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De context

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Veentypen in Europe

A map of Europe showing semi-natural areas. Green areas represent high peat (hoogveen) and red areas represent low peat (laagveen). The map is overlaid with a grid of latitude and longitude lines. Two large, light blue ovals with black borders are positioned over the map, containing the text 'Vooral hoogveen' and 'Vooral laagveen' respectively.

Vooral hoogveen

Vooral laagveen

Pressures from urbanisation and transport on semi-natural areas

<http://www.eea.europa.eu/> Nov 29, 2012 11:34 AM



Ongestoord laagveenlandschap: Biebrza in O-Polen

800 n. Chr (1150 BP)



<https://pracownia.org.pl/pracownia-aktualnosci>

- Beken en kleine rivieren
— steoceen landschap
— stocene of oudere gronden aan maaiveld
dieper -6 m NAP
-6 / 0 m NAP
0 / 10 m NAP
10 / 20 m NAP
20 / 50 m NAP
50 / 100 m NAP
100 / 200 m NAP

0 25 50 Km



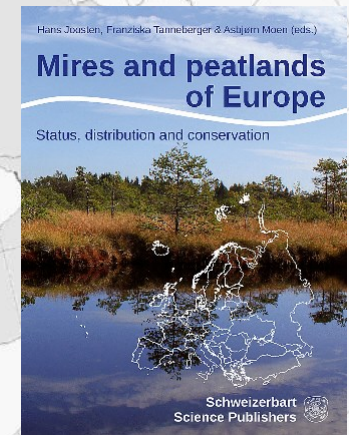


“Goed” beekdalveen in de Lage landen



Europe: peatlands (>30cm): 75,000 km² gone, 275,000 km² drained, 320,000 km² undrained, 2,000 km² (0.3%...) restored

- Belgium: 75% loss since 1960 (Decleer et al. 2016)
- EU: 4% loss between 1990 and 2000 (www.eea.Europe.eu)



A wide-angle photograph of a peat excavation site. The landscape is characterized by deep, terraced layers of peat soil. In the foreground and middle ground, rows of cut peat blocks are visible, laid out in neat patterns on the peat surface. The peat has a rich, dark brown color. In the background, a line of green trees marks the horizon under a clear, light blue sky. A semi-transparent white rectangular box is overlaid on the center of the image, containing text.

Veen afgraven:
iets van de Middeleeuwen?

De meeste laagvenen in Europa lijden aan **drainage**



Germany



VEEN IN EEN POTJE



De meeste laagvenen in Europa lijden aan **drainage**



Voormalig veenoppervlak

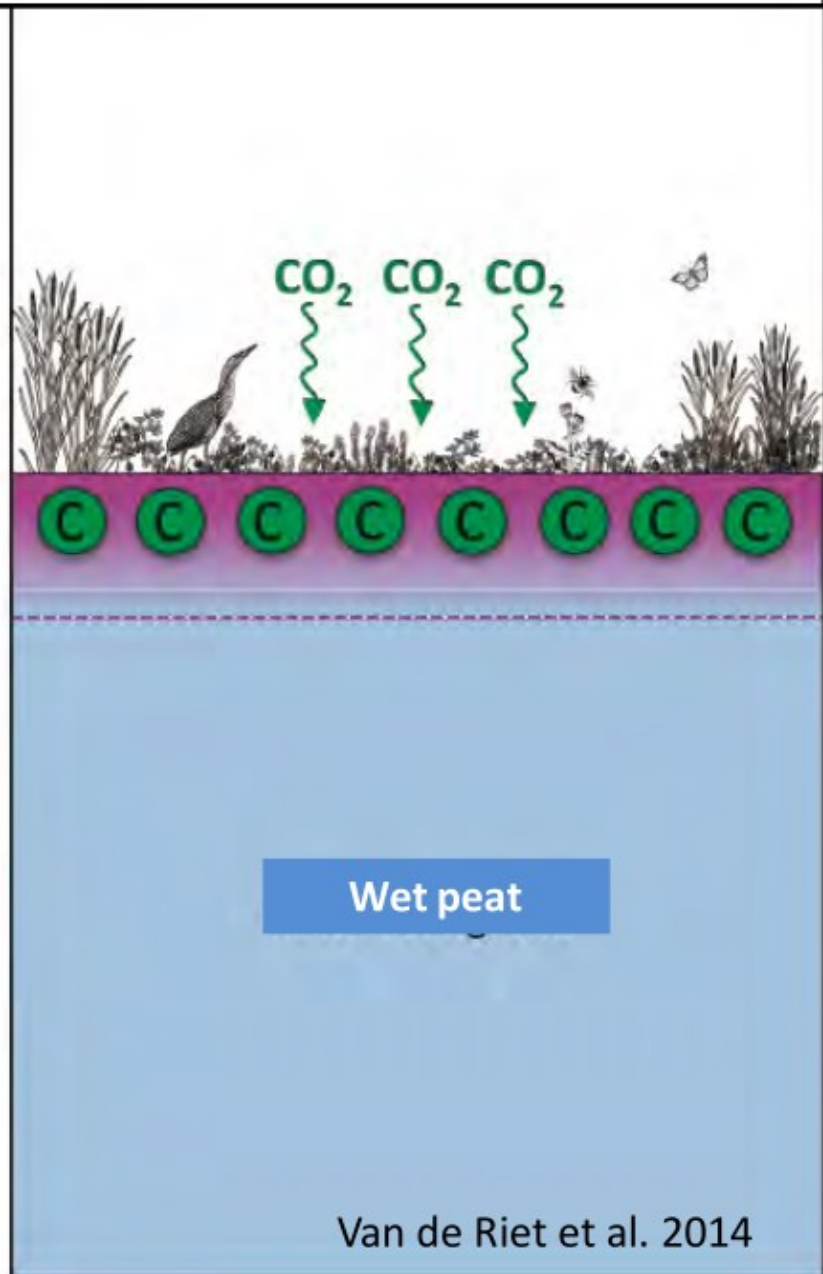
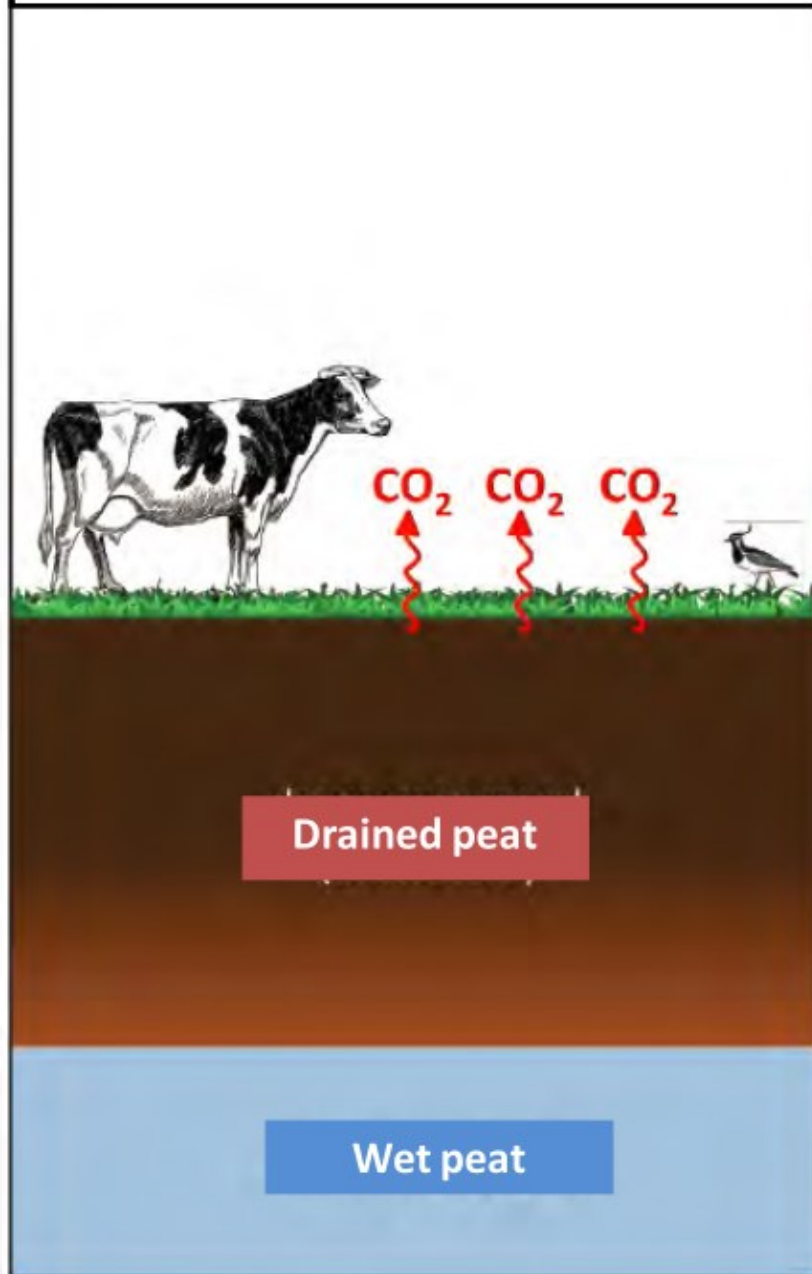
Effecten:

- Enorme broeikasgasemissies
- Oppervlaktewater vervuiling
- Bodemzakking
- Verlies van specifieke biodiversiteit

Beieren: 3 m verlies
sinds 1836

UK: 4 m verlies sinds
1870

Peatland rewetting stops subsidence + emissions

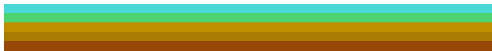




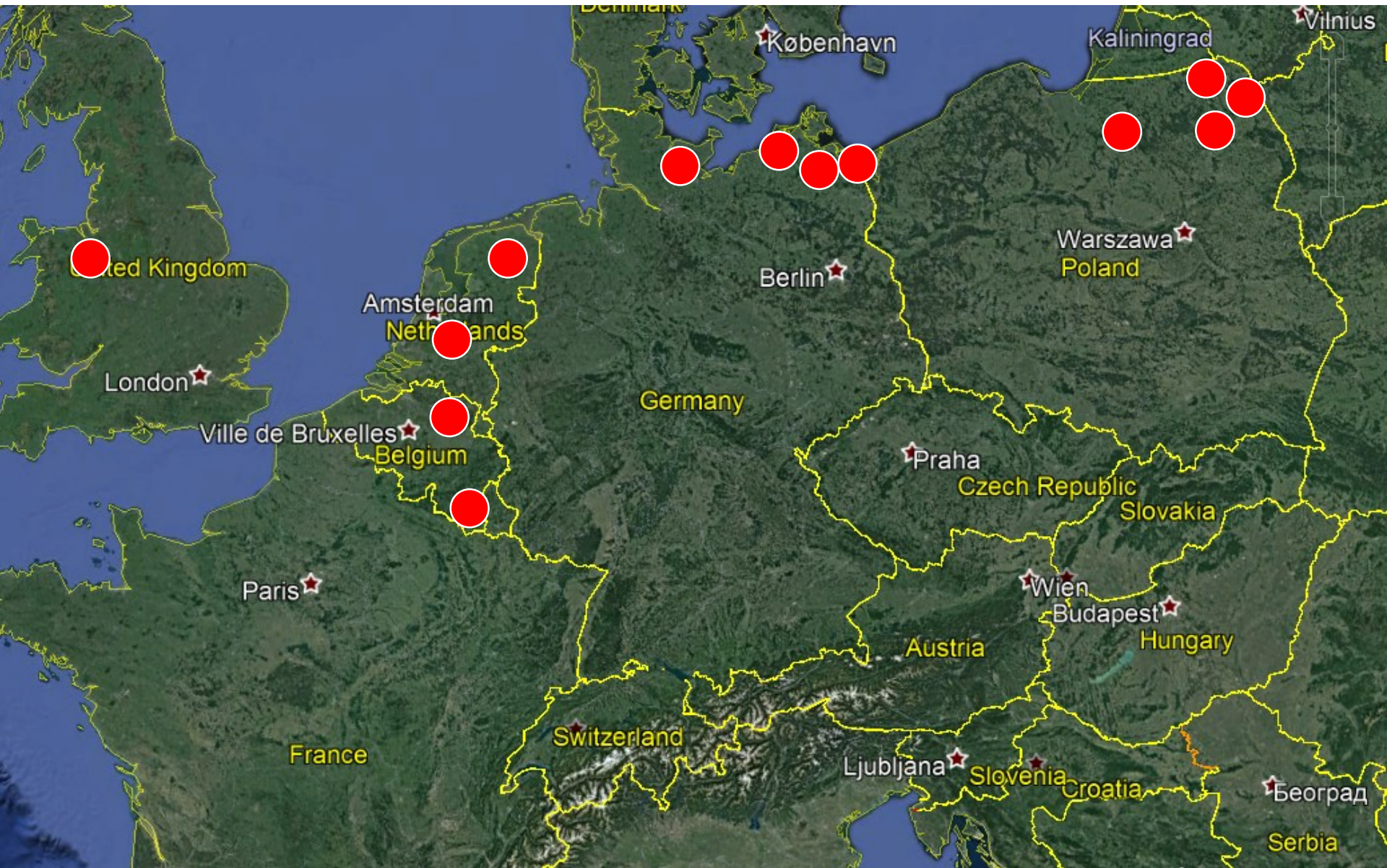
Vernatten leidt soms tot
dergelijke situaties

Soms ziet het er ook minder mooi uit..

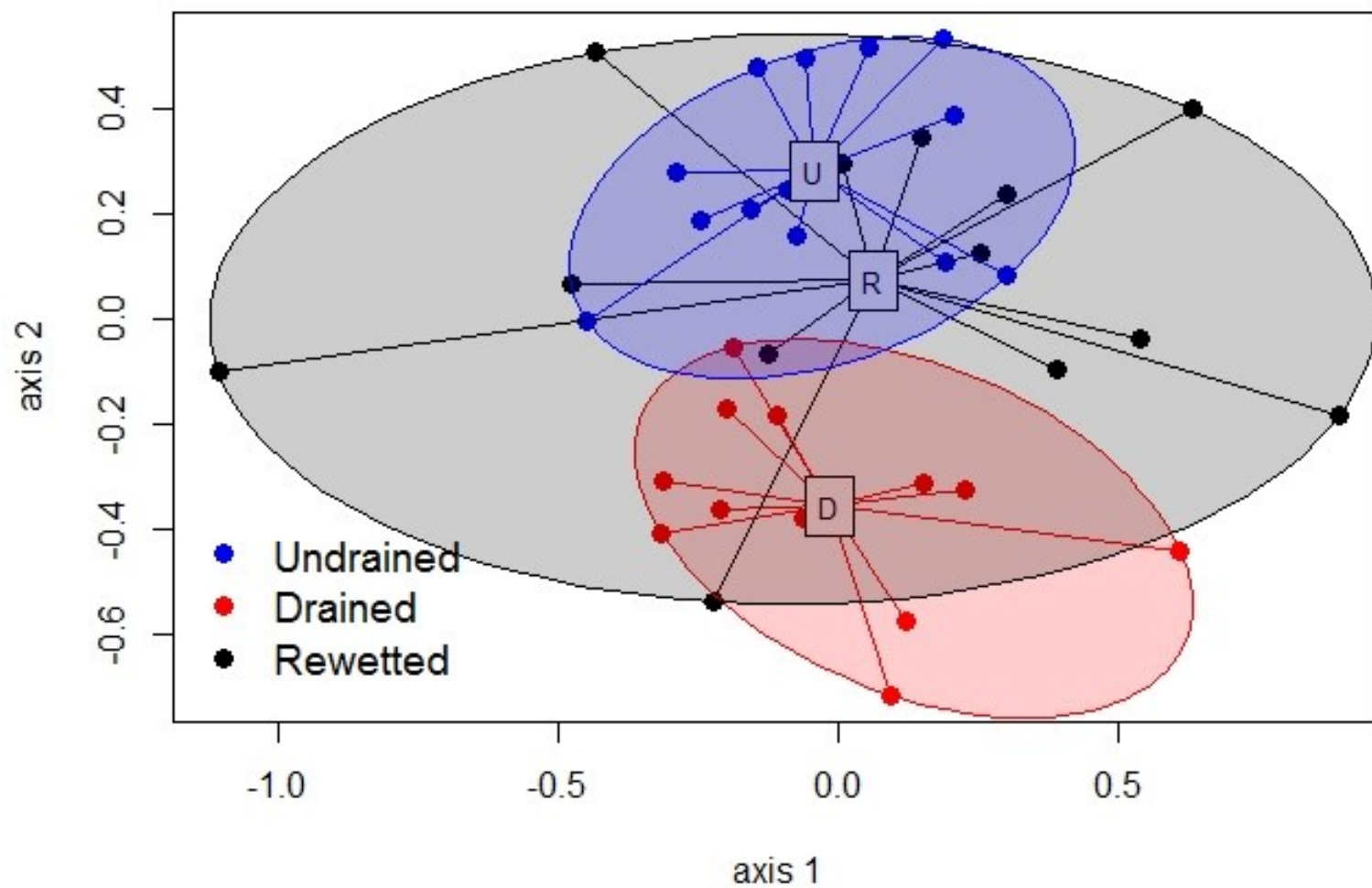




PEAT

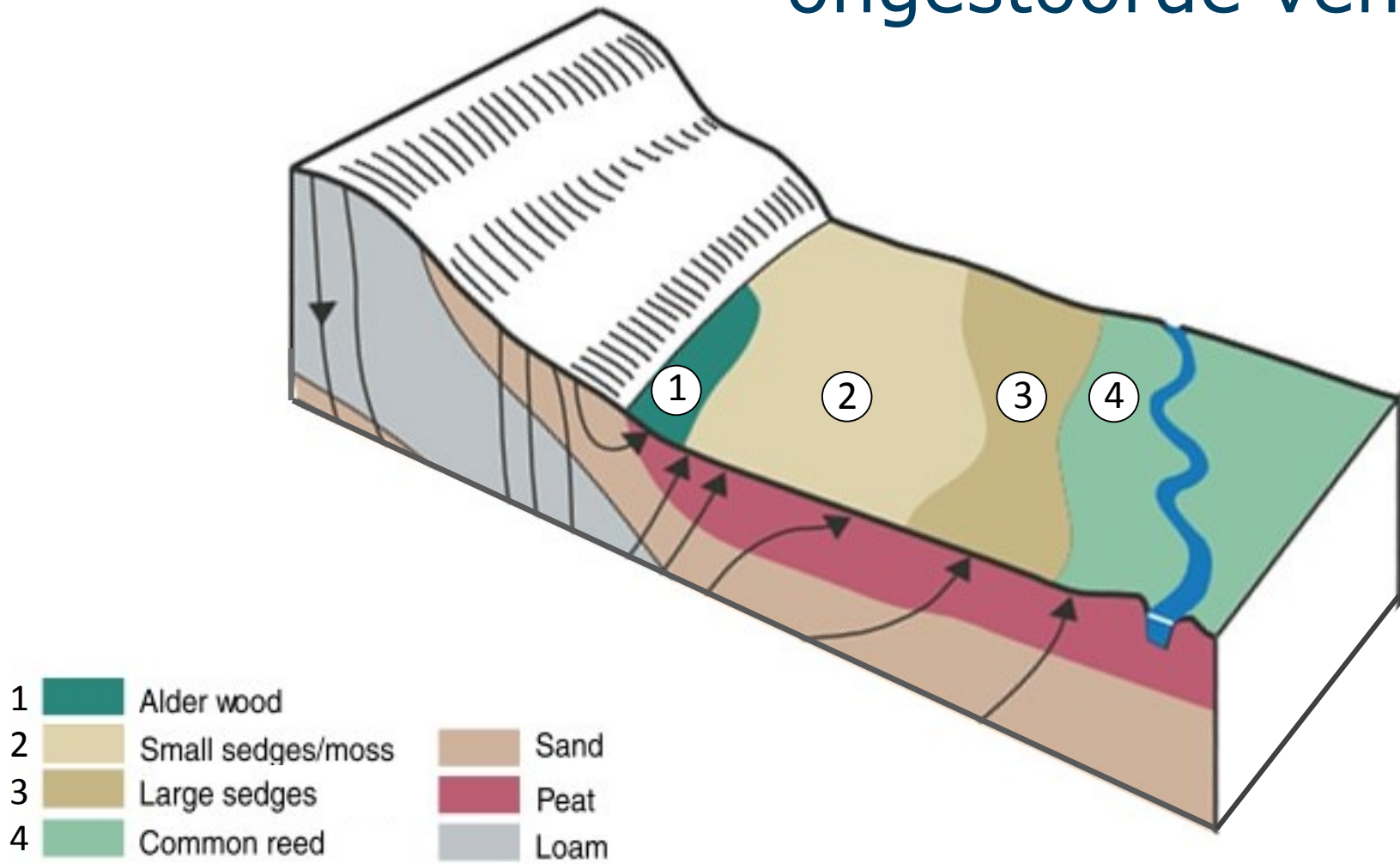


NMDS Vegetation composition

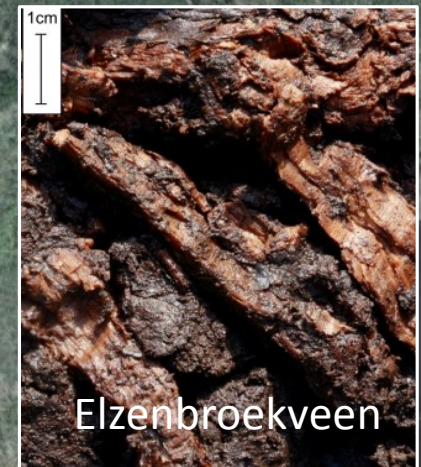




Vegetatie-zonatie ongestoorde venen



Hoe weten we dat?





Elzenbroek

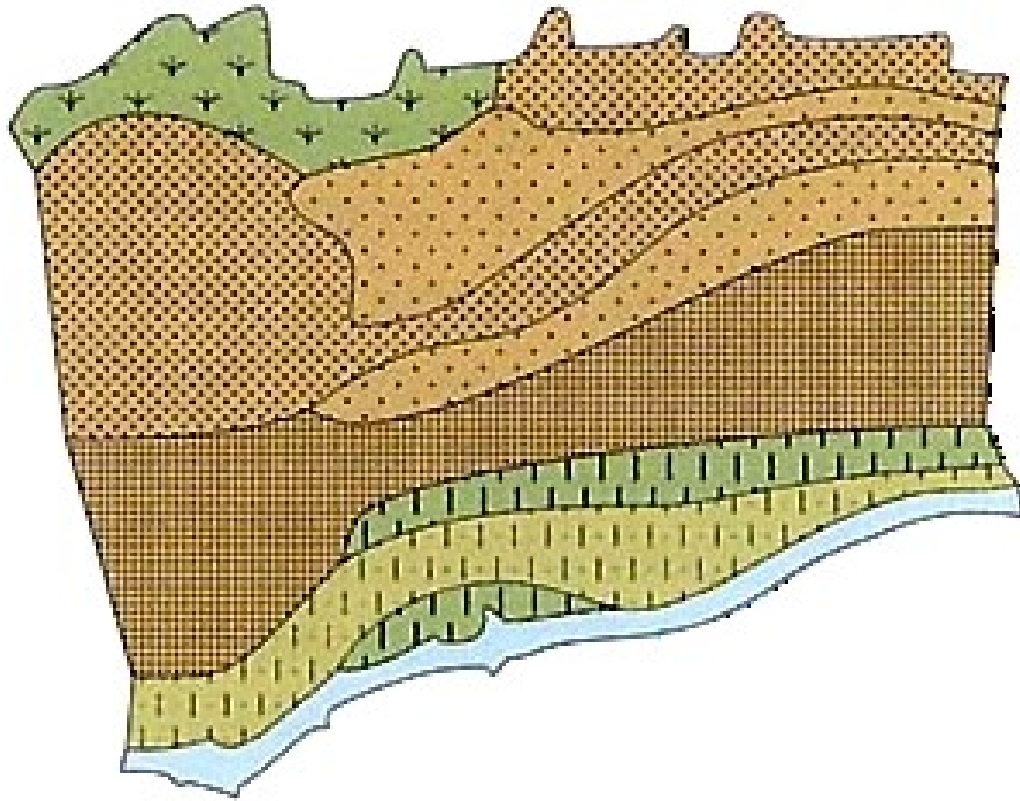


Grondwatergevoed veen



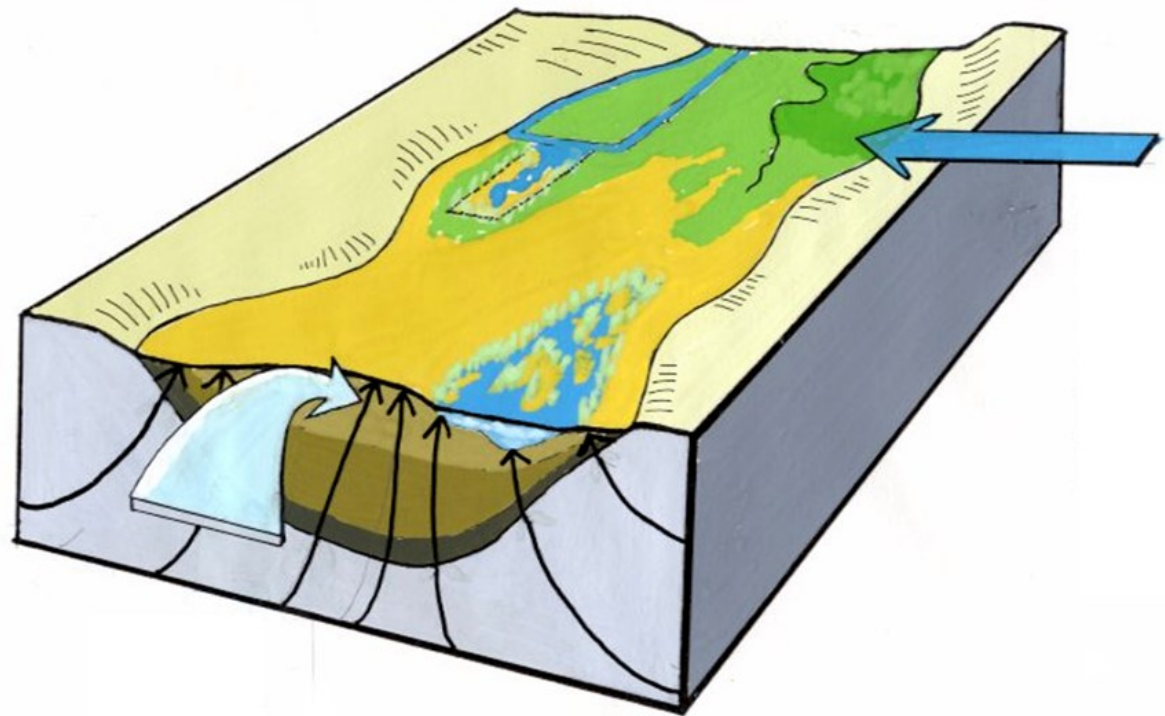
Overstromingsveen

Reconstructie historische vegetatie



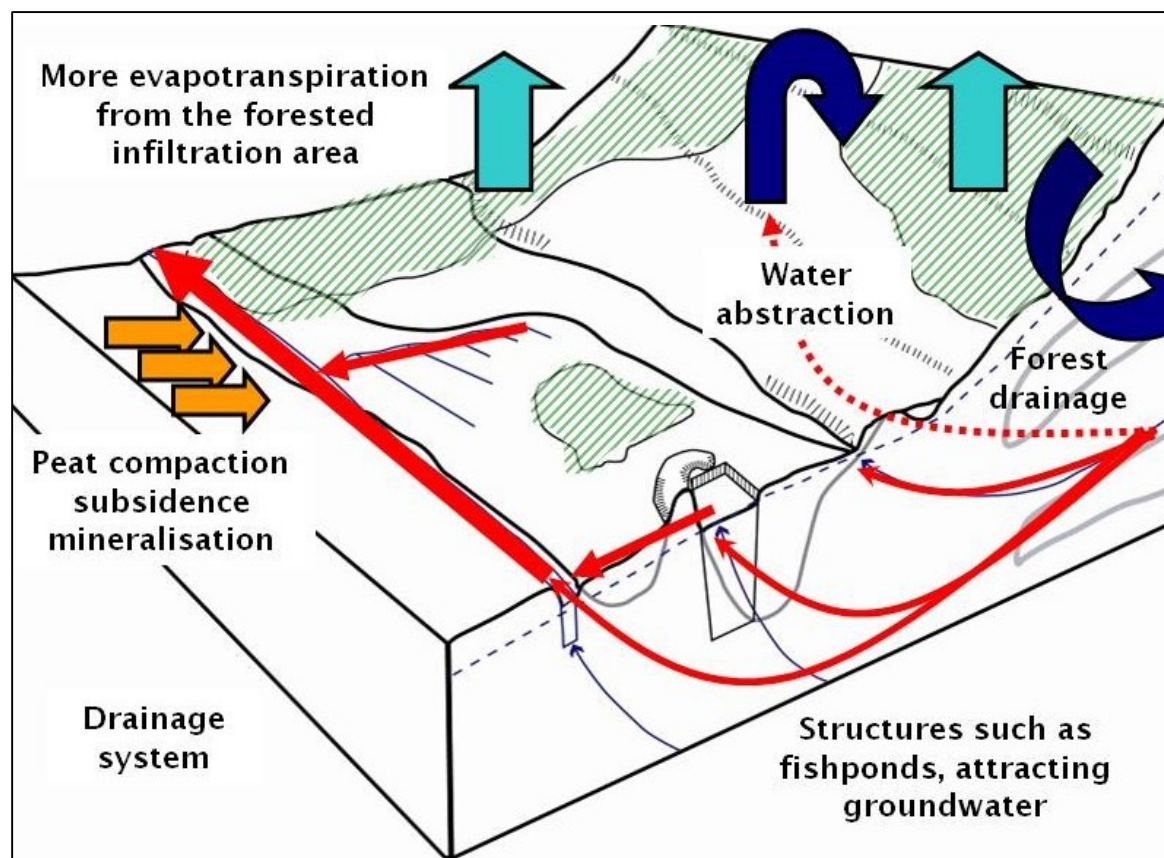


Hydrologie ongestoord laagveen



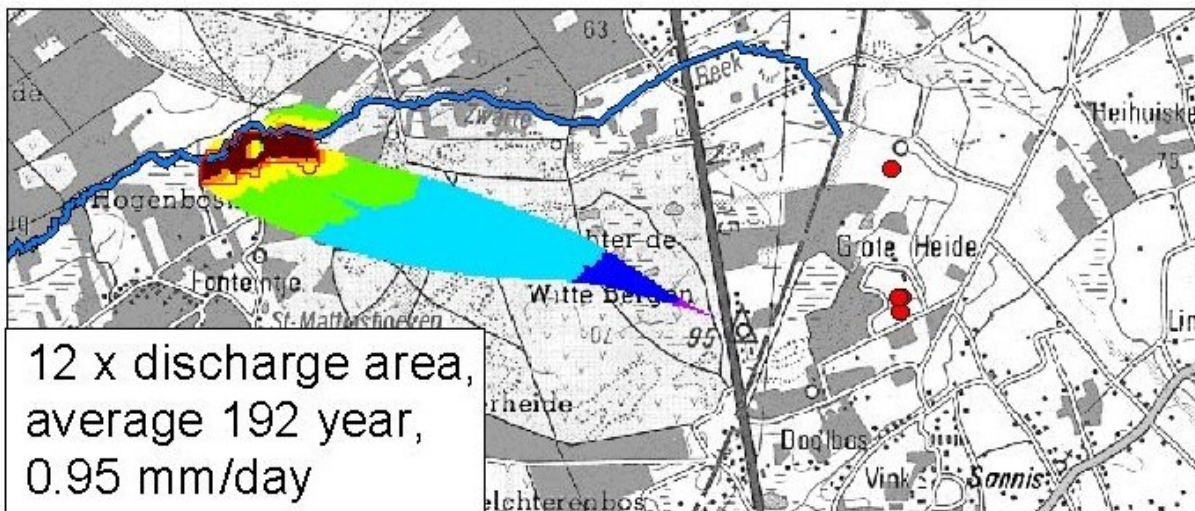


Beïnvloedingen





Zwarte Beek Valley



■ Discharge area

Recharge area,
flow time (year):

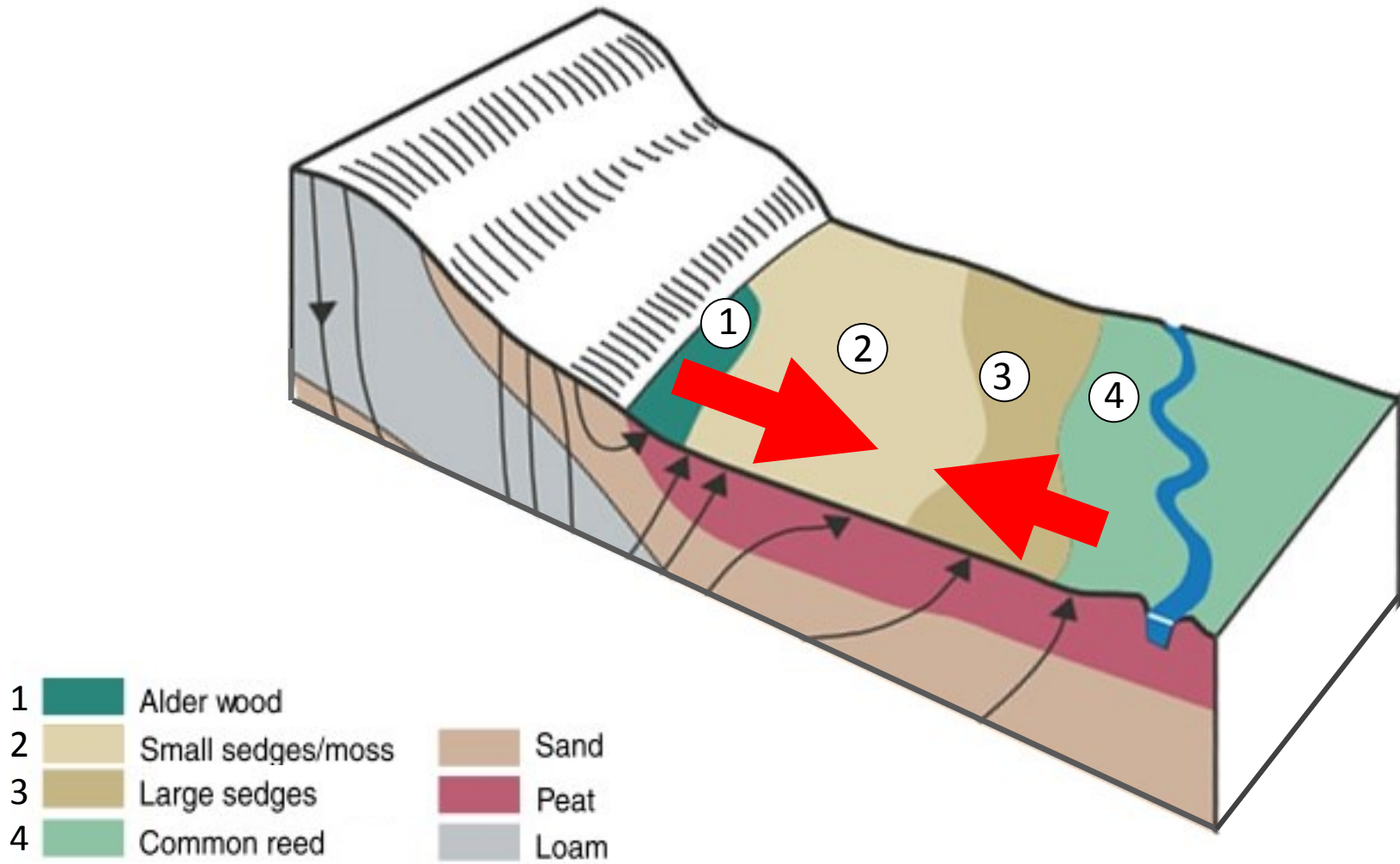
- < 5
- 5 - 25
- 25 - 100
- 100 - 500
- 500 - 1000
- 1000 - 1634

Pumping well,
extraction (m^3/day):

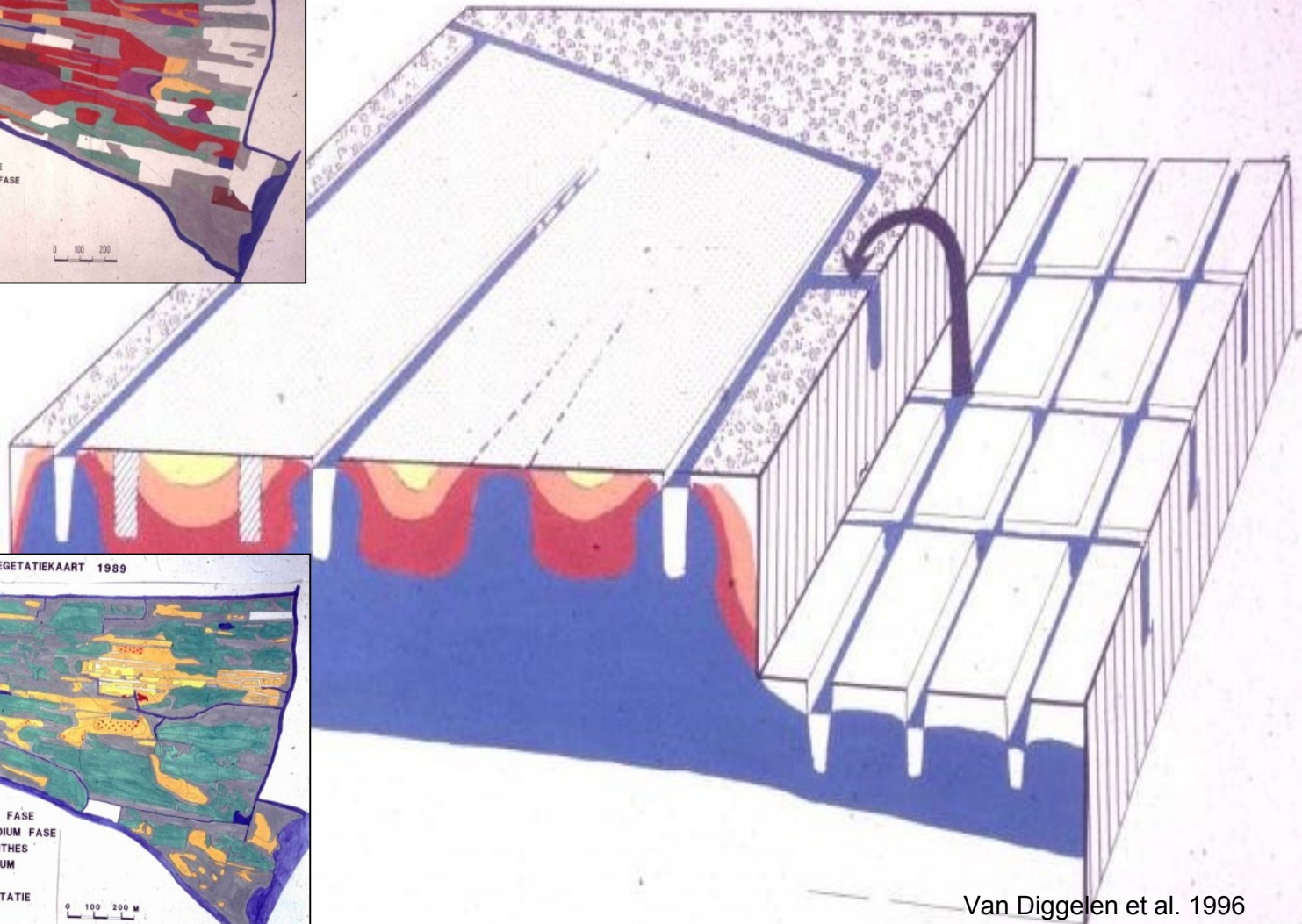
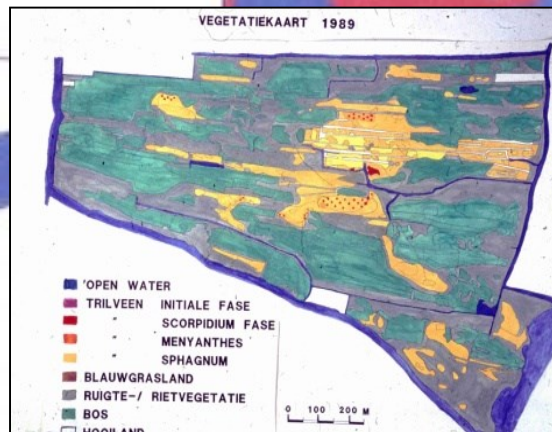
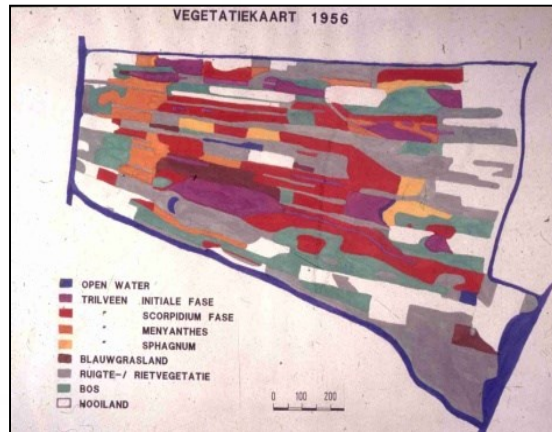
- > 500
- 100 - 500
- < 100



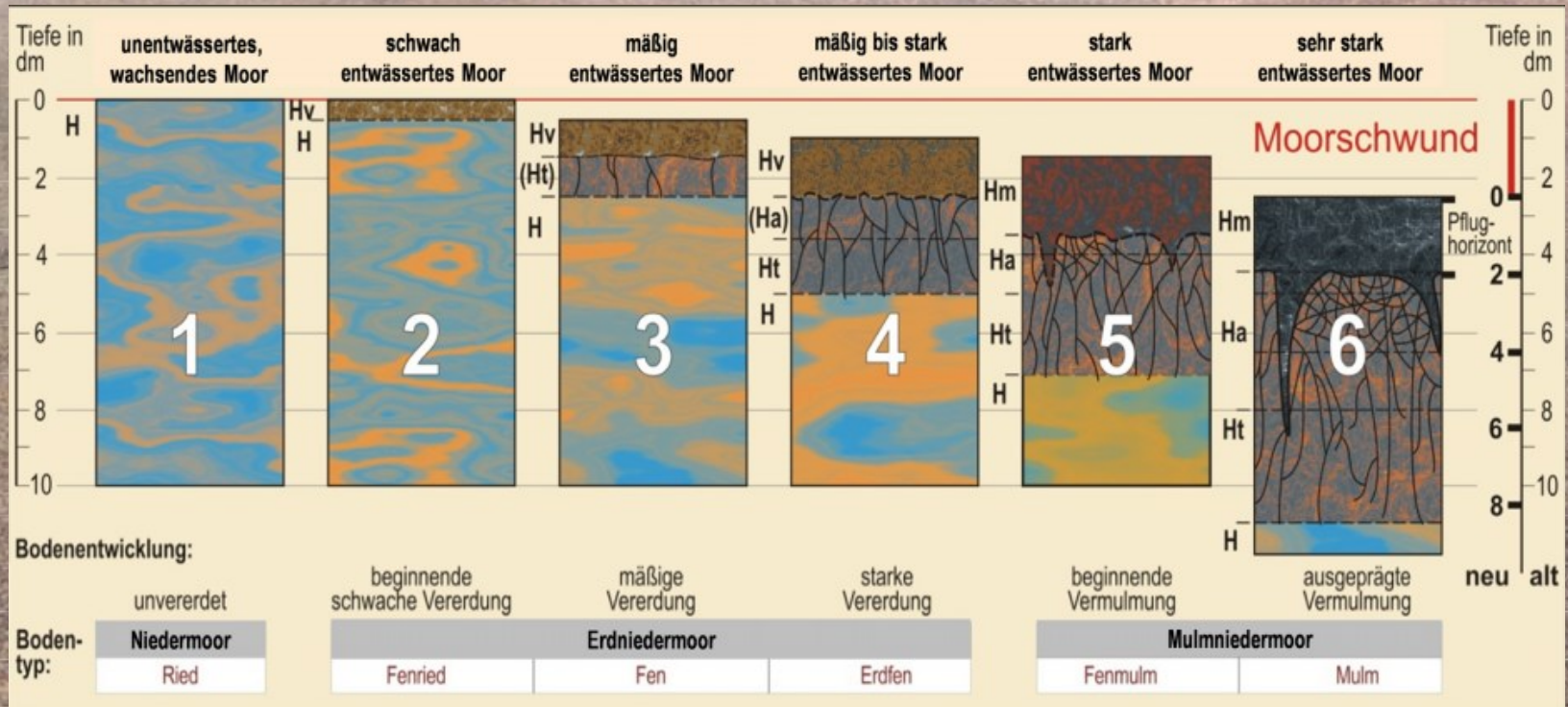
Vermindering grondwater toestroom



Veranderingen in pH/basen verzadiging



Veränderungen in bodemeigenschaften in entwässerde laagvenen





IJzer (Fe^{3+} - Fe^{2+}) in laagvenen



IJzer oxidatie

Algemene wetland soorten

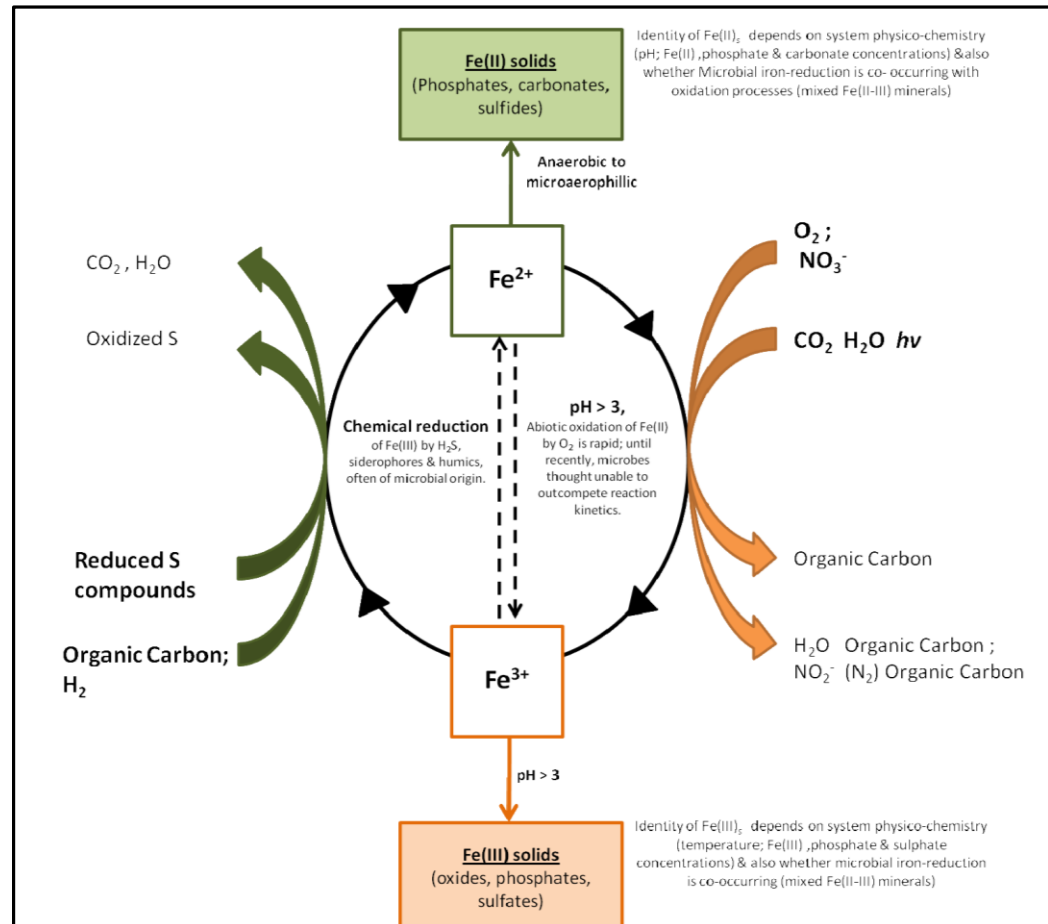
Productieve vegetatie

Sterk veraard veen



Redoxwiel





Alternatieve stable states?



Nooit ontwaterd (Luboń, Polen)

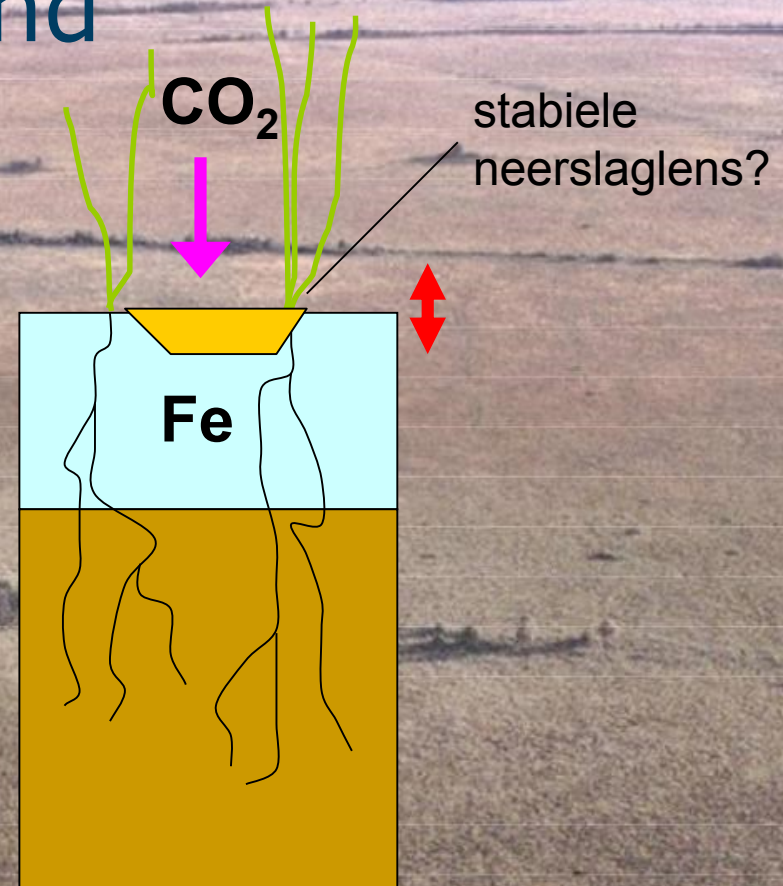
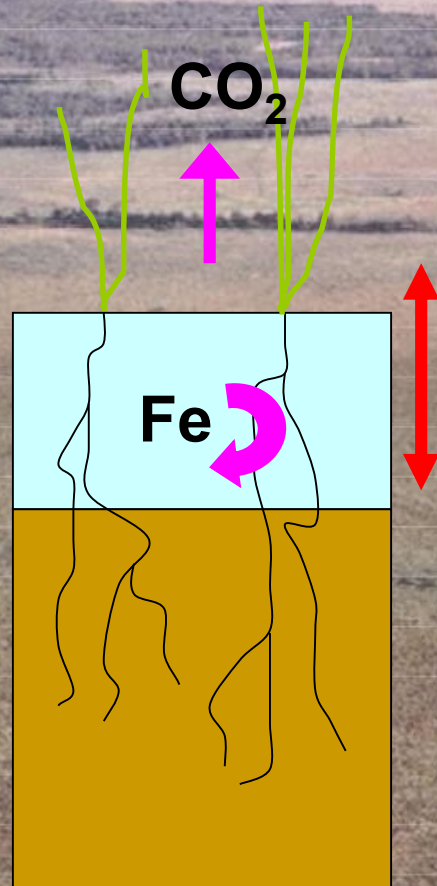
- matig basenrijk, IJzerarm
- mesotroof
- 100en j soortenrijk mosveen



Licht ontwaterd (Zwarte Beek, België)

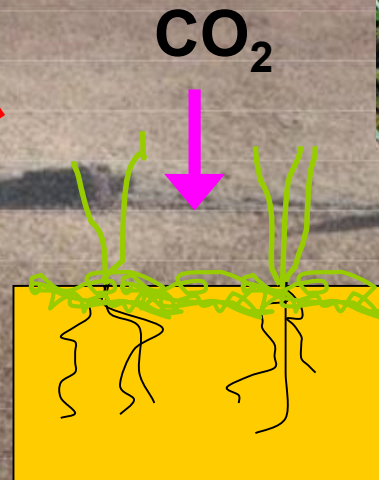
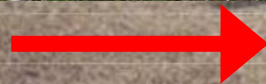
- erg IJzerrijk
- eutroof
- 35 j matig soortenrijk

Mogelijke oplossingen: stabiele waterstand



zeer stabiele grondwaterstand aan maaiveld,
voorkomt werking redoxwiel

Mogelijke oplossing: systeem reset



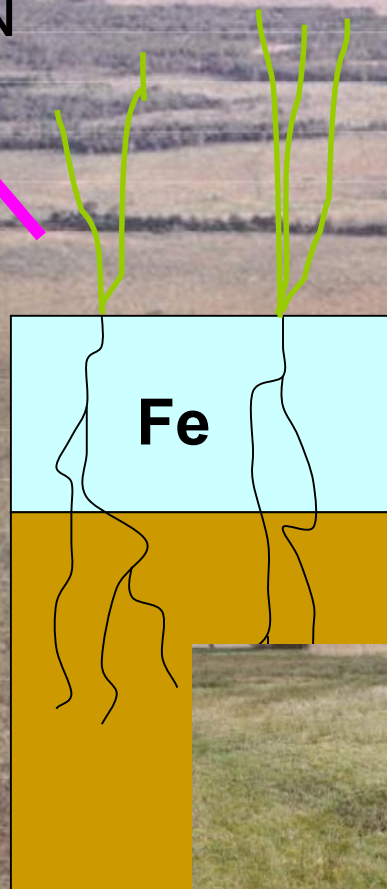
stabiele eutrafente grote helofyt toestand met
grote N-, P- en Fe-pool in toplaag weggraven

Mogelijke oplossingen: wel of niet maaien

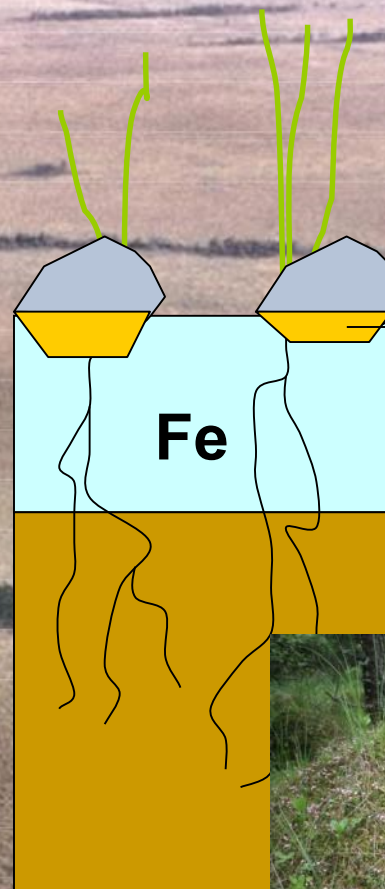
P+K+N
fauna

bulten/pollen?

stabiele
neerslag-
lens?



maaien



niet maaien