

Regulation of reed encroachment for nature conservation purposes by grazing water buffalos

Weert Sweers

Greifswald, 16.02.2013

Outline

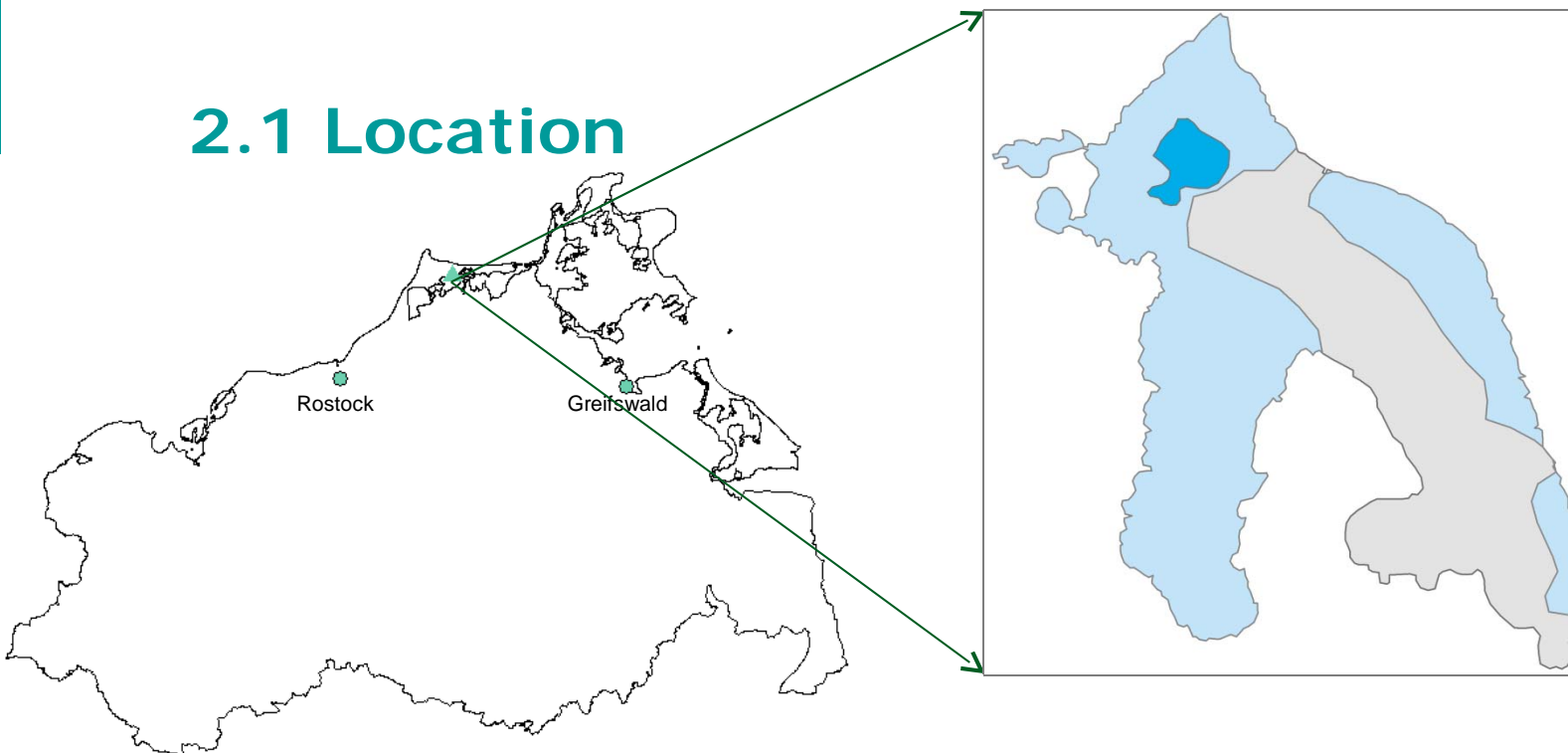
1. Introduction
2. Site Description
3. Approach
4. Results
5. Conclusions

1.1 Salt marsh grassland in the south baltic and reed encroachment

- Along the brackish coastal lagoons in the south Baltic reed stands prevail
- Under continuous grazing reed is replaced by grazing-tolerant salt marsh plants
 - shift towards a short-stature salt marsh grassland vegetation
- Cattle induced compaction of the soil leads to development of "Salzwiesentorf"
- Abandonment or under-utilisation leads to reed encroachment
 - loss of biodiversity and habitat function

2. Site Description

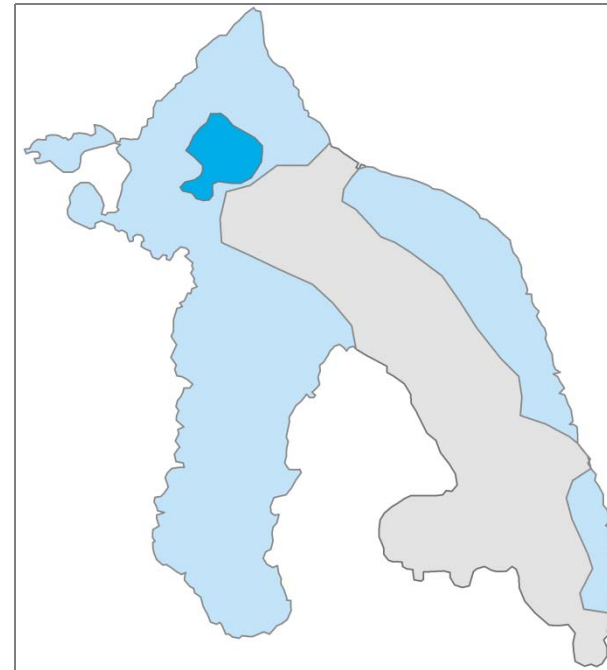
2.1 Location



- 28 ha large tidal island "Schmidts-Bülten"
- Mineral core with several flushing field activities

2.2 Hydrology and Vegetation

- The mean high tide of the Bodstedter Bodden (1990-2010) is 49 cm
- Typical grassland vegetation on the mineral core, red beds and salt grassland on the adjacent wet areas
- Until 1982 remarkable population of ground nesting birds and waterfowls, then severe reed encroachment

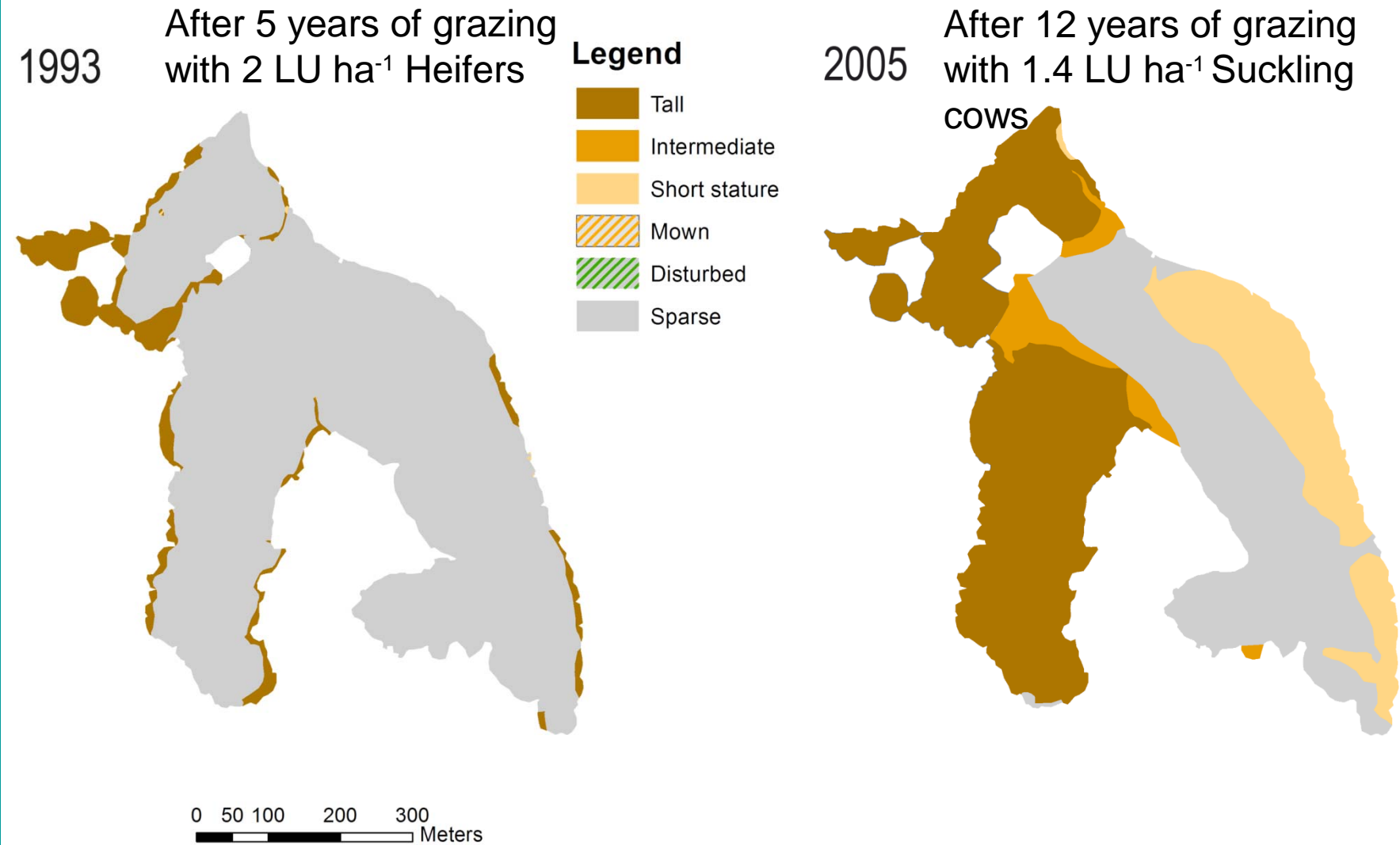


3.1 Methods

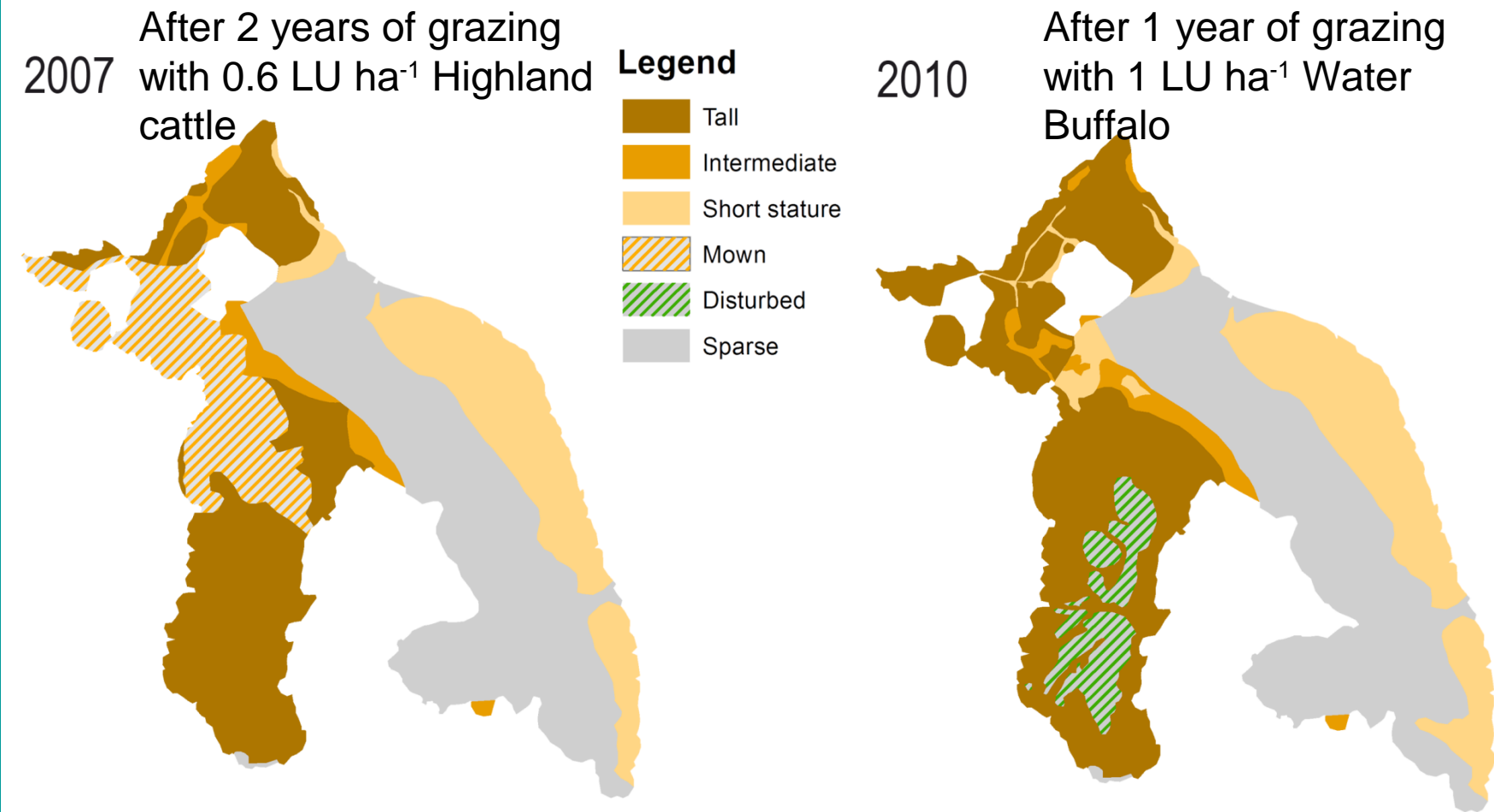
- In October 2011 and 2012 we recorded the reed distribution on the island using a D-GPS device (Laica GX 1230)
- We analyzed existing aerial photographs to reconstruct changes in reed distribution
- We resurveyed 24 vegetation plots based on records by Paulson and Raskin 1993
- We investigated the land use history of the island
- Finally we analysed the influence of land use on reed distribution



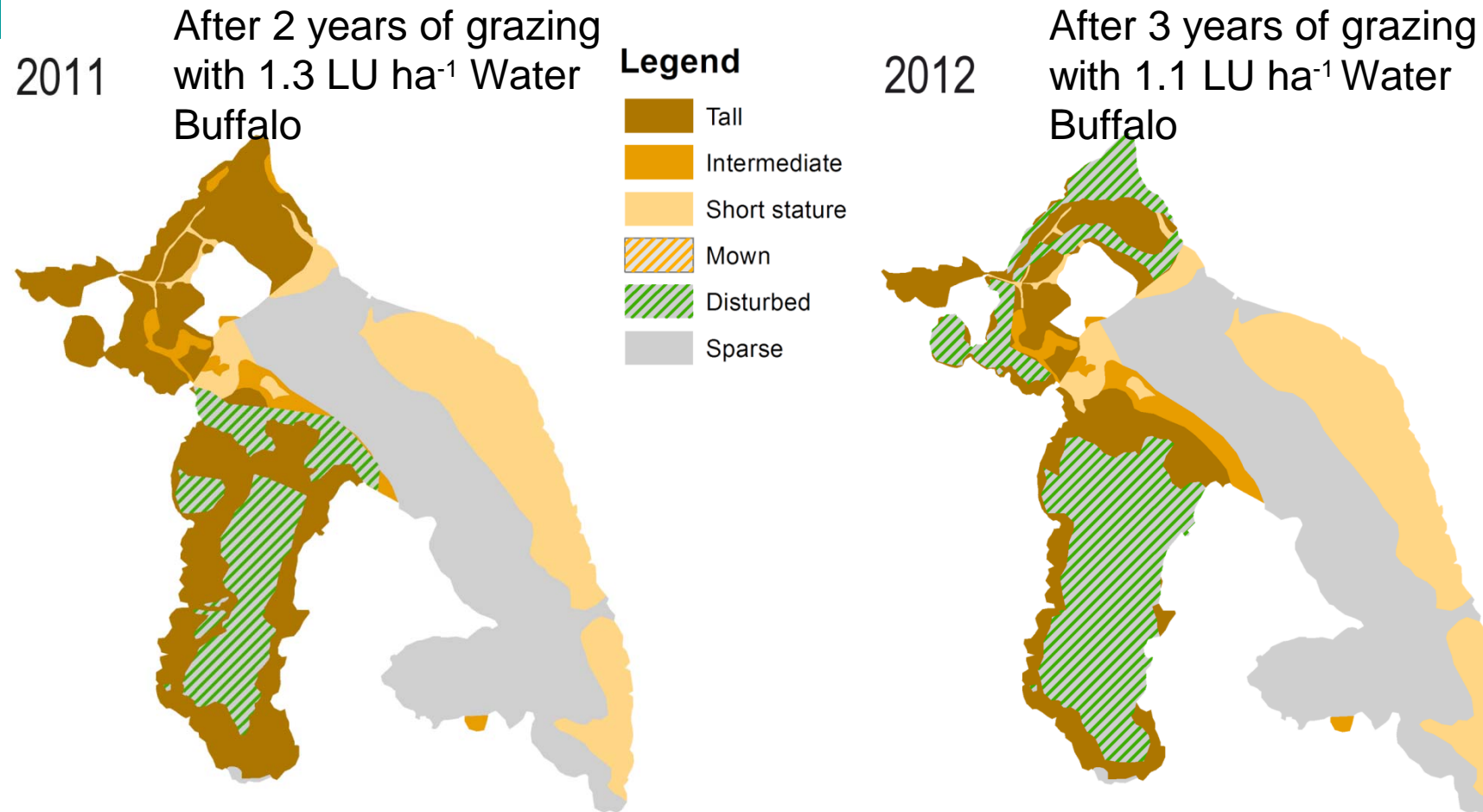
4. Results



4. Results



4. Results

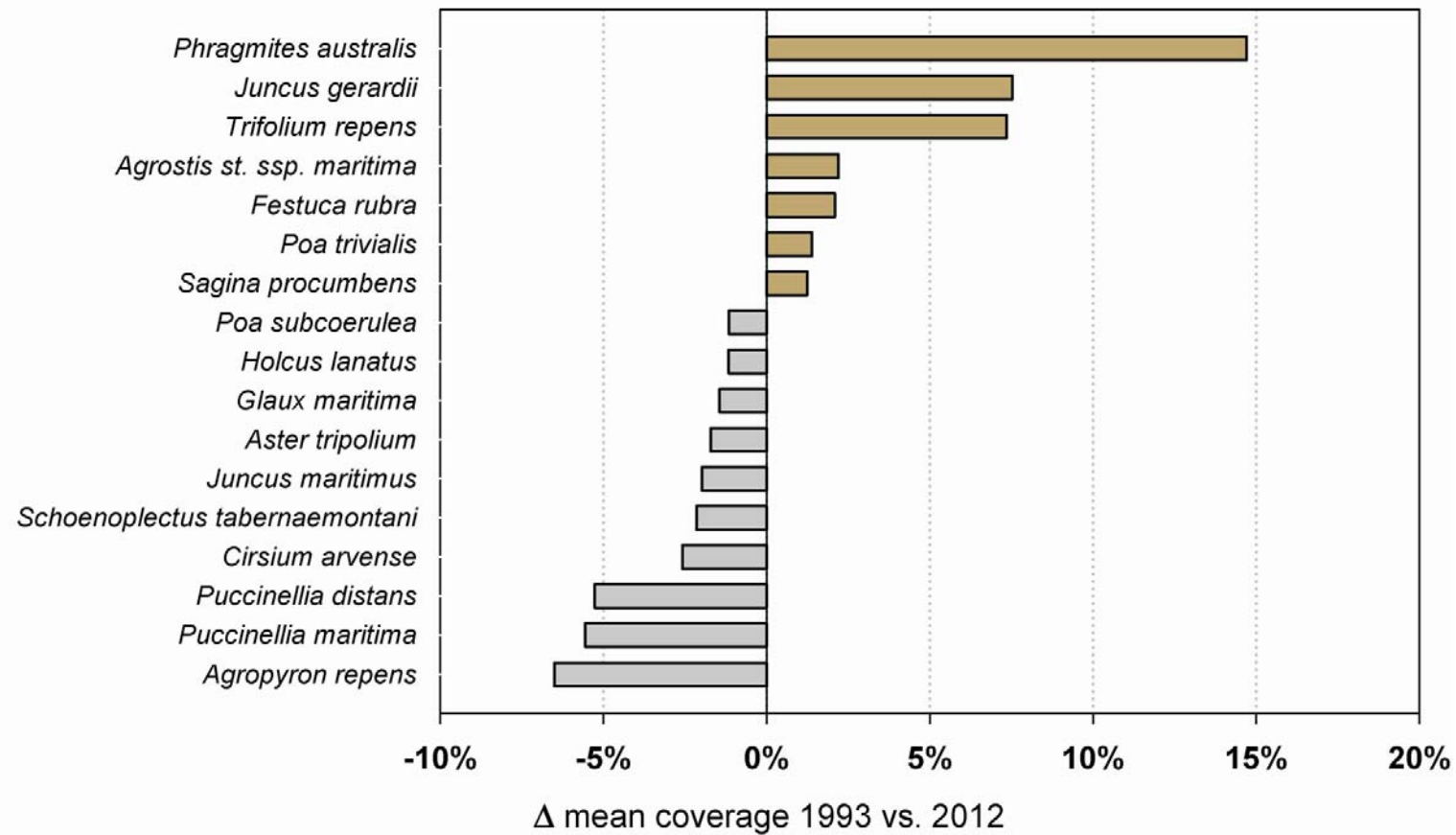


4. Results

Grazing-effect in 2011 after 2 years of water buffalo grazing (1.3 LU ha^{-1})



4. Results



5. Conclusions

- The fact that water buffalo started to transform dense reed stands at a stocking rate similar to or lower than that of the cattle previously used, may confirm their greater affinity for wetland plants
- Their natural behavior makes them particularly suitable for landscape preservation in salt marsh grasslands
- Reed beds have little understorey trampling damages only avoidable to a certain degree
- We concluded that at suitable stocking rates and under proper management, water buffalo have the potential to reconcile the interests of landscape preservation and avian conservation

Thank You for Your attention !





