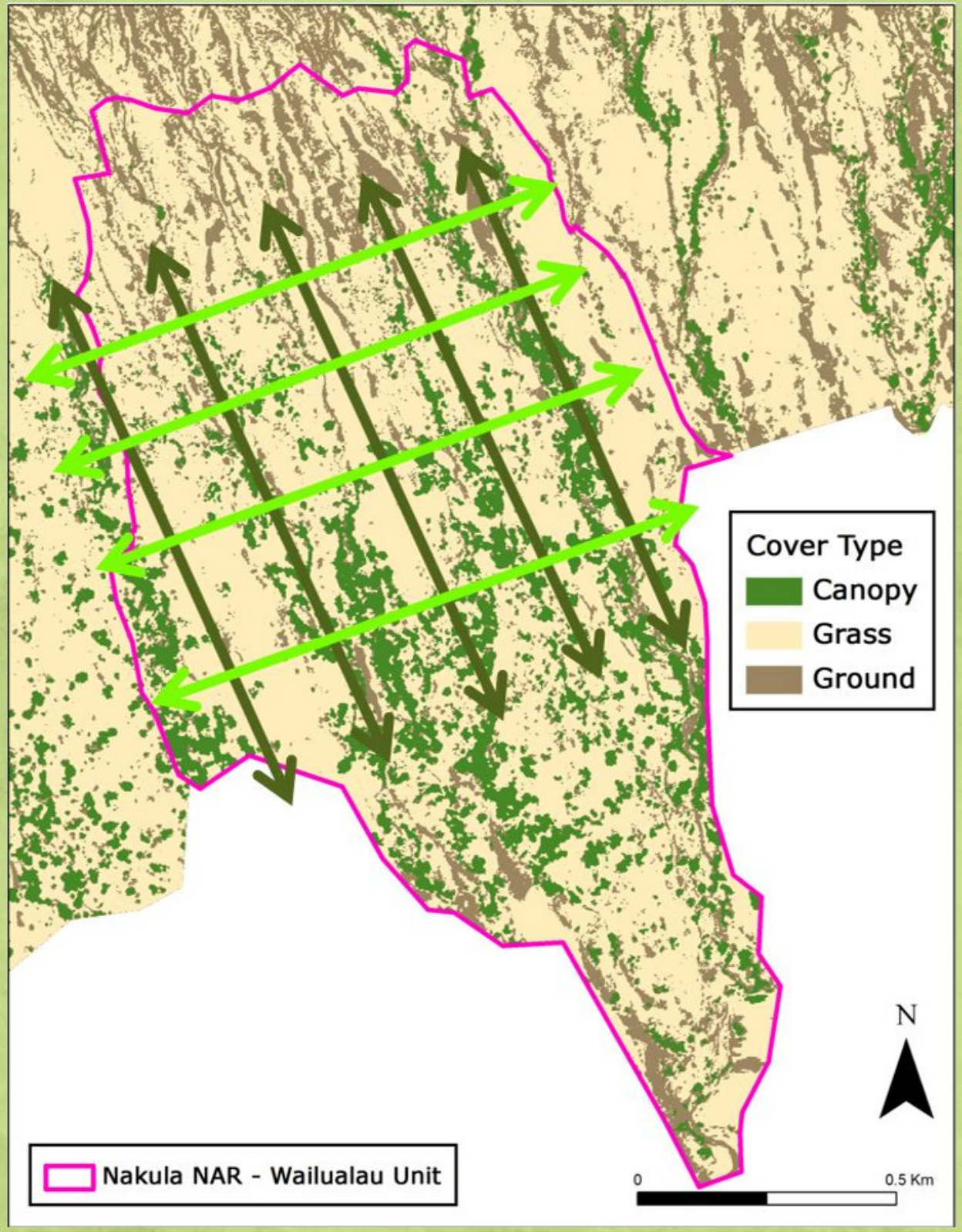
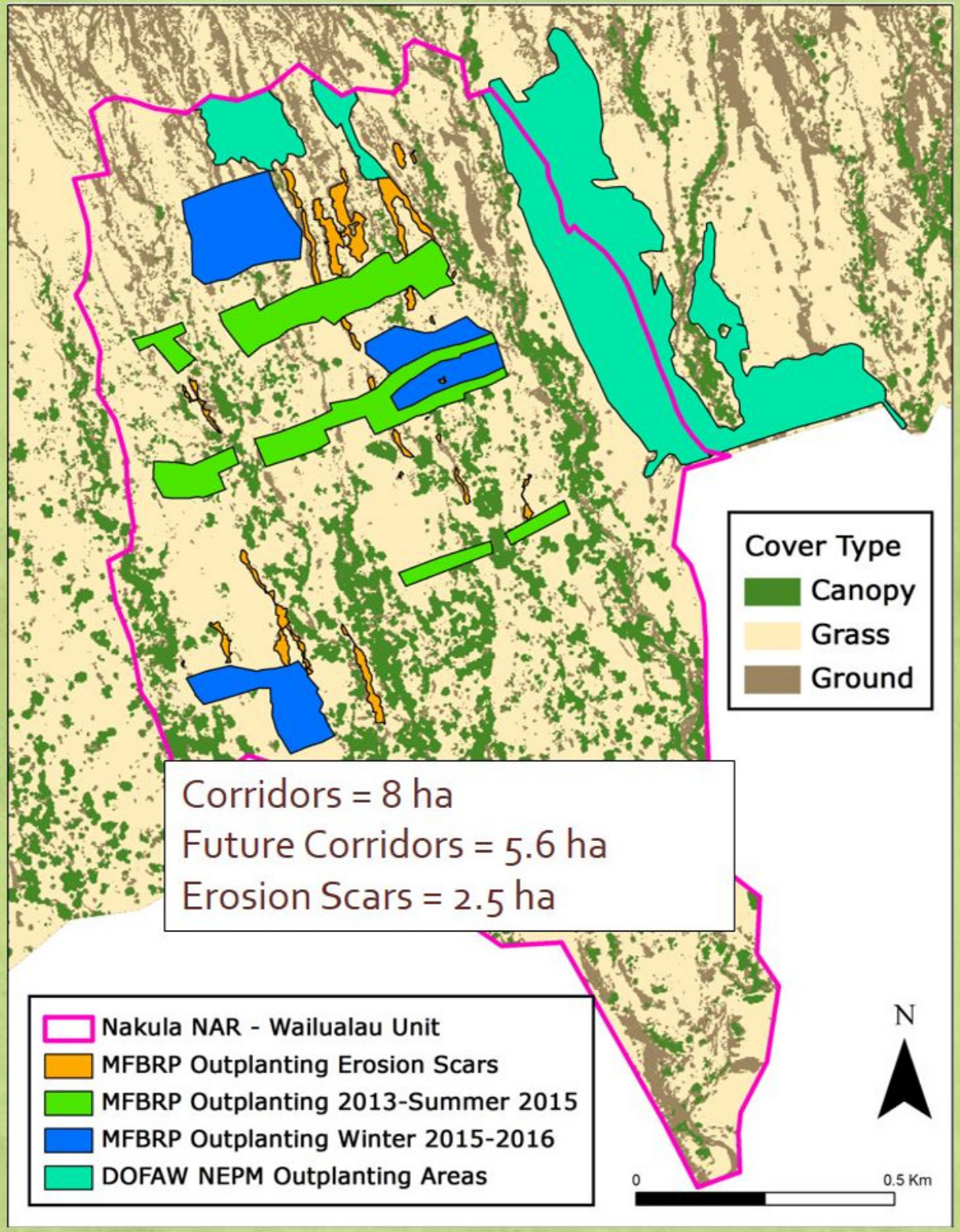
- **Erosion Scars**


Cover Type
Canopy
Grass
Ground
N
Nakula NAR - Wailualau Unit
0
0.5 Km


Cover Type
Canopy
Grass
Ground
Corridors = 8 ha
Future Corridors = 5.6 ha
Erosion Scars = 2.5 ha
Nakula NAR - Wailualau Unit
MFBRP Outplanting Erosion Scars
MFBRP Outplanting 2013-Summer 2015
MFBRP Outplanting Winter 2015-2016
DOFAW NEPM Outplanting Areas
N
0
0.5 Km

Landscape Level Restoration: Outplanting Corridors

- Minimal herbicide in areas with native and regenerating vegetation

Landscape Level Restoration: Outplanting Corridors

- Survivorship is similarly high as with the experimental plots

Conclusions:

Grass suppression

- Experimental Plots
  - Natural regeneration
    - Limited to a few spp.
    - Stimulated by combination of herbicide and biomass removal
  - Outlantings
    - High surviviorship
    - Treatment effects for survivorship varied by spp.
    - Possible qualitative benefits by treatment
  - Grass suppressed for 18 mo
    - No added suppression with biomass removal
    - Sufficient for most spp. to get established
- Corridors
  - Grass suppression for shorter time period?
  - Minimal weed introduction
    - no *Bocconia* or fireweed