

Early stages of revegetation after two years of rewetting an extracted peatland in Sweden

Eva Weber

Sabine Jordan

Örjan Berglund



Ekebymossen



2017

Peat extraction terminated

2018

October May

Soil sampling and GHG measurements

Introduction of *Sphagnum* fragments & Rewetting

2019

Vegetation survey,
GHG
measurements,
water and soil
sampling ...

2020

Sphagnum Ekeby

Area

Area 1: 100% Sphagnum

Area 1: Straw

Area 1: SLU



Area 2: 10/90%
sphagnum/black peat



Area 2: 50/50%
Sphagnum/black peat



Area 3: 100% sphagnum +
black peat

Area 3: Straw

Water sample

EM1 - utgående vatten

EM2

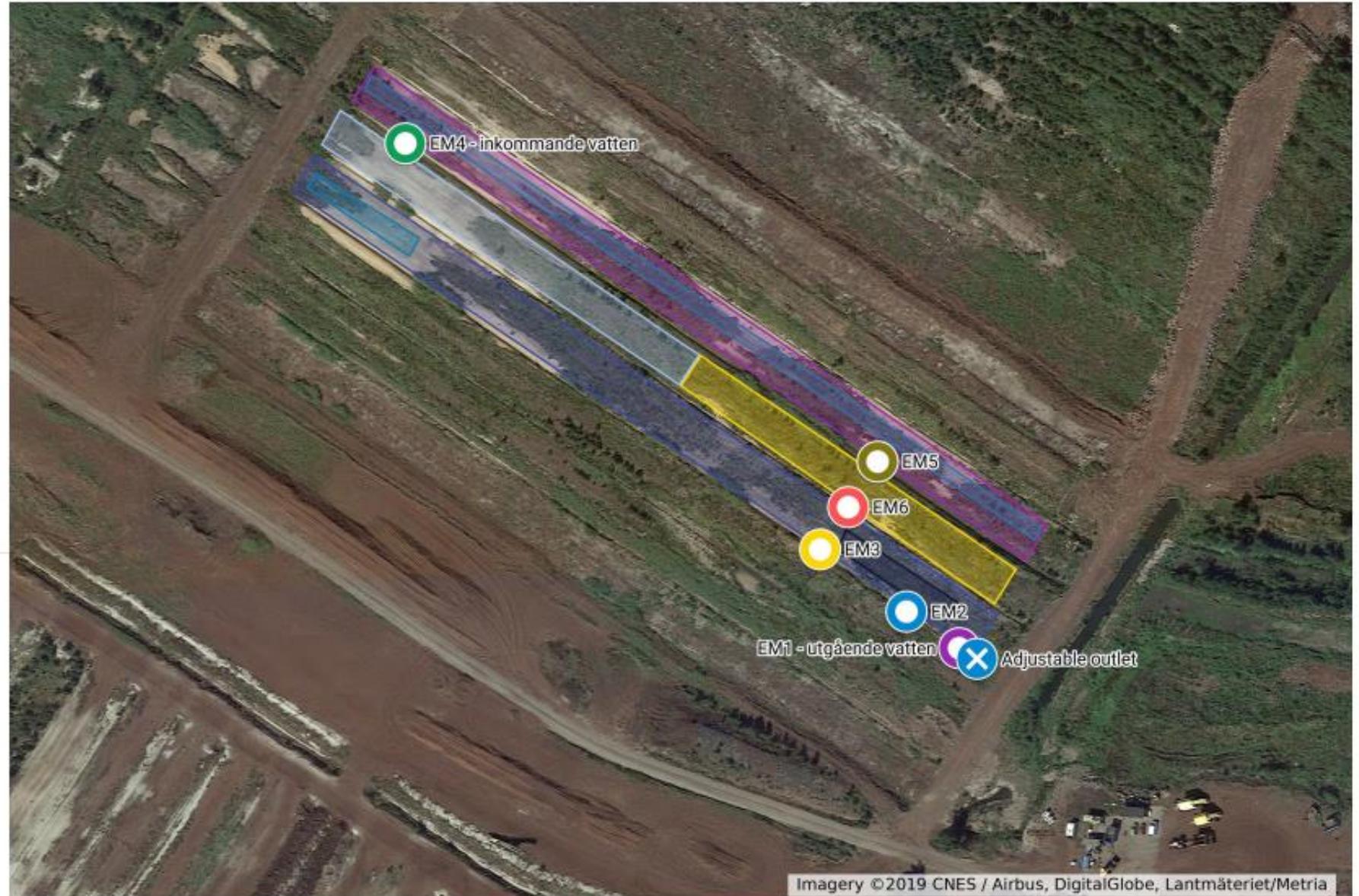
EM3

EM4 - inkommande vatten

EM5

EM6

Adjustable outlet



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Ekebymossen

Objective

Investigate early stages after rewetting in:

- GHG-emissions
 - Water quality
 - Soil properties
 - **Vegetation**
- Interactions between these components
- Evaluation of rewetting as an after-use measure



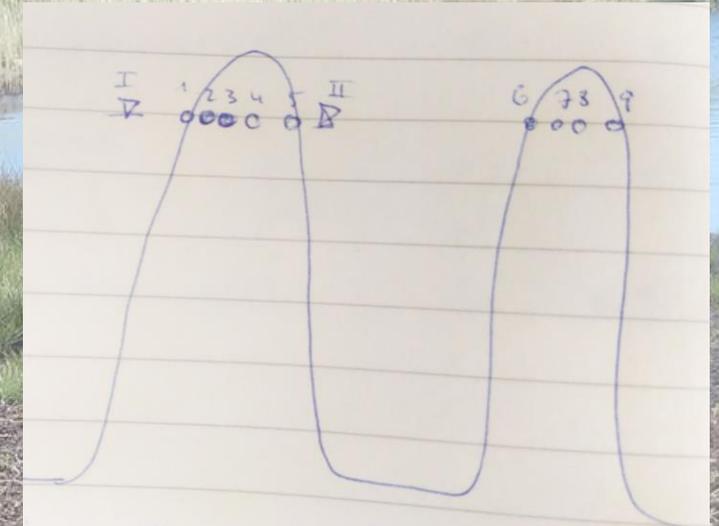
Vegetation survey

Drone flights:

- From 2018 onwards

Vegetation mapping:

- Transect
- Continuously throughout the vegetation period 2020 (& 2021)
- Coverage after Braun-Blanquet
- 25 cm x 25 cm frames



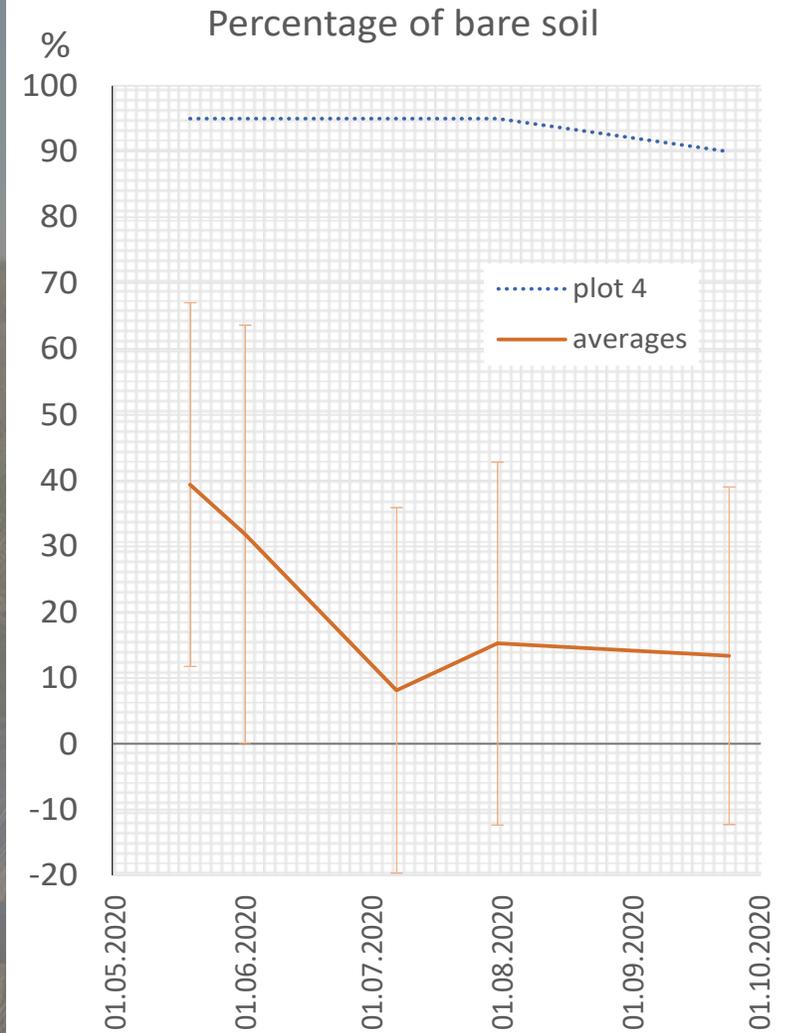
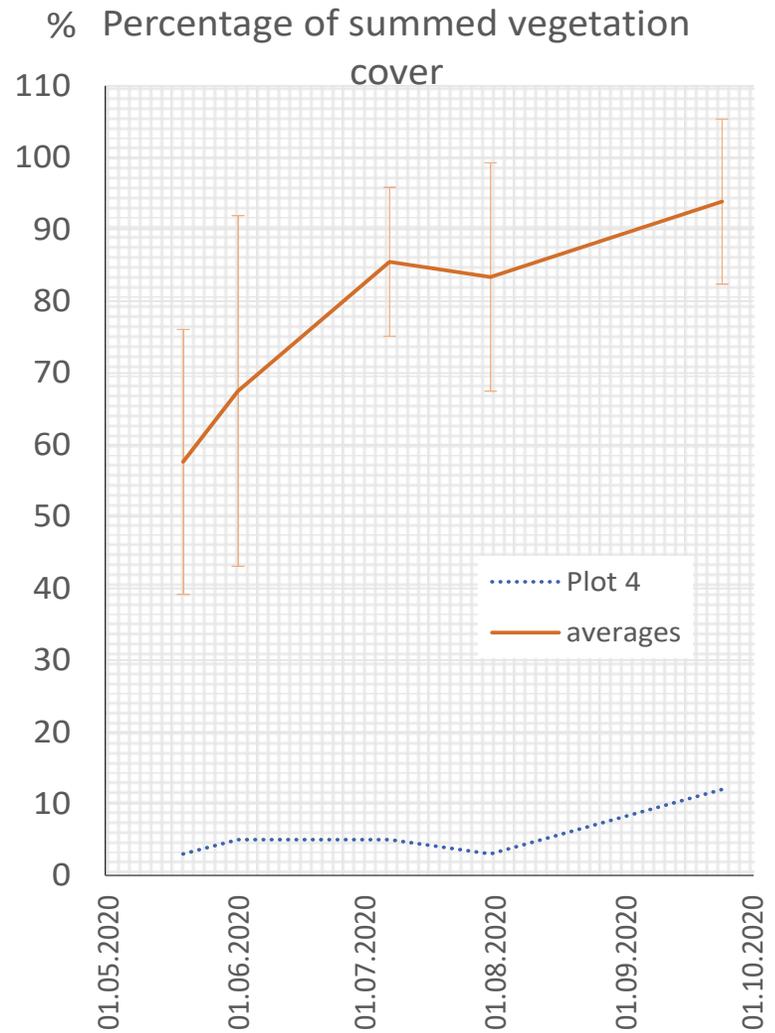
A		B		C		D		E		F		
Plot 2										19.05	01.06	07
bare soil						10		10				
mosses (without <i>Spagnum</i>)						15		20				
litter						5		10				
species	German		Swedish									
		number of species				4		4				
		summed coverage				62		82				
<i>Juncus effusus</i>	Flatterbinse		Veketåg		30		55					
<i>Carex canescens</i>	Grau-Segge		Gråstarr		30		25					
<i>Rumex acetosella</i>	Kleiner Sauerampfer		Bergsyra		2		2					
<i>Spagnum spec.</i>					0		0					

An aerial photograph of a large, flat landscape. In the foreground and middle ground, there are several long, narrow, parallel strips of dark, tilled soil, likely prepared for agriculture. These strips are separated by lighter-colored, grassy or weedy areas. A few small, blue, rectangular ponds or ditches are visible between the strips. In the background, a dense line of trees with autumn-colored foliage stretches across the horizon. Beyond the trees, several large white wind turbines are visible against a clear blue sky. The overall scene suggests a rural or agricultural area undergoing land management or preparation.

Vegetation survey: Drone flights



Vegetation survey: Mapping



Vegetation survey: Mapping

Dominant species:



Other species:



Nurse plants:



Conclusion

- Fast recolonization by typical peatland vegetation
- High abundance and coverage of peat-forming species
- Indicator for degradation dominant



**Rewetting is a good measure
for restoration
BUT
Needs further research and
monitoring**



Swedish University of
Agricultural Sciences



Thank you!

