



Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

Department of Soil and Environment

Cultivated peat soils

Yesterday, today and tomorrow

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What is peat soil?

What is peat soil?

- Formed when the degradation of organic material is hampered due to oxygen deficiency and cold climate
- Contains > 40% organic material
- Have very high porosity and can hold large amounts of water
- Usually low pH
- Needs drainage for crop production and trafficability



Kälkestad

History

History

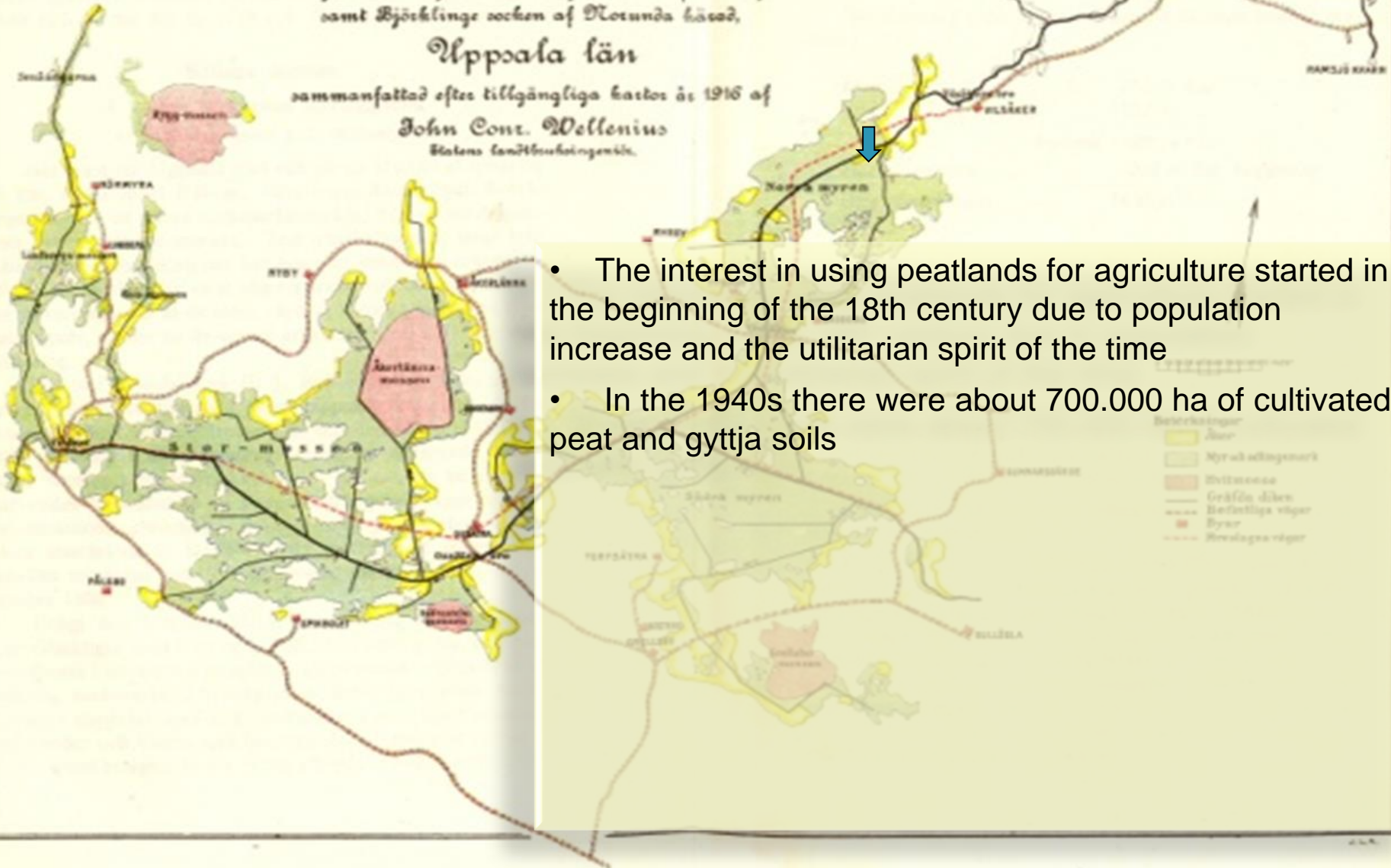
Karta öfver Bälinge mossar

uti Bälinge, Skuttunge och Åkerby socknar af Bälinge härad
samt Björklinge socken af Notunda härad,

Uppsala län

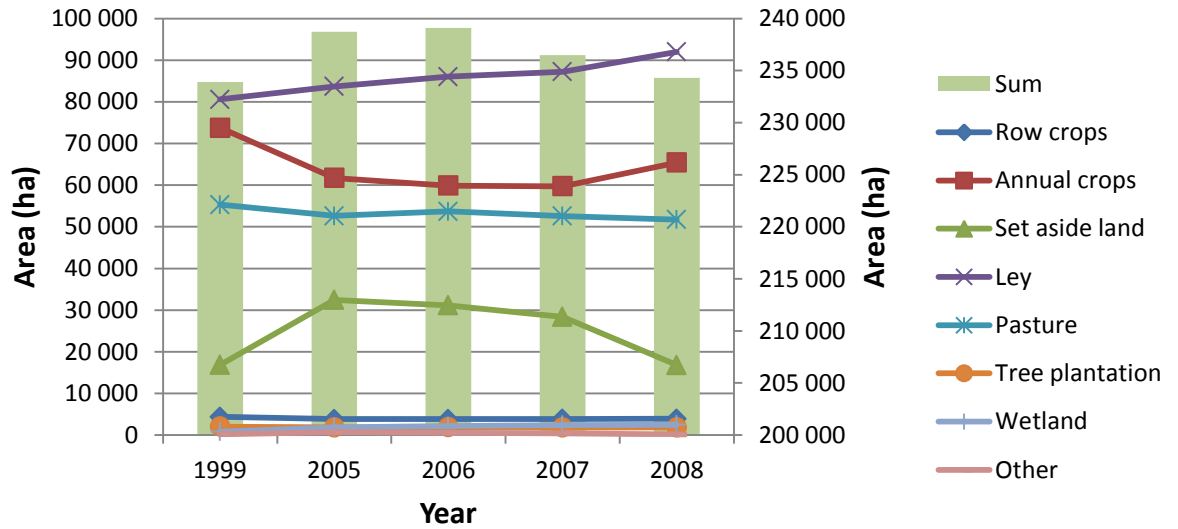
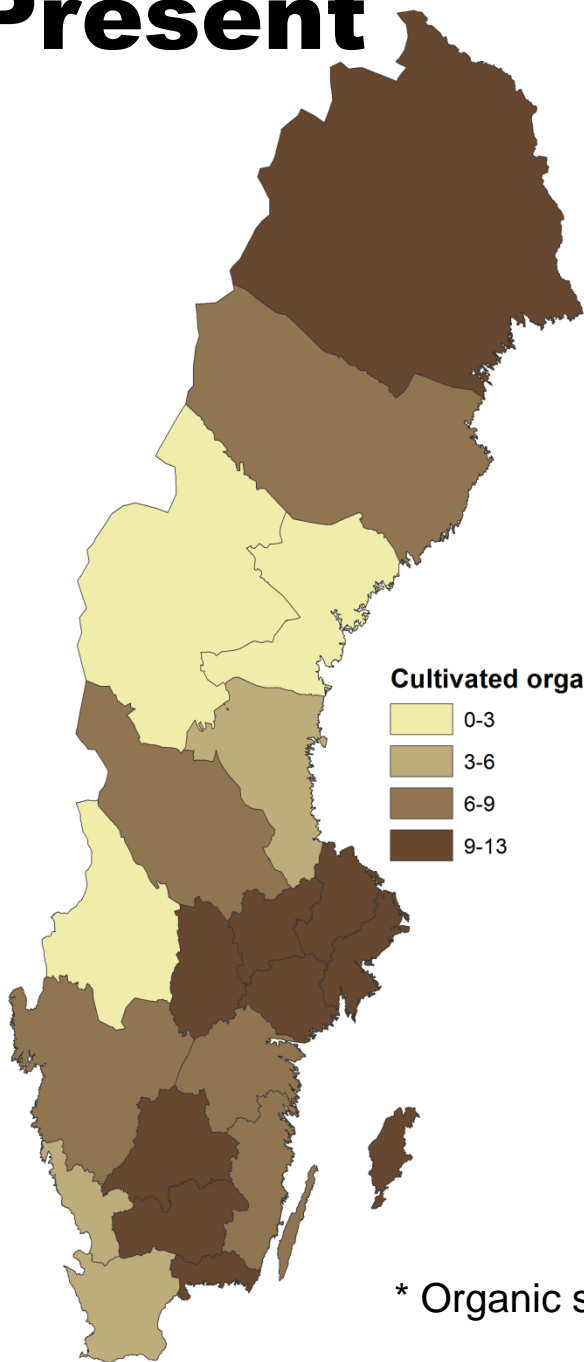
sammansatt af tillgängliga kartor ås 1916 af

John Cont. Wellenius
Statens landbruksingenjör.



- The interest in using peatlands for agriculture started in the beginning of the 18th century due to population increase and the utilitarian spirit of the time
- In the 1940s there were about 700.000 ha of cultivated peat and gyttja soils

Present



- 240.000-270.00 ha cultivated organic* soil
- Less intensive cultivation compared to mineral soils

* Organic soil = peat, gyttja and marl

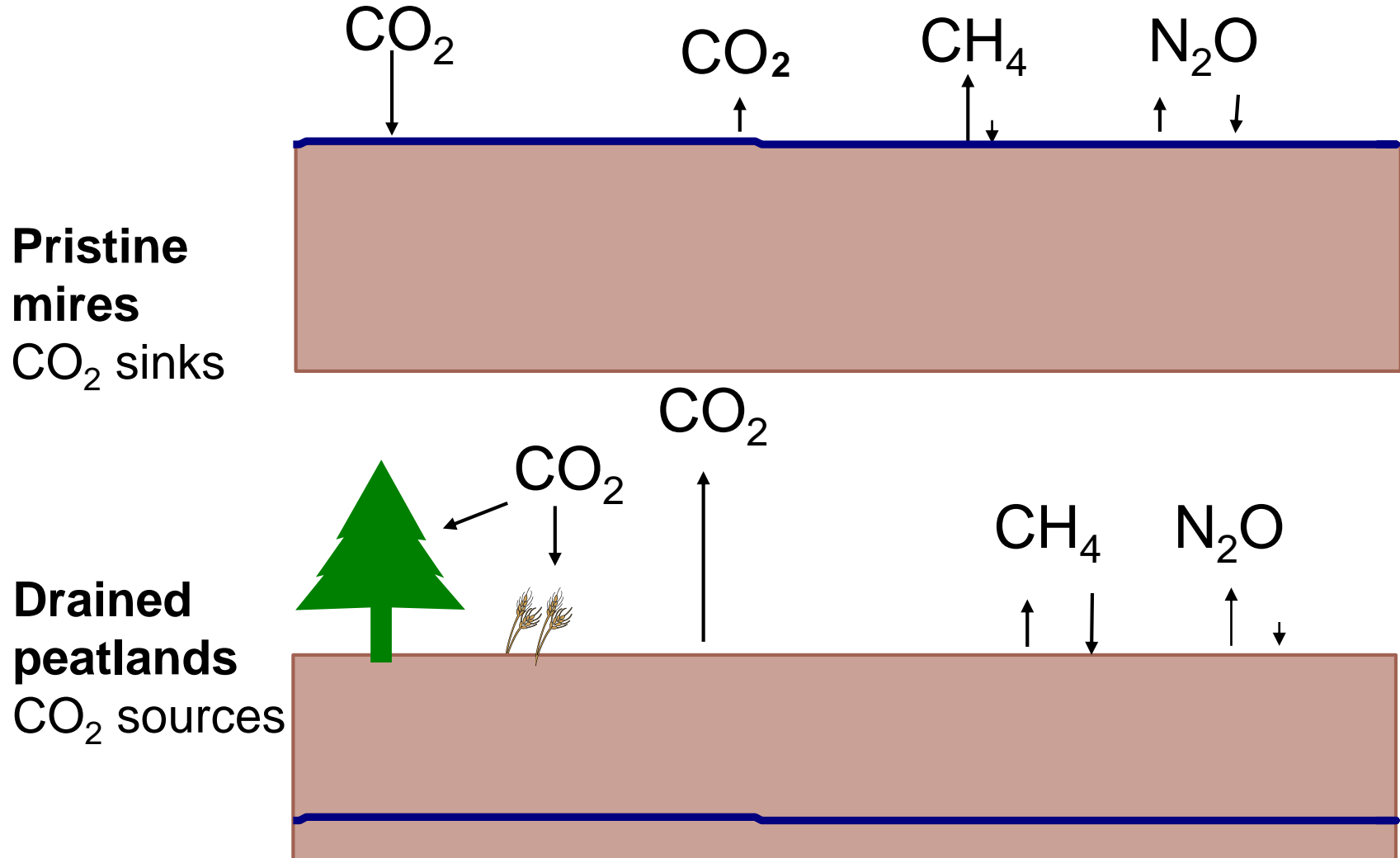
Problems

Peat soils need drainage



Gas dynamics in peatlands

(CO₂ carbon dioxide, CH₄ methane, N₂O nitrous oxide)



Greenhouse gas emissions from cultivated peat soils

- Calculated from subsidence and bulk density
 - 3.1-4.6 M ton CO₂ eq./ year
- From emission measurements
 - 4 M ton CO₂ eq. /year



1 million cars that travel 20.000 km/year (6-8% of Swedens reported emissions)

The Future; New Ruralities

- Bioenergyprojects
 - BIOM
 - Fårträsk, Malå
 - Knaften, Lycksele
- Use sewage sludge
 - Decrease CO₂ emission
- Use foundry sand
 - To increase bearing capacity
- Small scale and local use of biogas
 - To get economy in the production



The End

