LIFE Nardus & Limosa

LIFE18 NAT/BE/000576

Removal of soil phosphorus through P-mining

Jef Hendrix - Natuurpunt

Photo: Eva DeCock

Objective: bio-remediation of P-contaminated soils

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Grasslands after agricultural use

- Nutrient-rich soil (N, P, …)
- Species-poor vegetation

Nardus grasslands

- Nutrient-poor soil
- Species-rich vegetation

→ Soil nutrients as contaminants in grassland management

Methodology: P-mining

STARTING SITUATION

DURING THE PROCESS

GOAL

N Nitrogen

P Phosphates

K Potassium

Animal manure

Mowing

Slow restoration

P-mining

Faster restoration

Not fertilized grassland

SOIL
Nitrogen low
Potassium low
Phosphates high

VEGETATION
Production low
Plant species more

Fertilized grassland

SOIL
Nitrogen high
Potassium high
Phosphates high

VEGETATION
Production high
Plant species few

Selectively fertilized grassland

SOIL
Nitrogen high
Potassium high
Phosphates decreasing

VEGETATION
Production high
Plant species temporarily low

***Nardus* grassland**

SOIL
Nitrogen low
Potassium low
Phosphates low

VEGETATION
Production low
Plant species many

Results

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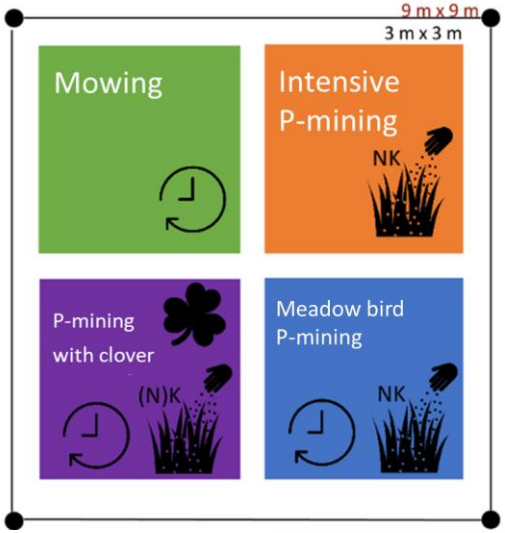
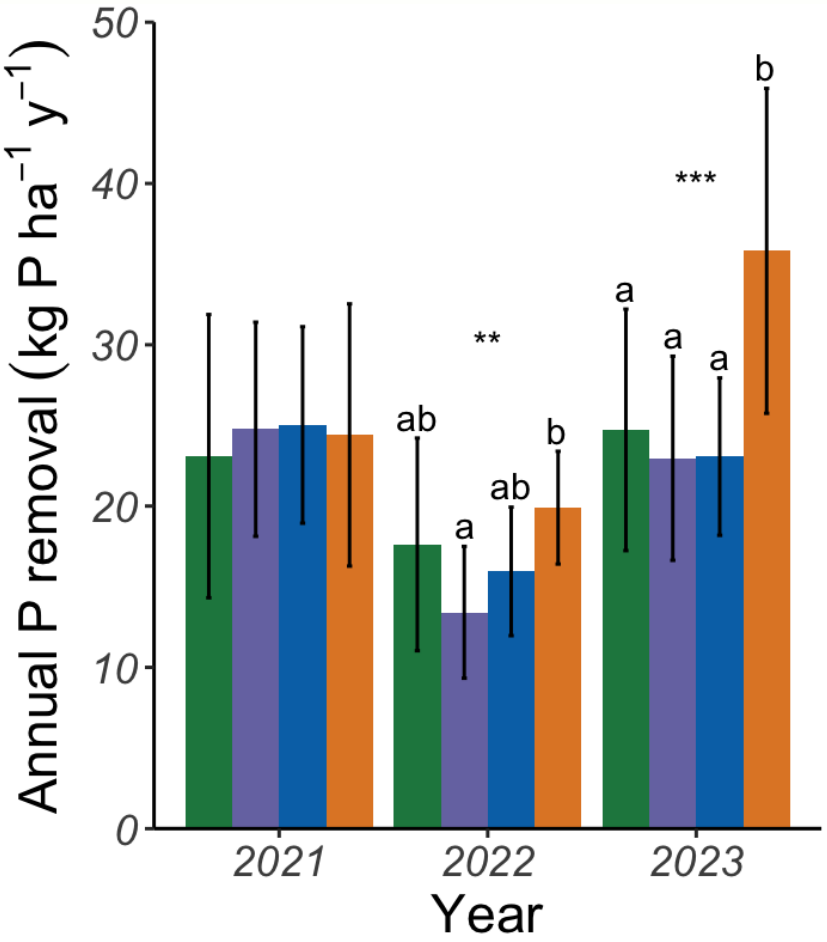
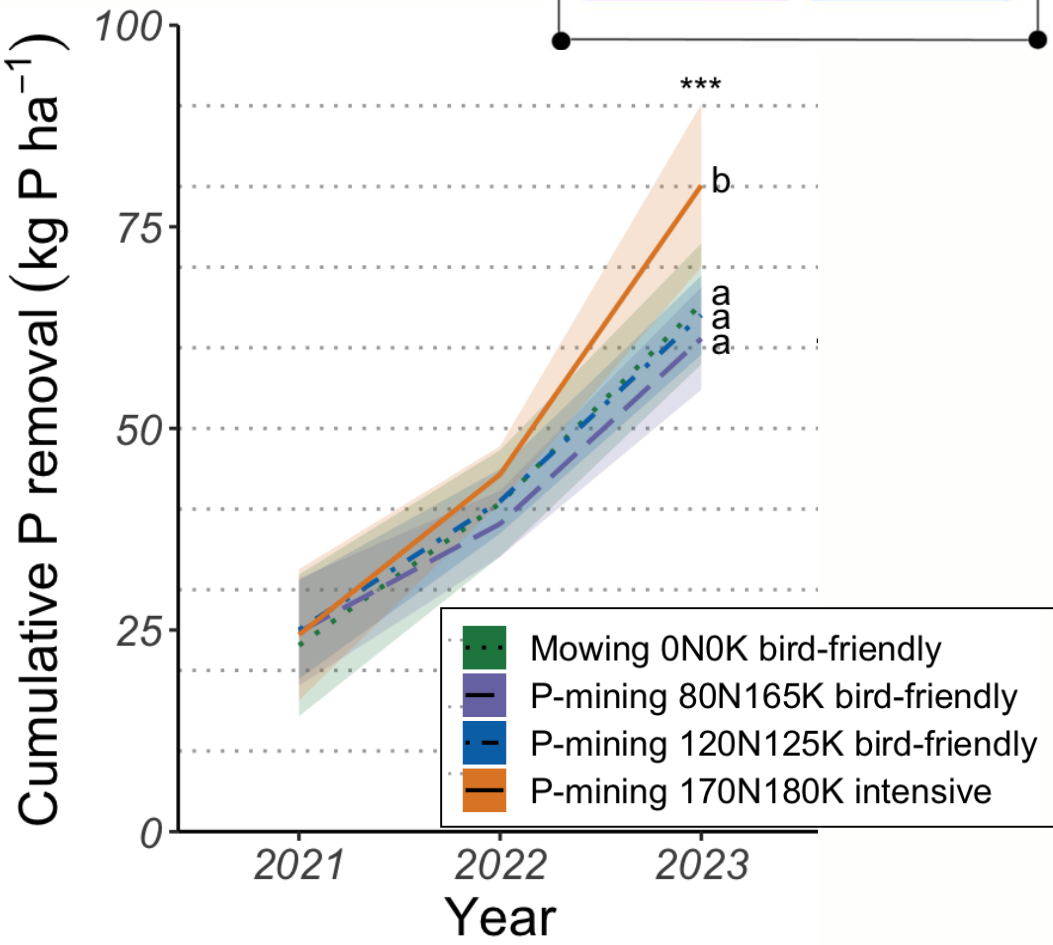
- Field experiment
  - Comparison of 4 treatments







Discussion starters

- Correlations between soil and water
  - Hydrology should be considered on a larger scale
    - Inflow of contaminated water (sources of contamination outside natural area)
    - Dessication

  → Urgency of large scale measures insufficiently recognised on policy level? (elimination of sources of contamination, rewetting, …)
- How to improve knowledge about the remediation techique
  - land managers (lack of knowhow)
  - agricultural sector and broader public (incomprehension or unwillingness to understand?)
  - policy makers (legal barriers)
  - …