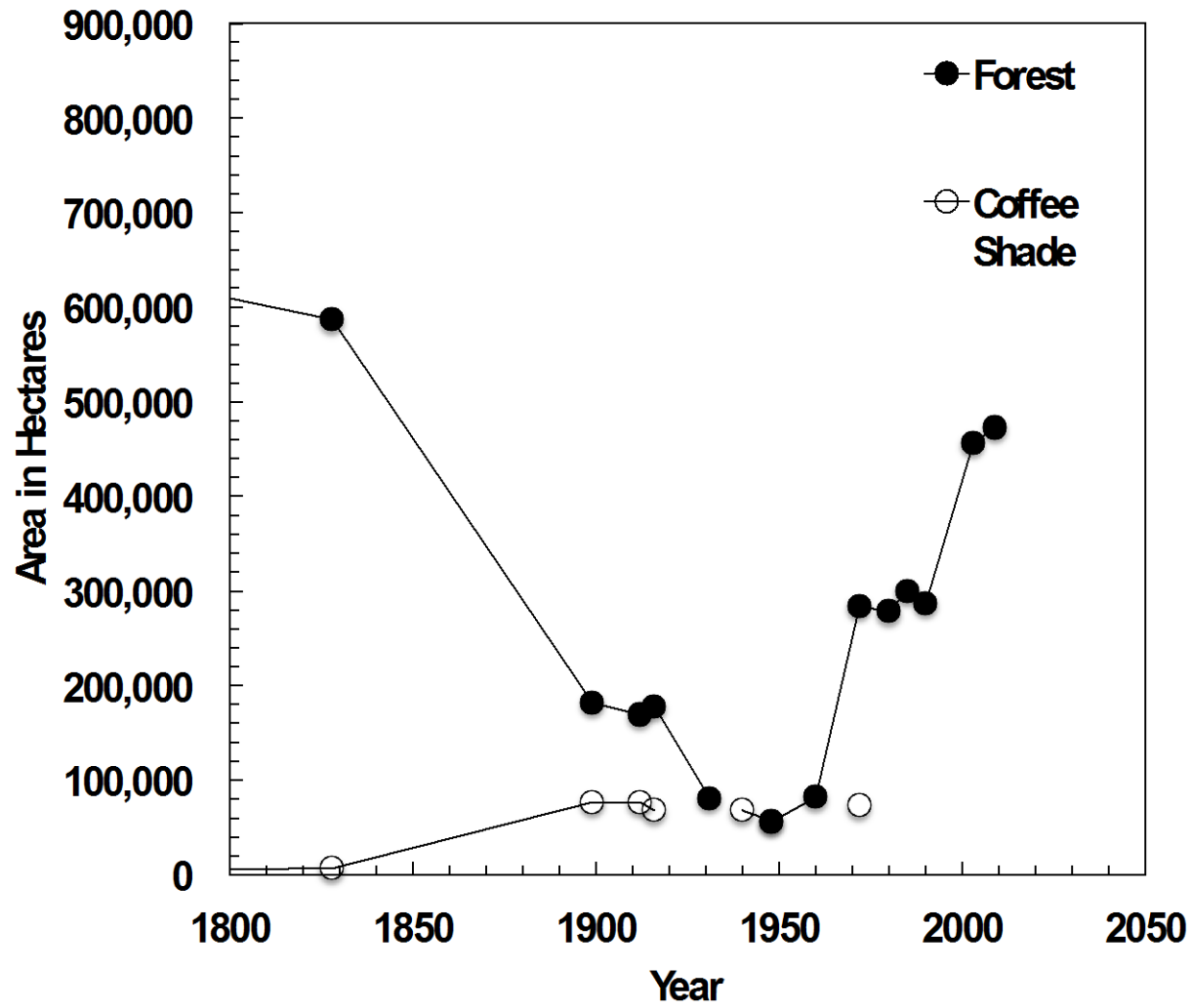


Restoration Outcomes: Decades Later

Ariel E. Lugo
USDA Forest Service
International Institute of Tropical
Forestry



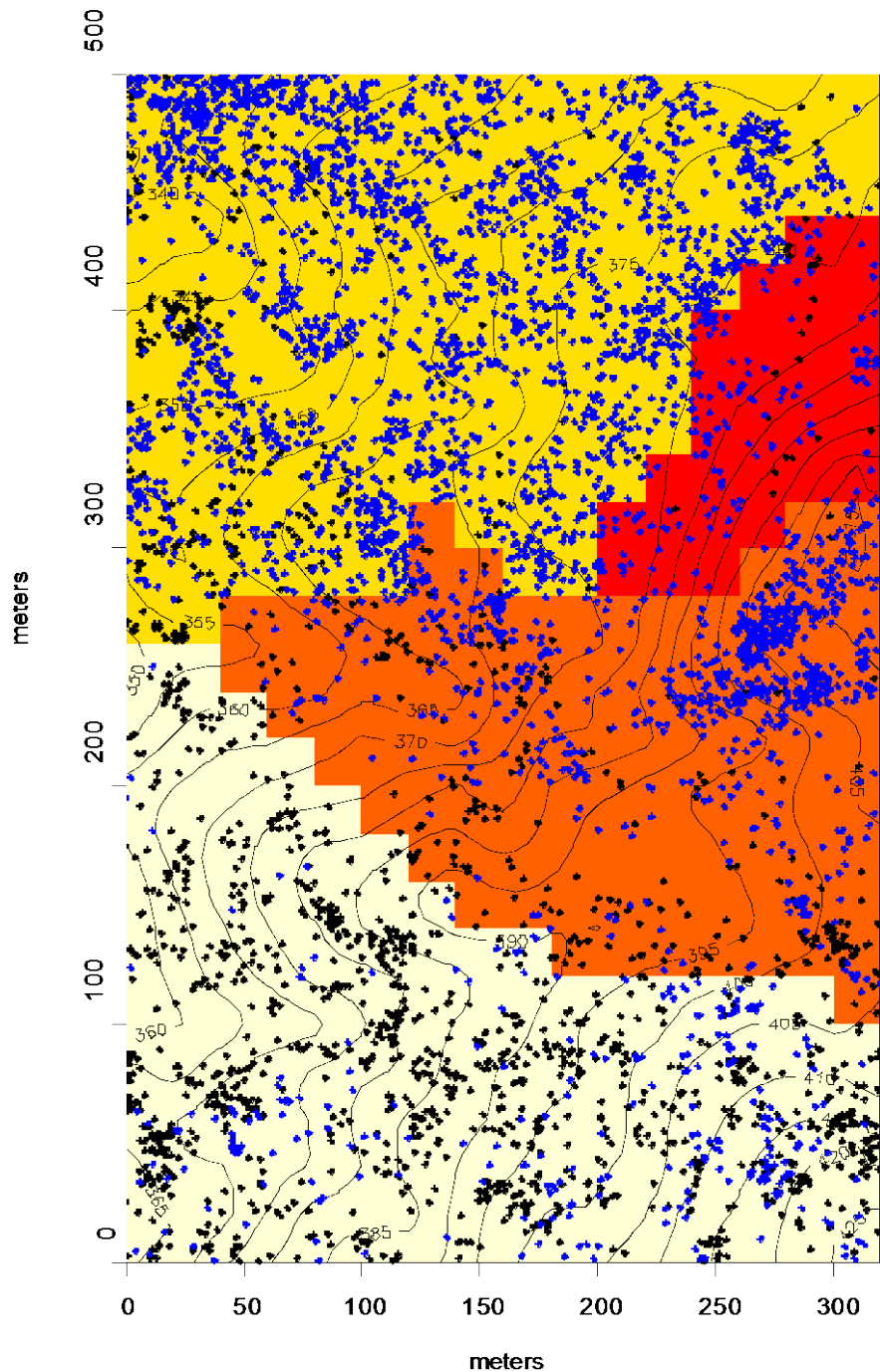




384874

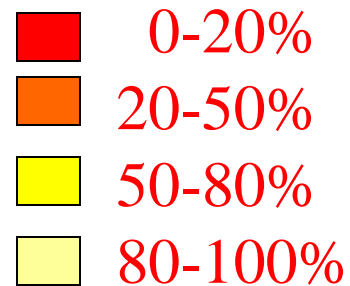






Luquillo Forest Dynamics Plot (LFDP)

Canopy cover in 1936

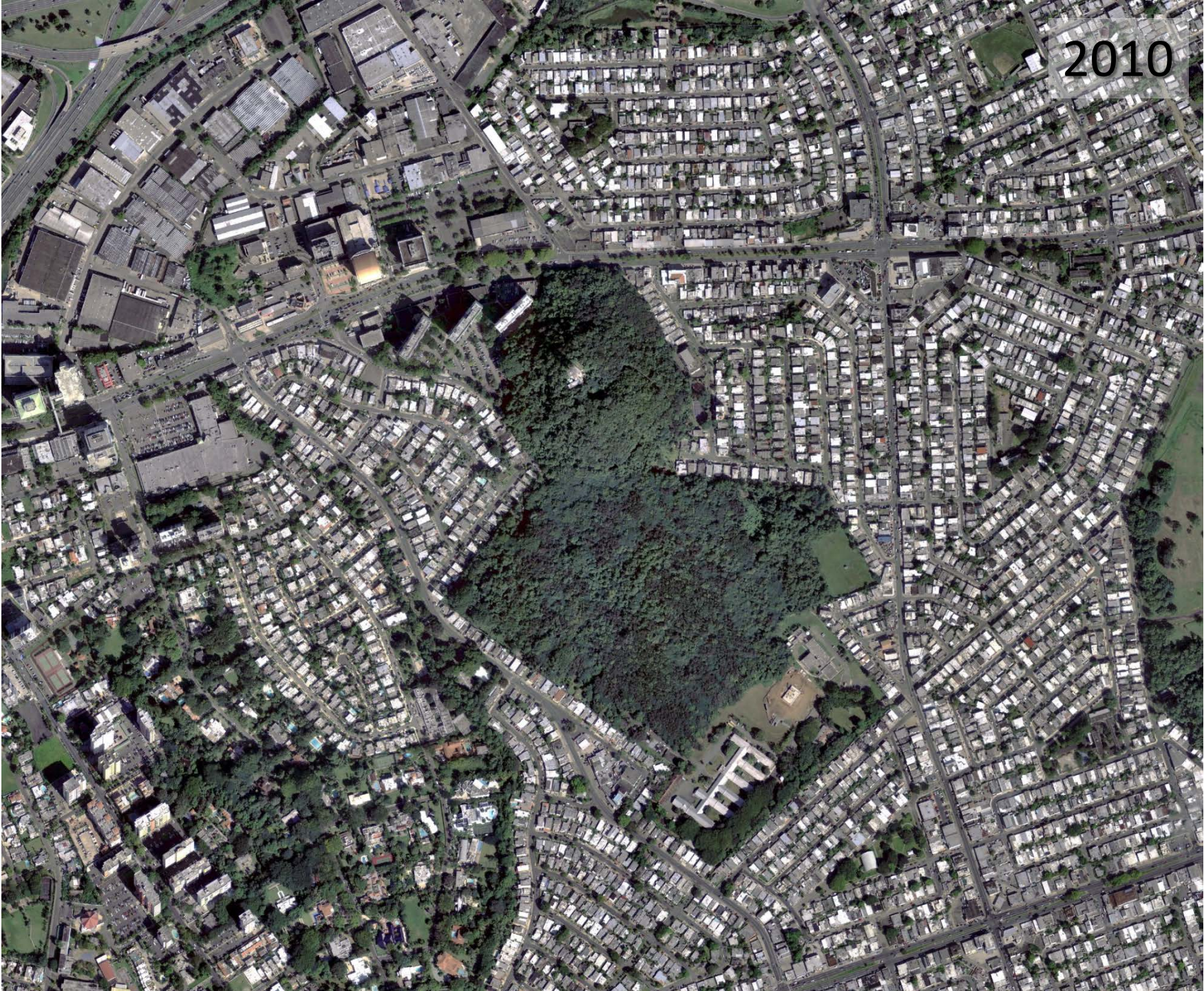


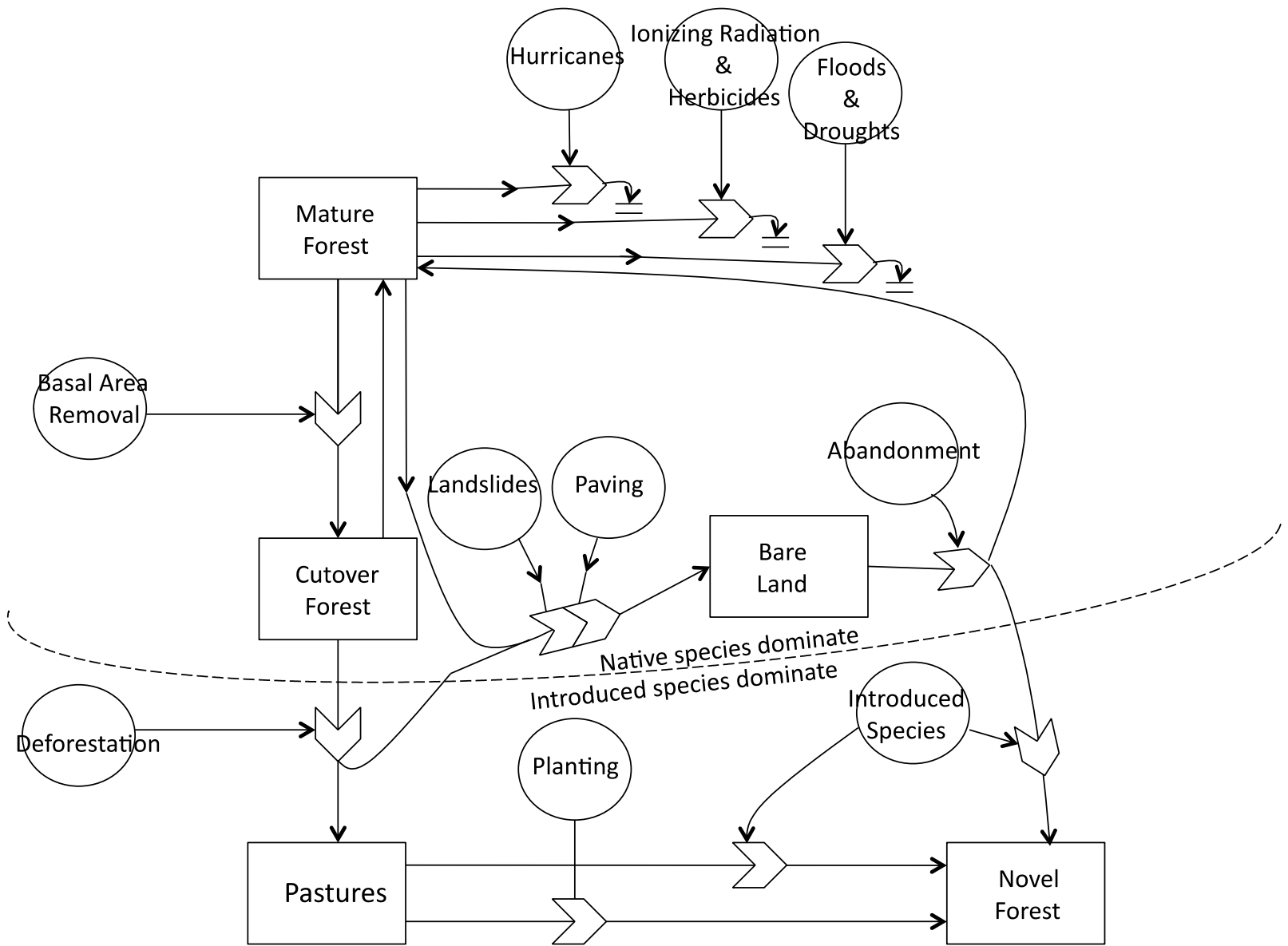
- *Casearia arborea*
- *Dacryodes excelsa*

THE RADIATION EXPERIMENT

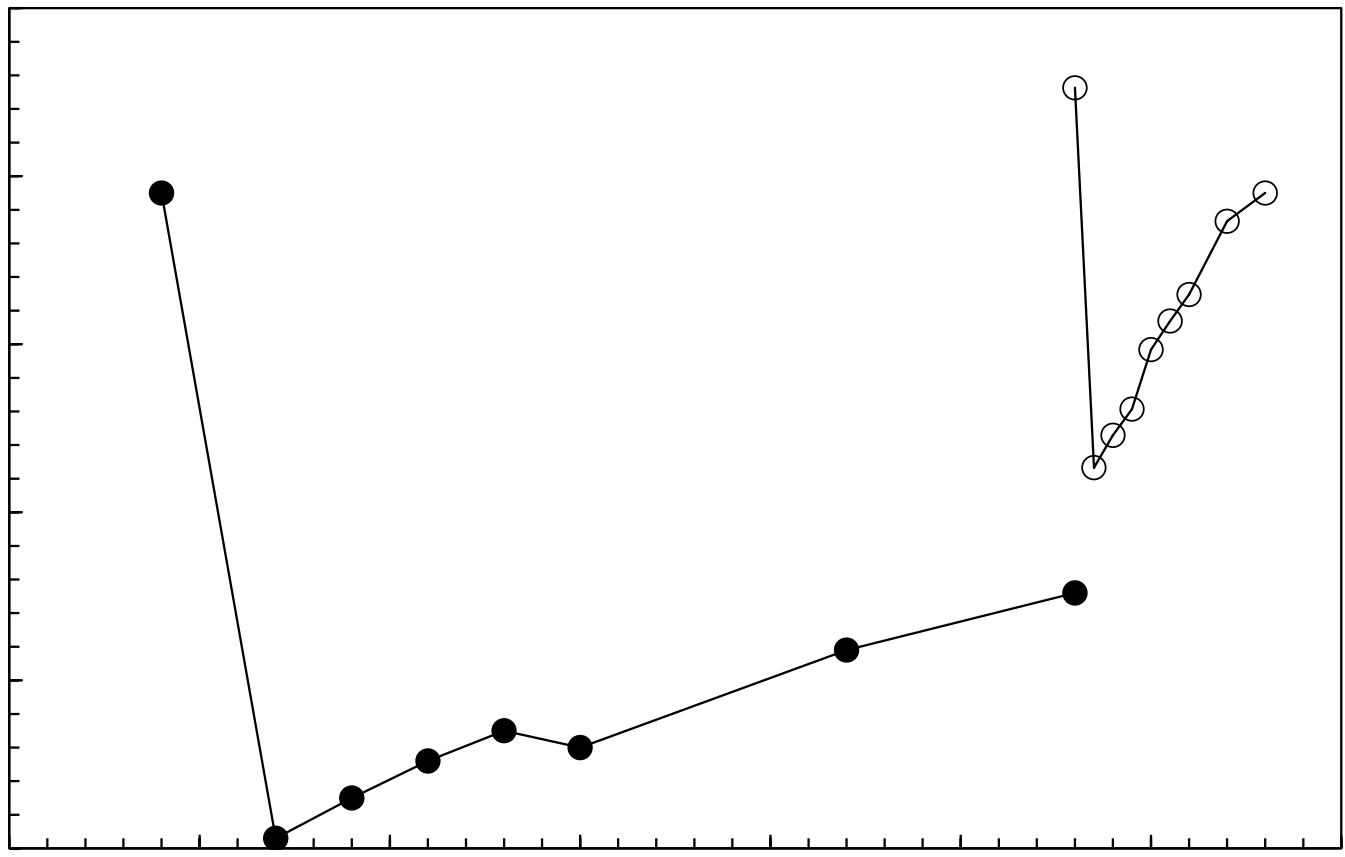


2010



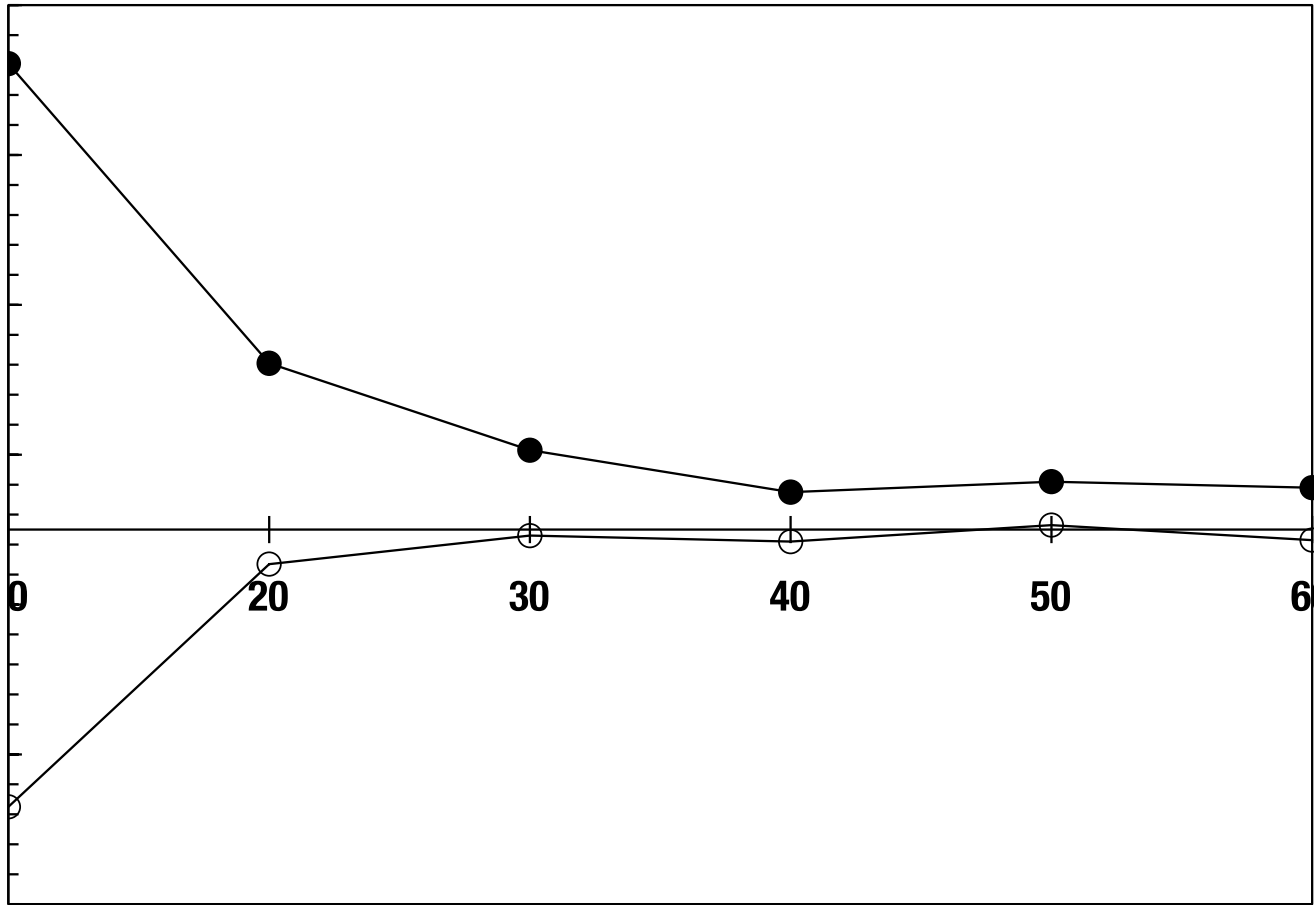


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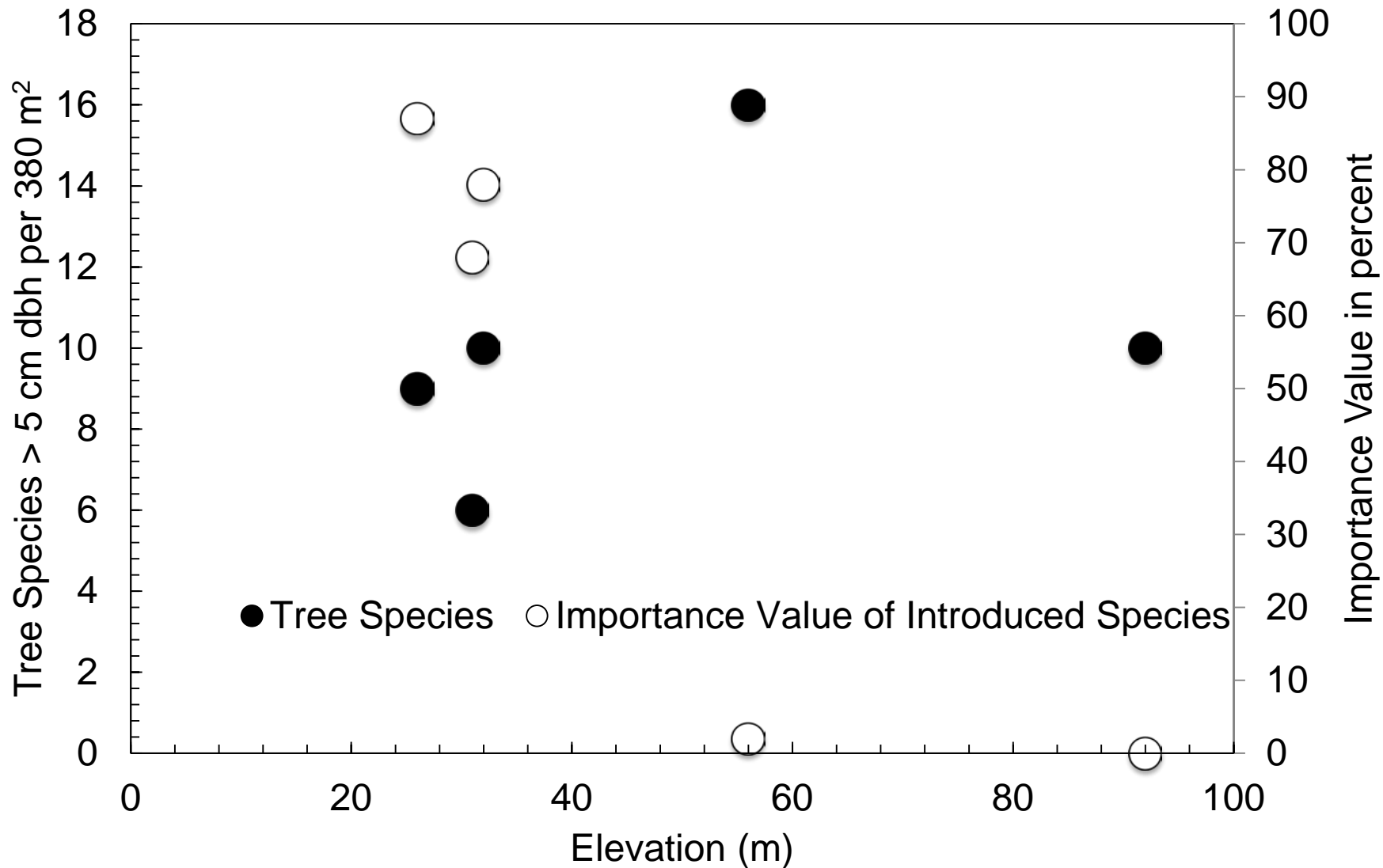


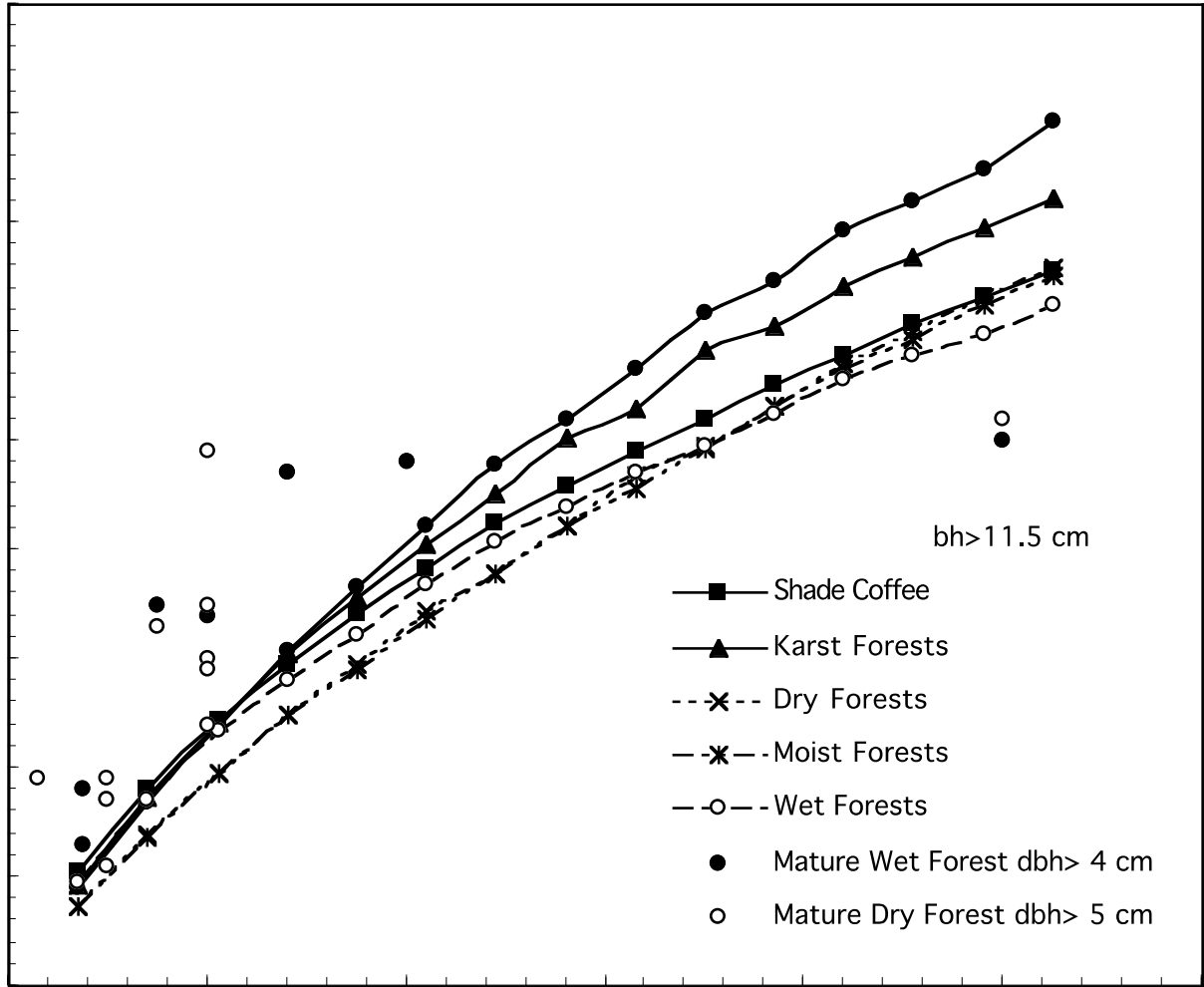
Year

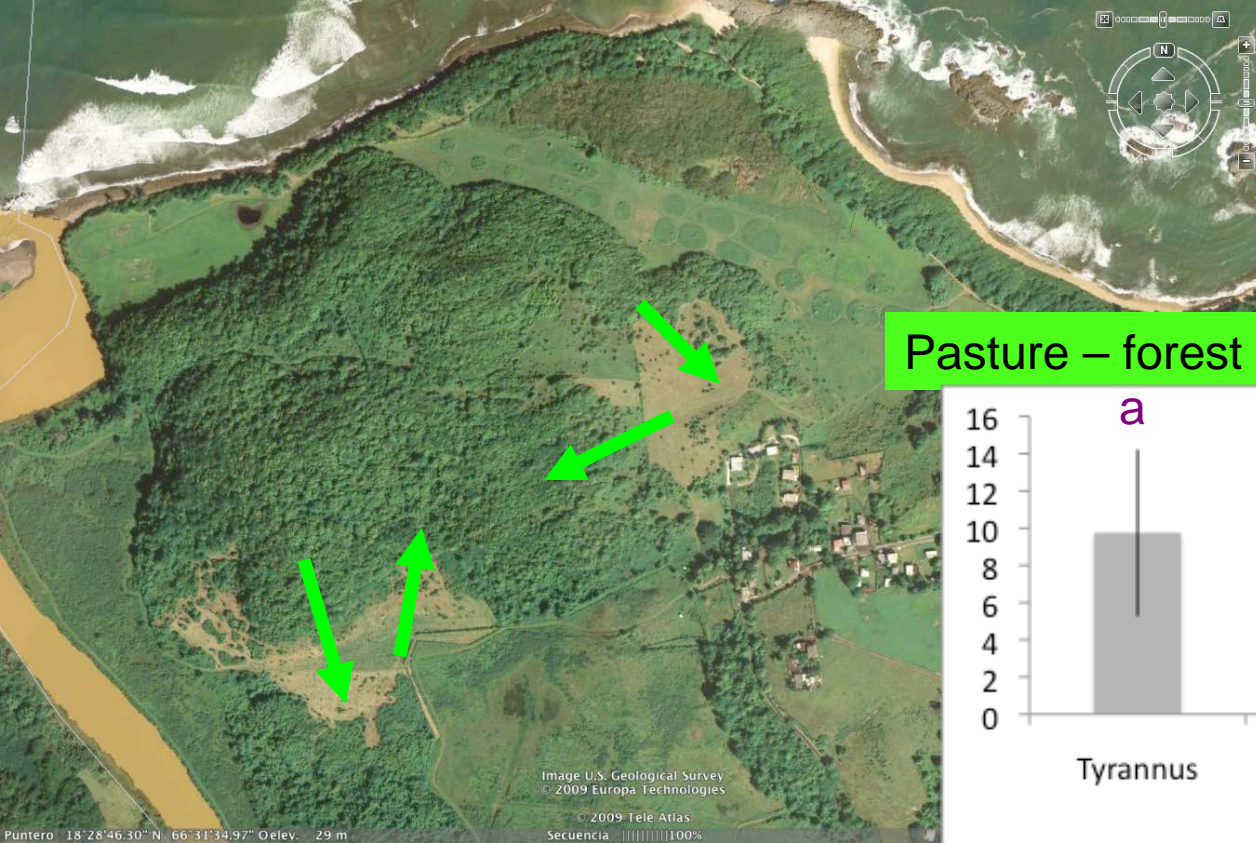
a)



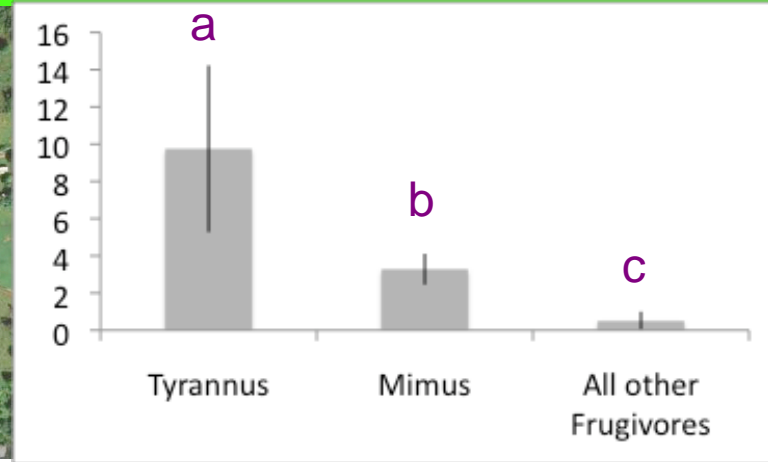
Soil Depth (cm)







Pasture – forest crossovers per hour



Tyrannus

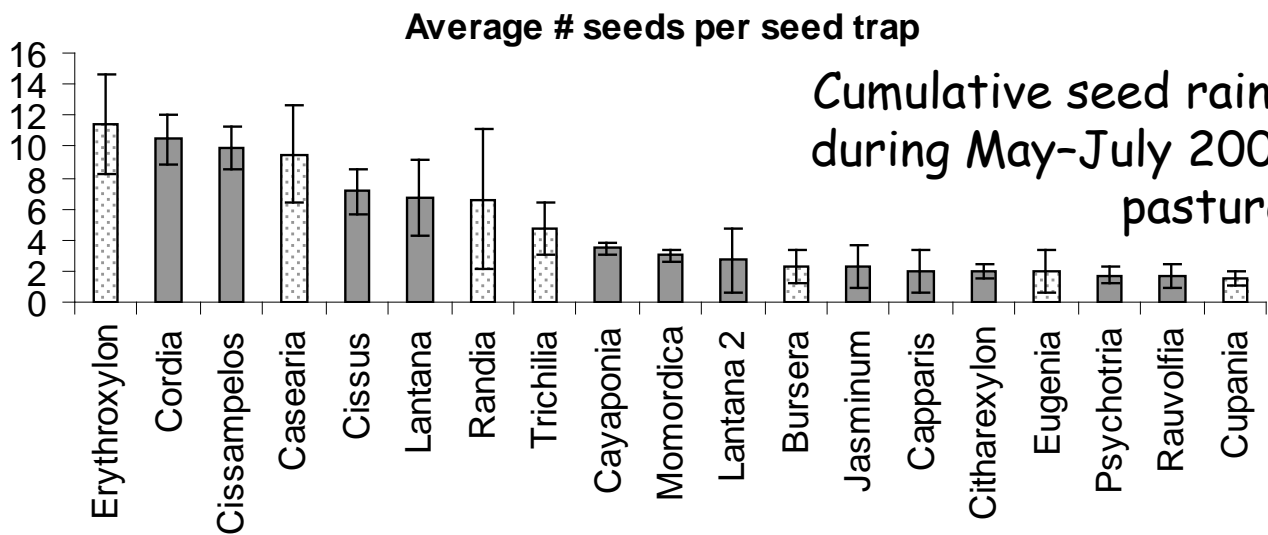
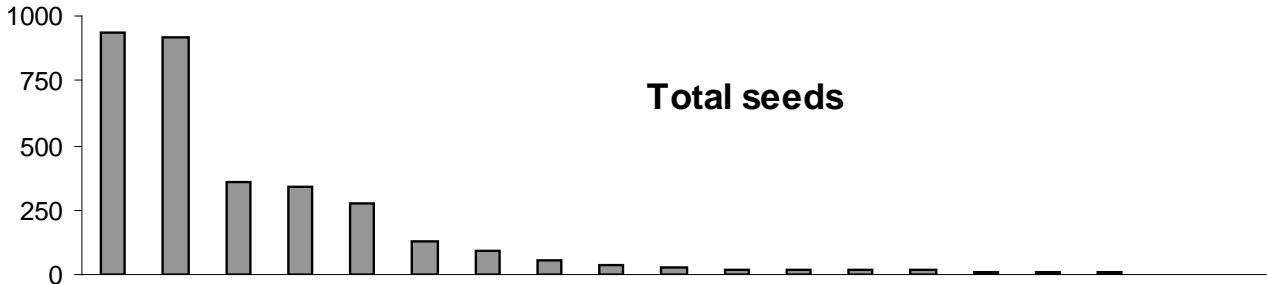


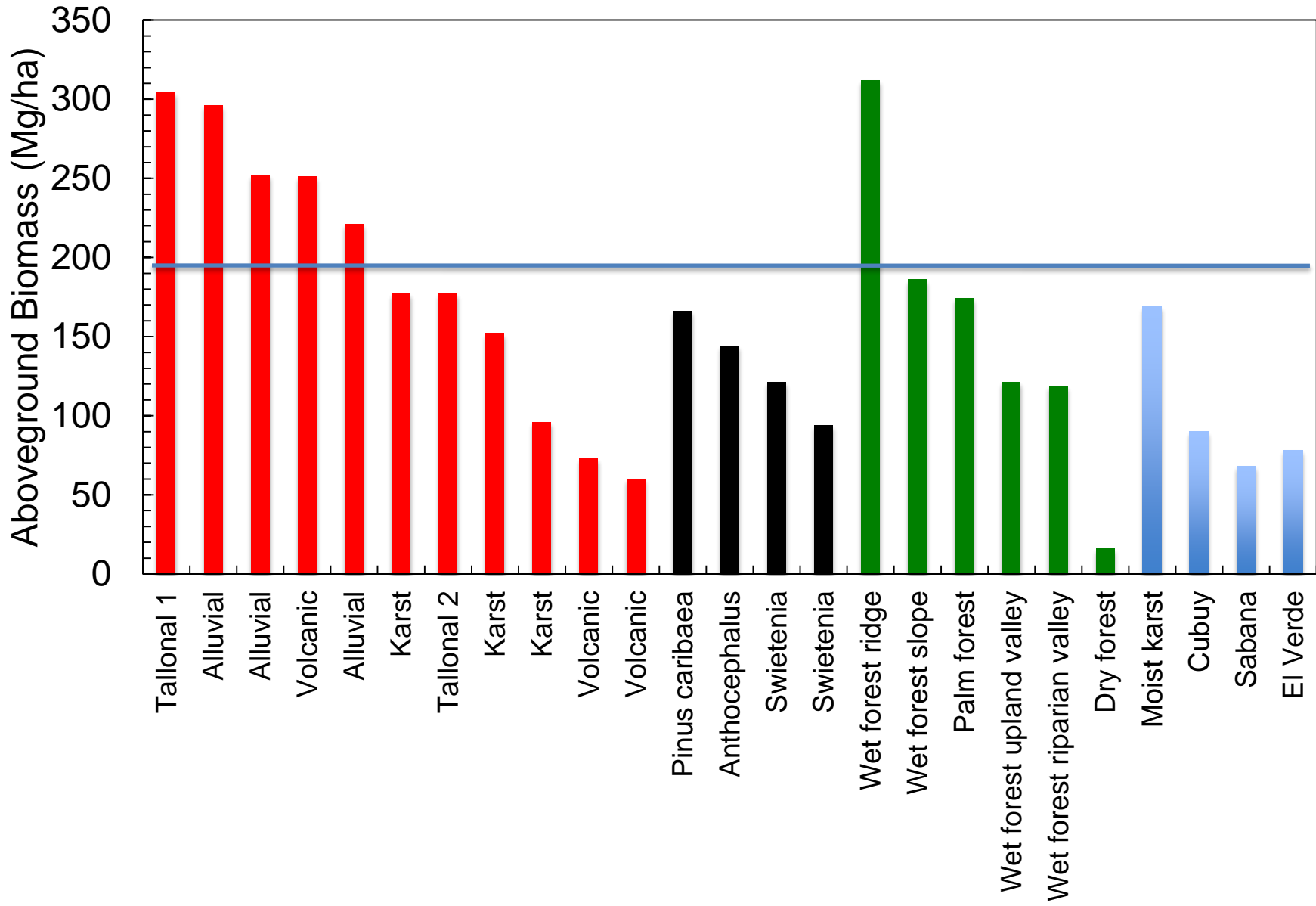
Mimus

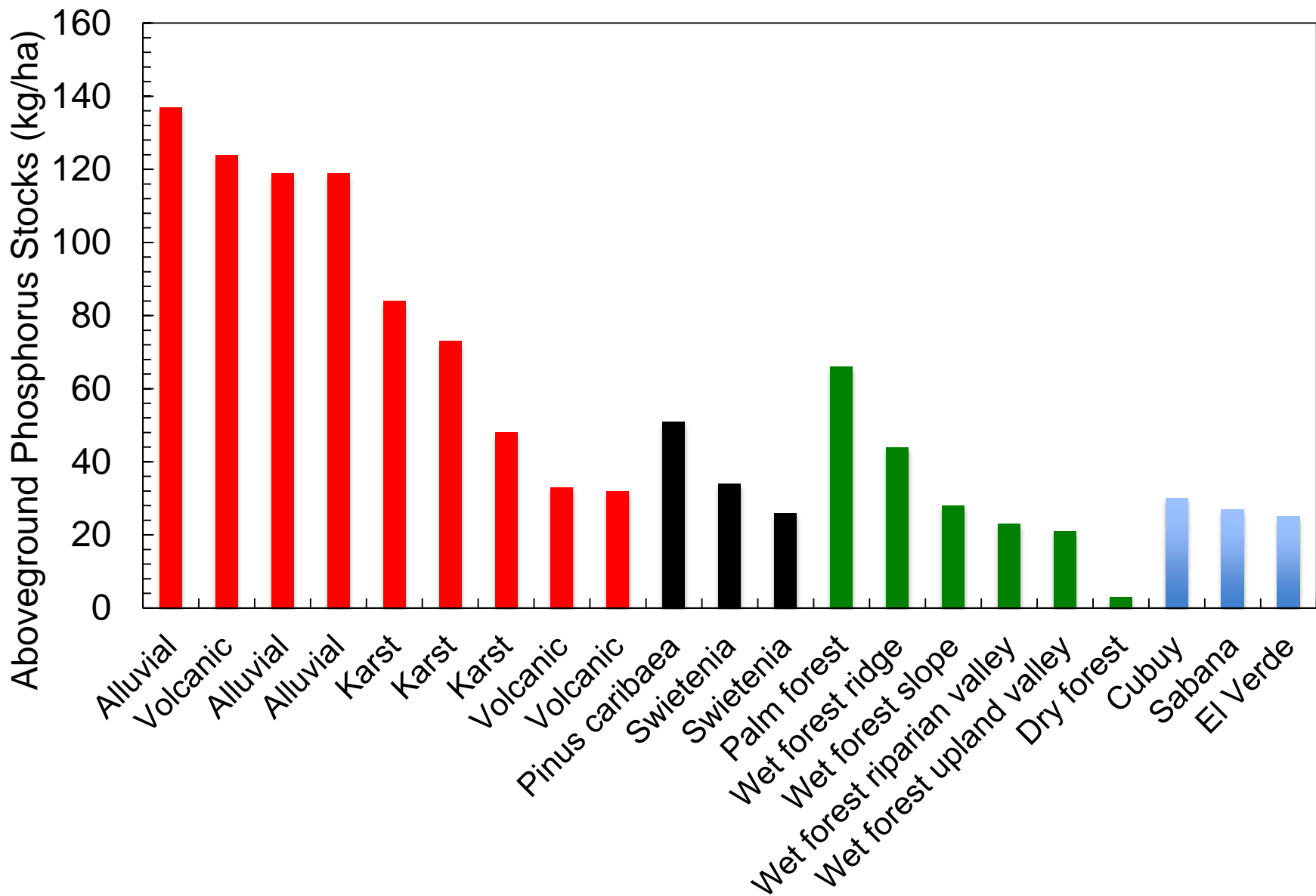


All other frugivores





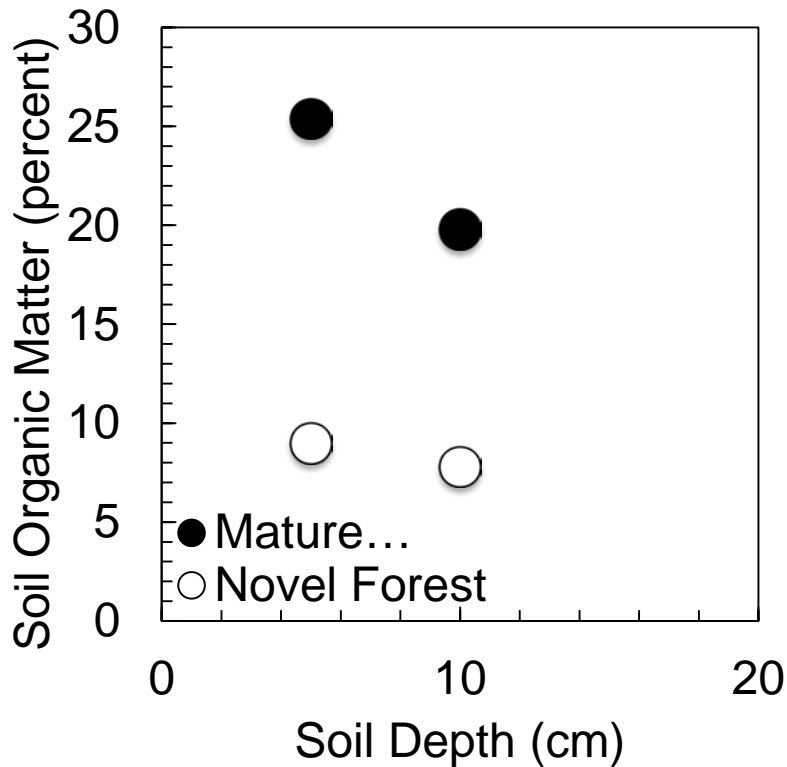




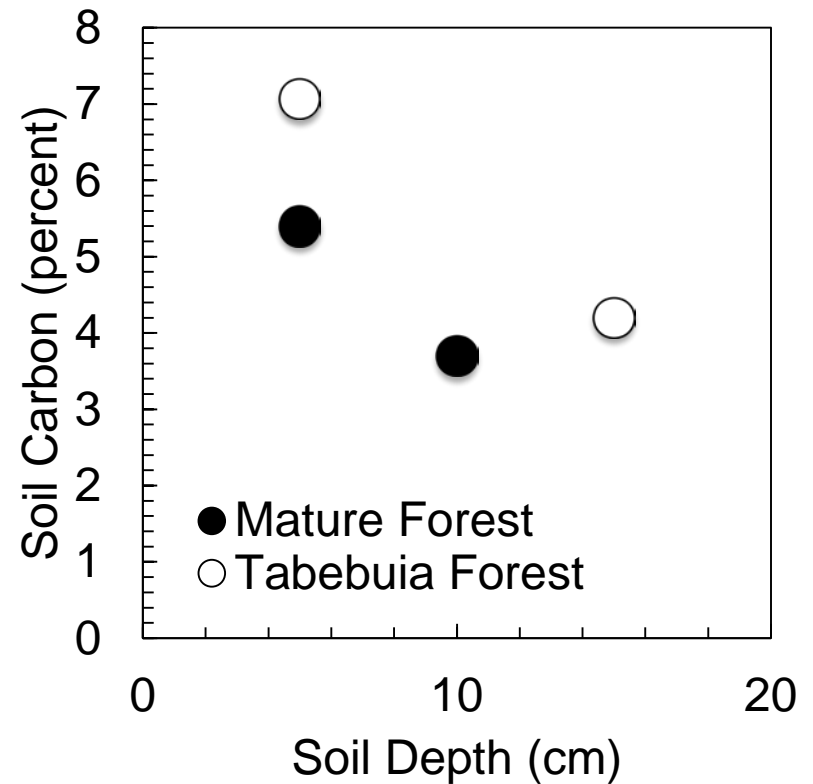


Different Levels of Soil Organic Matter

Dry Forest Life Zone

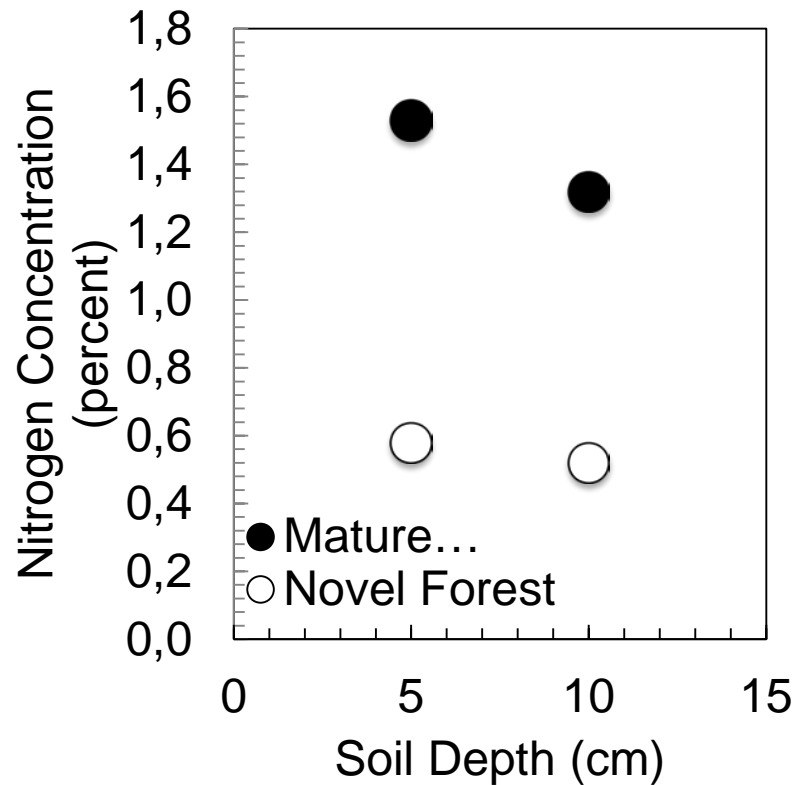


Wet Forest Life Zone

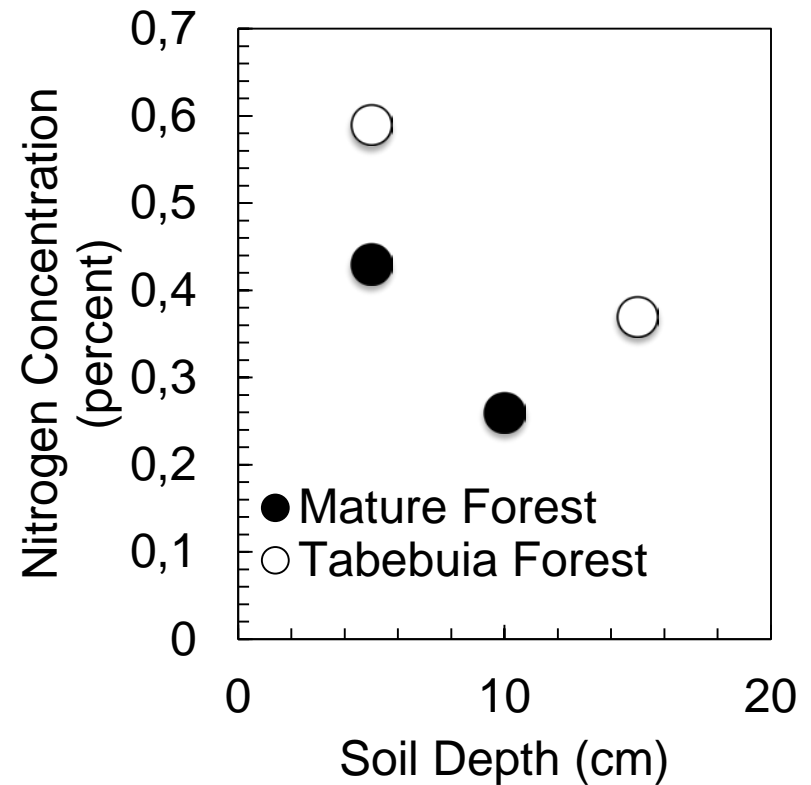


Different Levels of Soil Nitrogen

Dry Forest Life Zone



Wet Forest Life Zone



Restoration Highlights

- Planting monocultures to achieve diversity.
- Canopy closure is a key moment in the restoration (environmentally and biologically).
- Soil degradation determines species composition.
- Introduced species colonization without intervention.
- Stoichiometry appears critical for the long-term reversal of degradation (from storage to fluxes).

