

Implementation of a water buffalo grazing system on a coastal wet grassland site interspersed with reed beds

Introduction

- Extensive grazing with water buffaloes (*Bubalis bubalus*) has the potential to maintain species-rich wet grassland associations
- Buffalo grazing is able to control reed invasion into open coastal habitats as a refugium for breeding waders



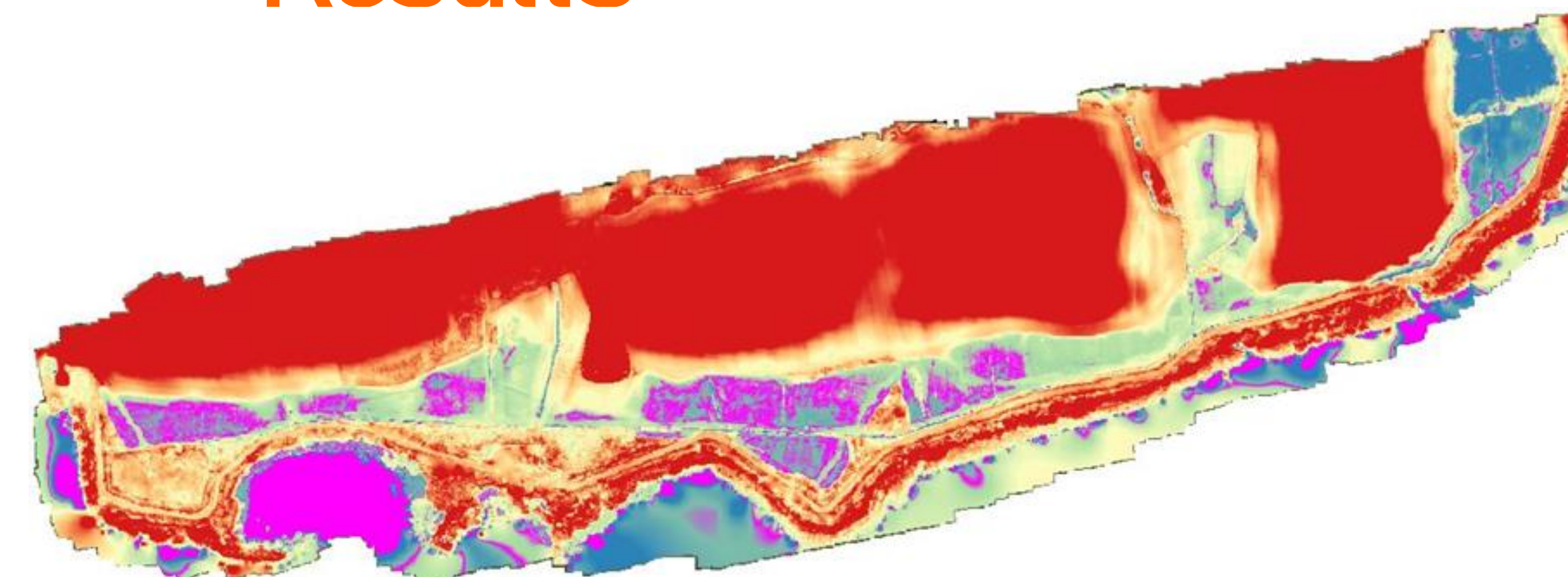
Aim: Development of a concept for the implementation of water buffalo pastures in a 35 ha grassland area on the coastal fringe of the island of Usedom

Methods

- Photogrammetry-aided vegetation survey with ground-truthing
- Biomass estimation by aerial photographs and hyperspectral images
- Animal food demand calculations
- Matching feed demand and estimated supply



Results



Map 1: Digital elevation model as the basis for discrimination of reed beds and other wet spots



Map 2: Determination of grazing units according to forage requirements and supply taking into account the wet spots

Conclusions

- Detailed planning is crucial to integrate water buffalo grazing into the wet landscape in a sensible way.
- The division of the land into management units takes into account both the provision of wetland areas and the aspects of animal welfare.
- The approach of UAV-based land sensing can also be applied to other areas and can be used as a monitoring tool too.

