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ECOLOGICAL
RESTORATION



UNIVERSITY OF TARTU
Landscape Biodiversity Group

Flooded meadows of Alam-Pedja nature reserve in Estonia: Management challenges and future prospects

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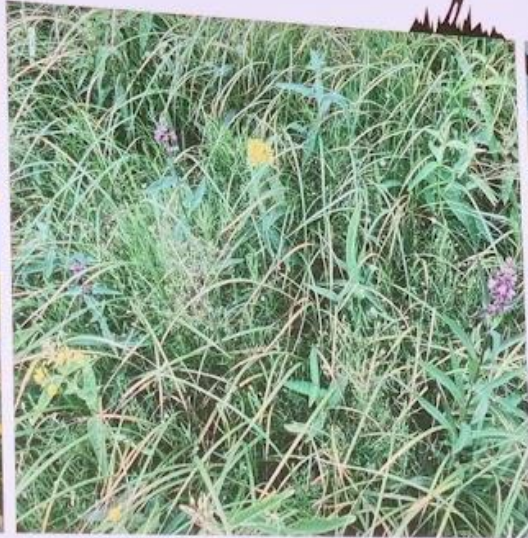
Sven Začek, www.zacekfoto.ee



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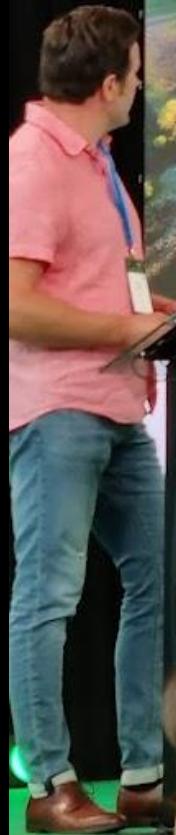
The ecological, economic and cultural importance of flooded meadows



Seasonally flooded: natural water management

High biodiversity: both flora and fauna

Agricultural use: hay production/extensive grazing



I'm managing ~800 ha of flooded meadows since 2015 through mowing and grazing with 250 Scottish highland cattle



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Management challenges: Late mowing time due to ground nesting birds

- ✓ Production of poor-quality hay, not good enough for winter fodder
- ✓ Waste of fuel, which has a negative impact on the climate
- ✓ Decline in plant diversity and dominance of larger plants and grasses, leading to negative impacts also on bird populations



Main issue (1): lack of results and site based approaches

- ✓ Regulation and rules made from distance
- ✓ Overlooking site-specific conditions and annual weather variations
- ✓ Limited consideration of farmers' knowledge, opinions and needs



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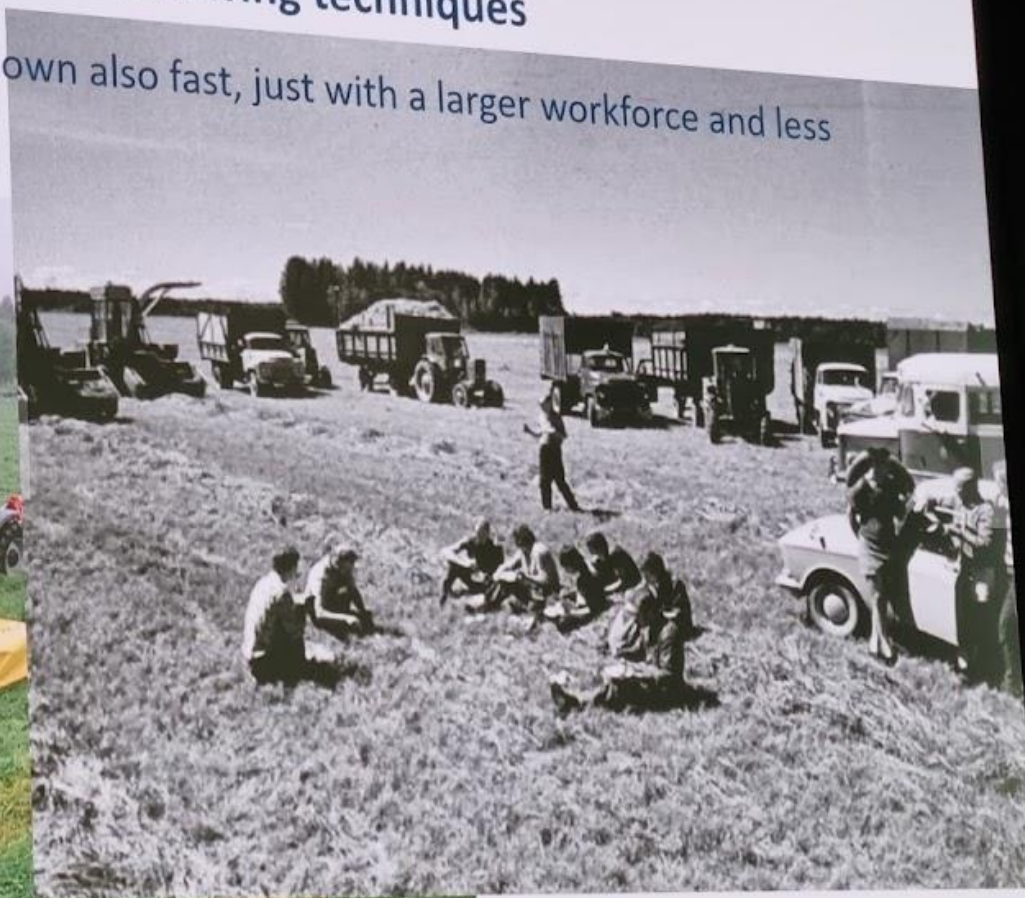
Main issue (3): fear to use modern mowing techniques



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- ✓ Historically the sites were mown also fast, just with a larger workforce and less efficient equipment



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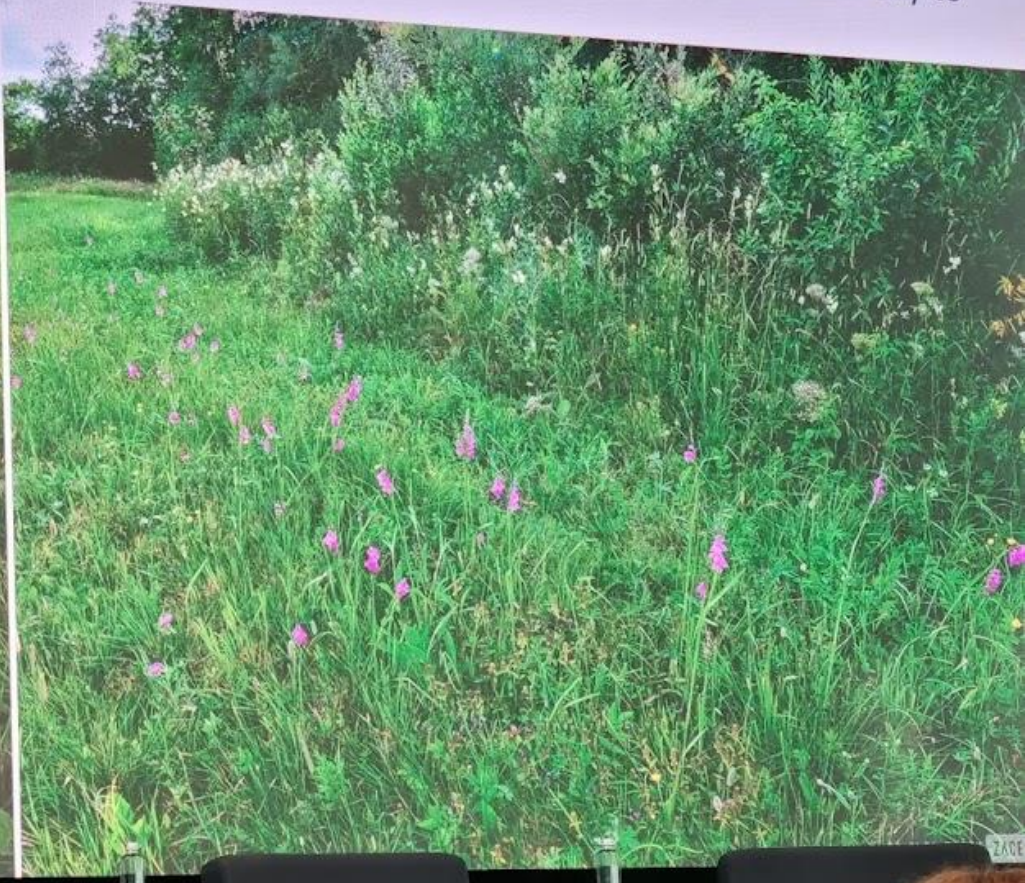
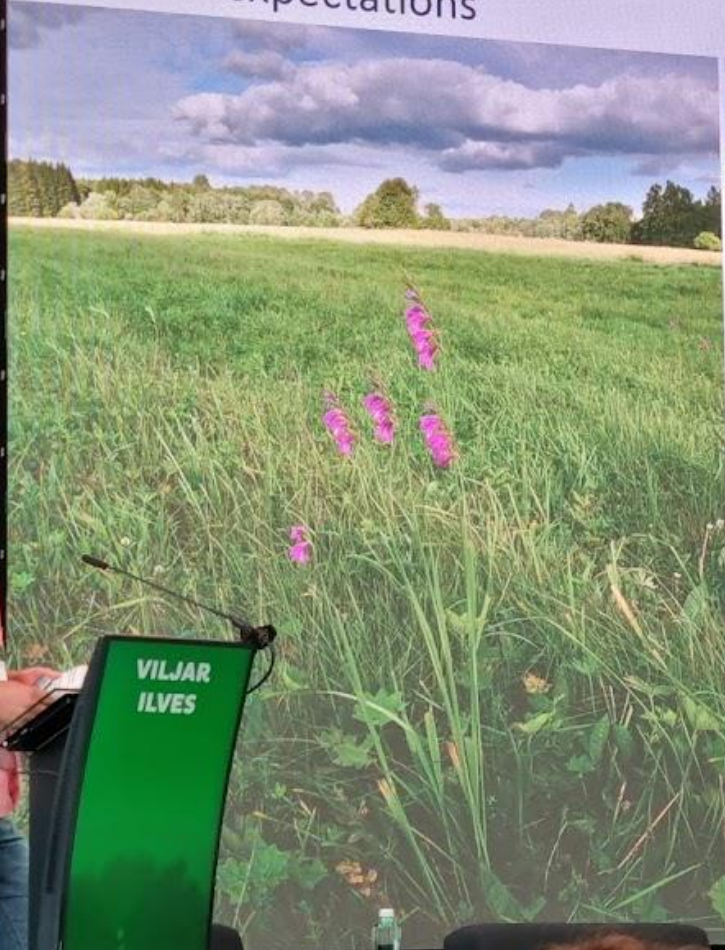
However, modern mowing techniques need to be used wisely!

- ✓ Mowing should be distributed across different times and locations to create a mosaic, both in time and space
- ✓ Speed should not exceed 10 km/h
- ✓ Requires flexible time for mowing and wise farmers



Positive example of alternative management regime (1)

- ✓ Significant population growth of *Gladiolus imbricatus* in early mown site, contrary to expectations



Let's create a sustainable, results-based and motivating management system by wisely using modern technology to ensure that invested resources achieve the desired results:

- ✓ high biodiversity
- ✓ enhanced ecosystem services
- ✓ improved human well-being



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