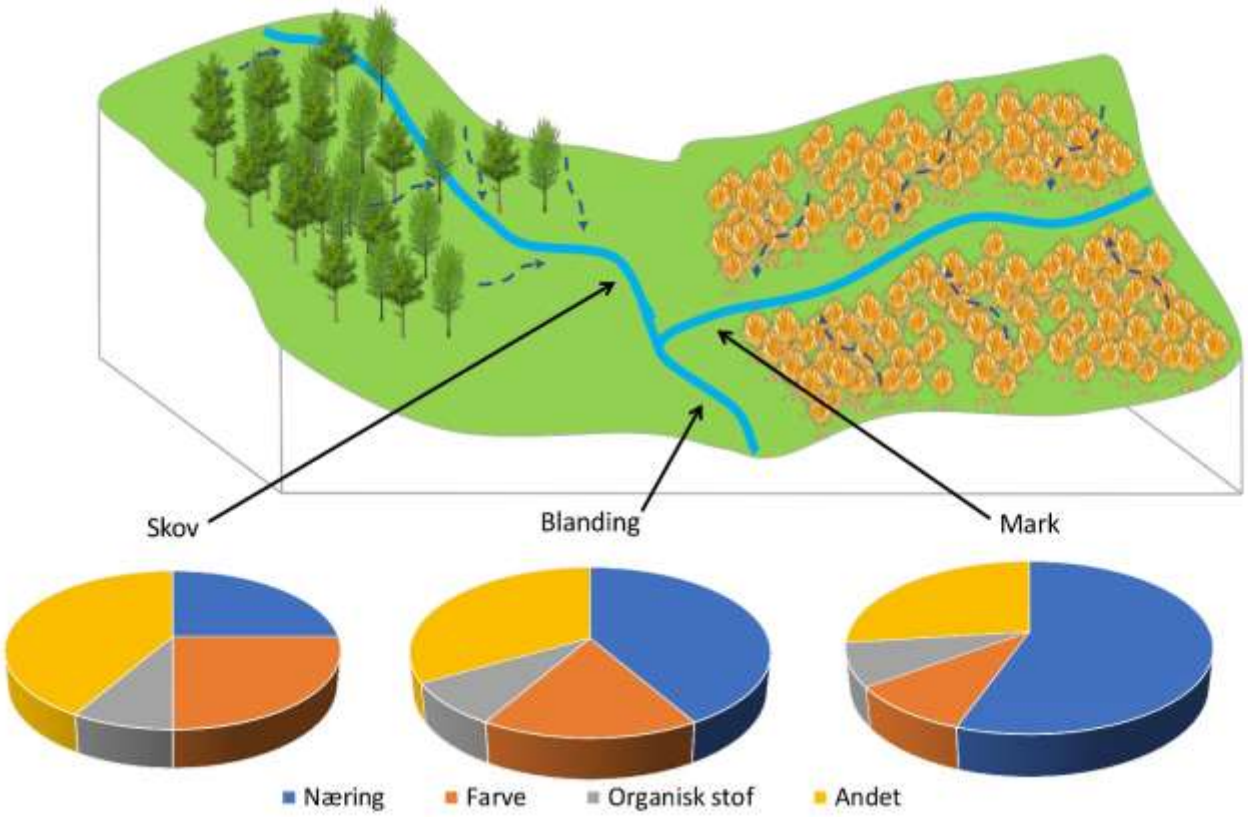
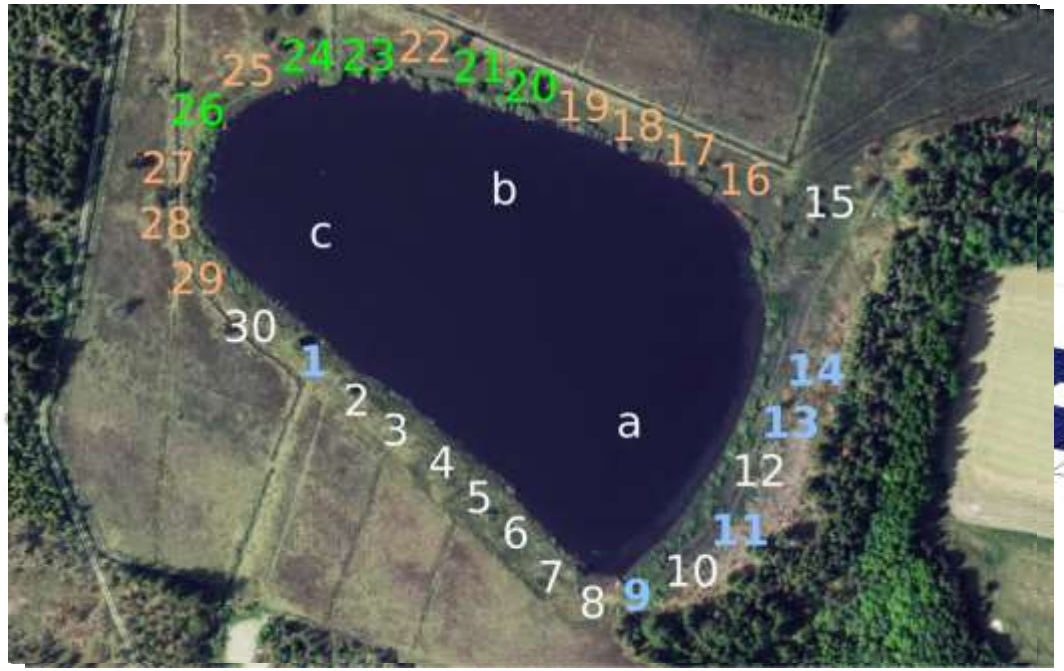
Oplandsanalyse/hotspot analyse
opsporing af kilder/"hotspots" i det åbne land med øget monitering



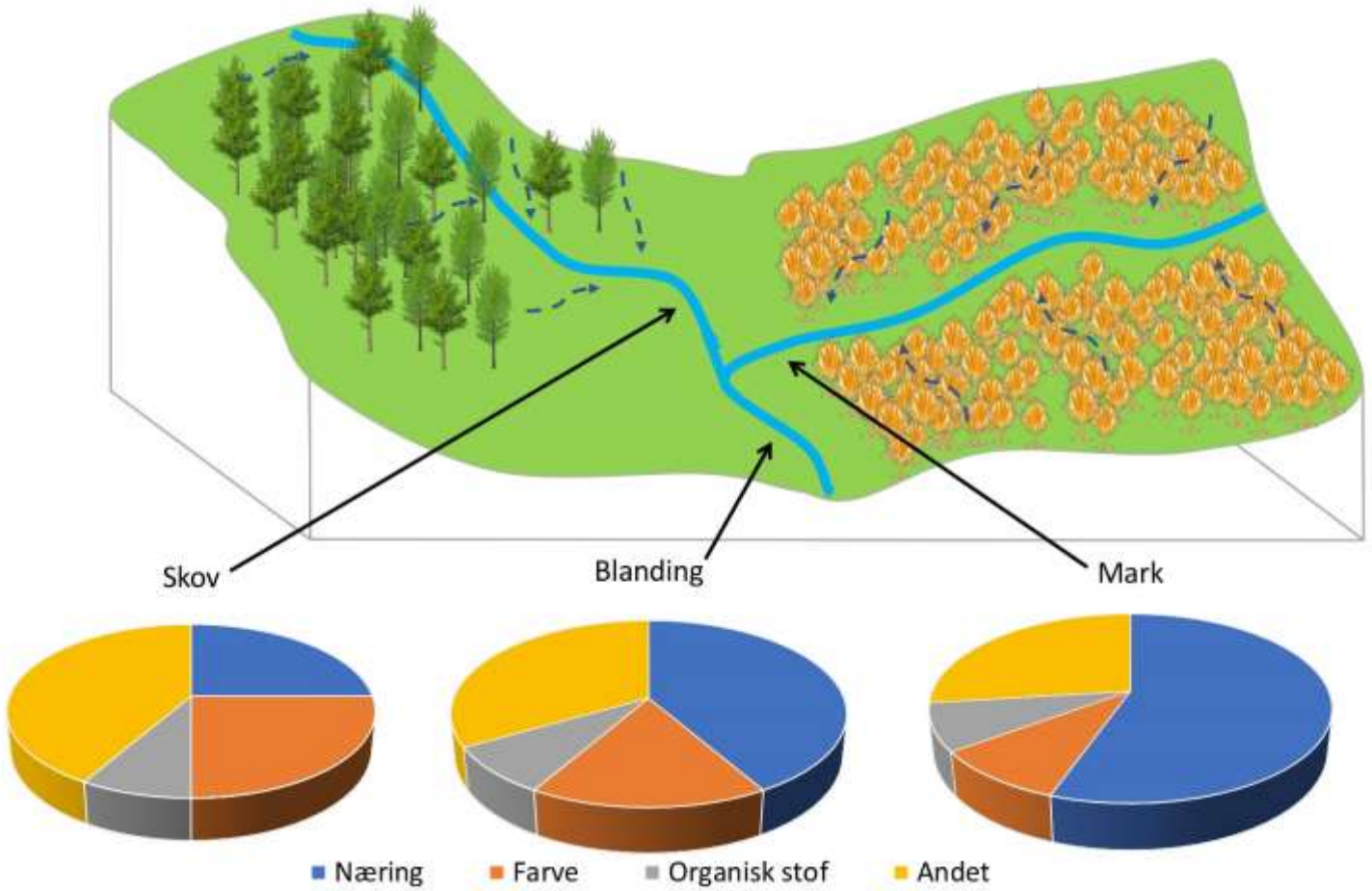
Theis Kragh, Paula Canal, Mikkel K. Lees, Søren K. Lücking, Anders Barnewitz og Jonas Stage Sø

Sporing af vand med konservative og semikonservative proxyer



Hvordan kan man spore kilder til organisk materiale i oplandet?

Fingeraftryk af vand



- Iltforbrug
  - Kemisk iltforbrug
  - Iltforbrug fra labilt kulstof
  - BOD

- Miljø variabler
  - DOM (Opløst organisk materiale)
  - Absorbans (239 – 800 nm)
  - EMMs
  - DOC
  - SUVA (aromaticity)
  - pH
  - Ledningsevne
  - Alkalinitet
  - Metaller (Zn, Mn, Fe, Cu, Cd, etc)
  - Nutrients
    - (TDN, TDP, ammonium, nitrate, phosphate)
  - Stabile isotoper ($^{13}C/^{12}C$, $^{15}N/^{14}N$, $^{18}O/^{16}O$ og $^{34}S/^{32}S$)
  - jordanvendelse
  - jordtype

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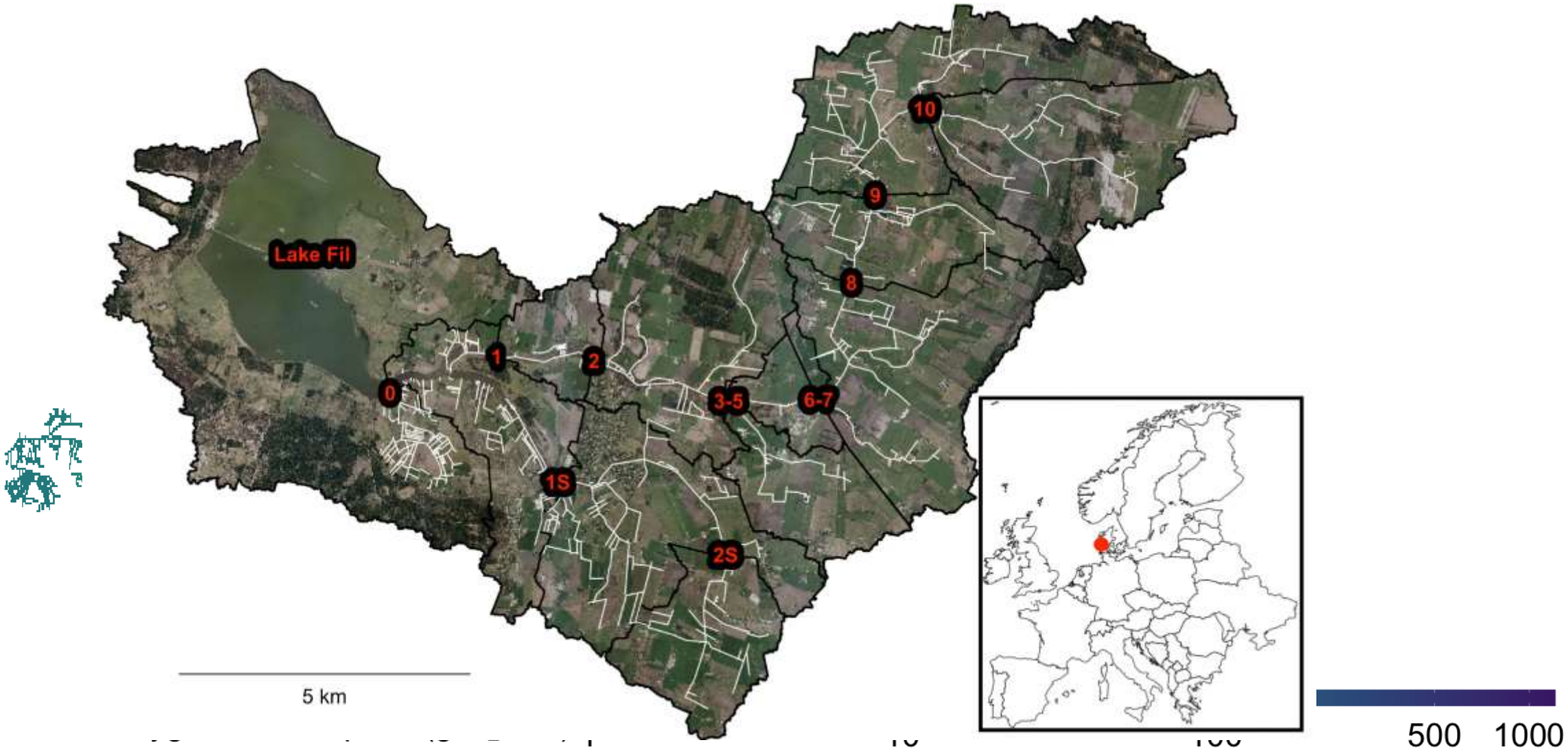
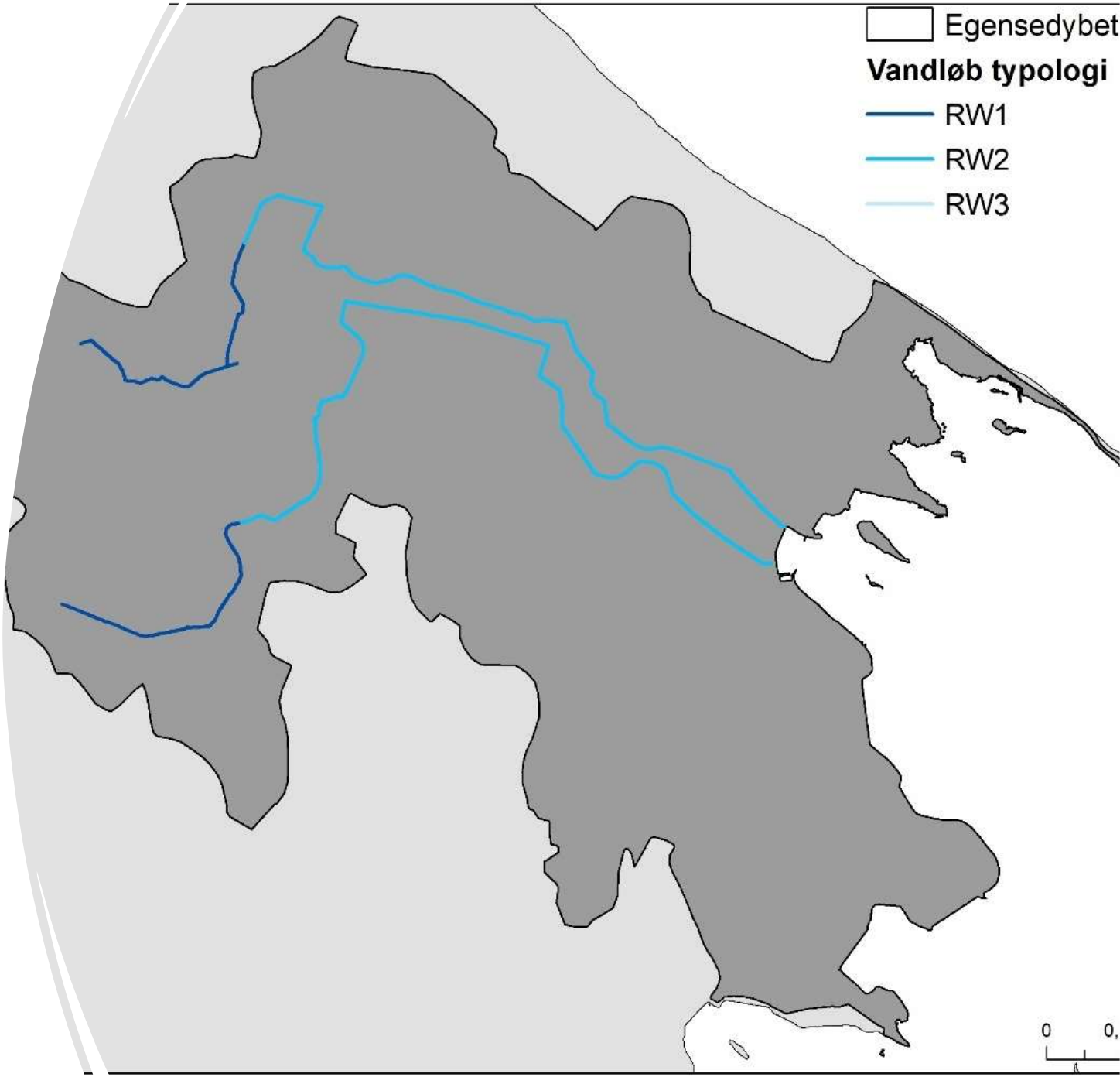

Lake Fil
10
9
8
1
2
0
3-5
6-7
1S
2S
5 km
500
1000

Pilot: Egensedybet

Sporing af næringsstoffer

- →To regulerede vandløb:
  - →Sydlige m. pumpelaug
  - →Nordlige m. sluse.
- →Oplands areal ~ 53 km^2.
- →Sandjord
- →Lav hældning
- →Areal er primært dækket af:
  - →Dyrkede flader ~39 km^2 (~78%)
  - →Otterup
  - →Industri
  - →(Ingen dambrug)



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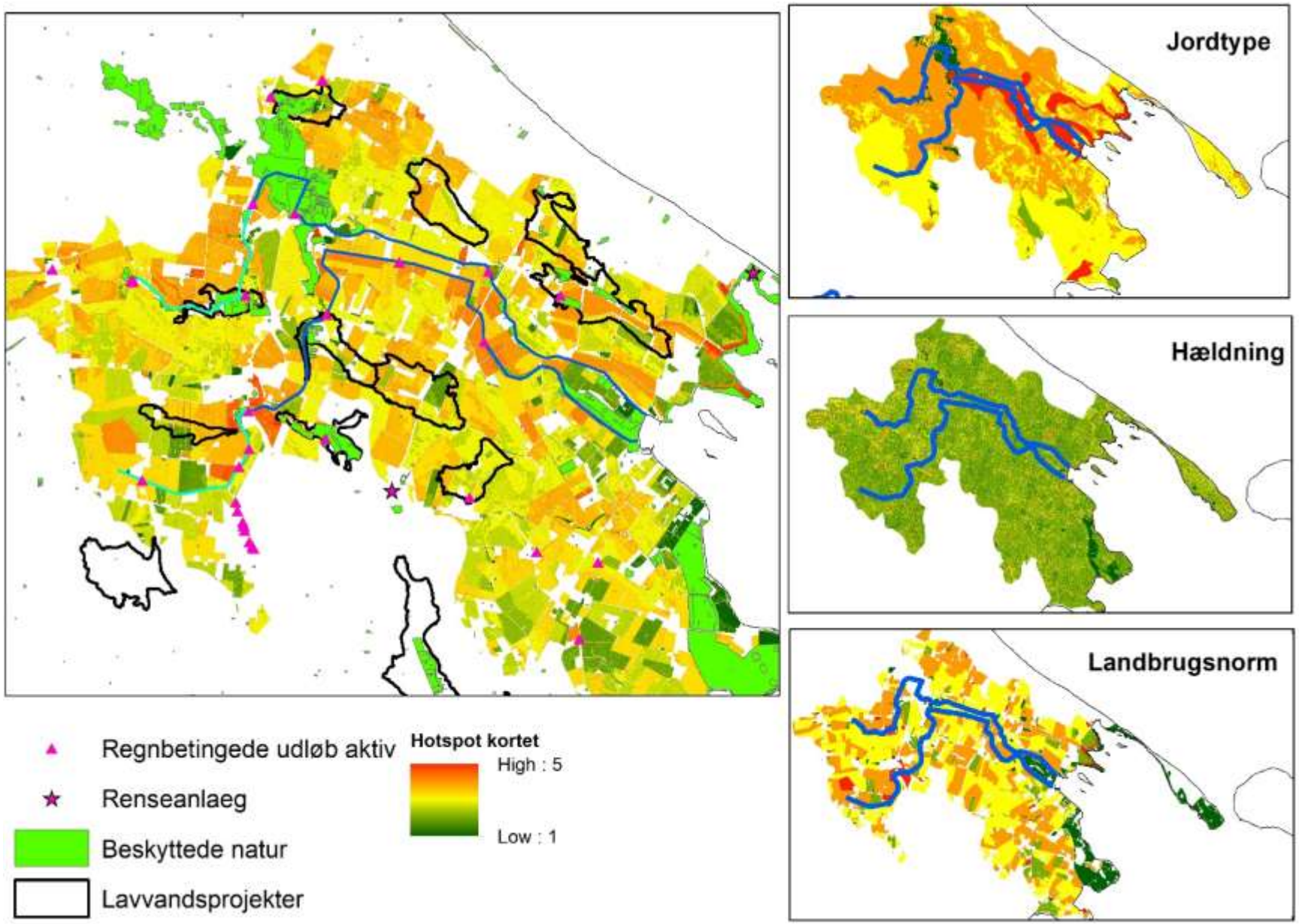
Præliminær analyse



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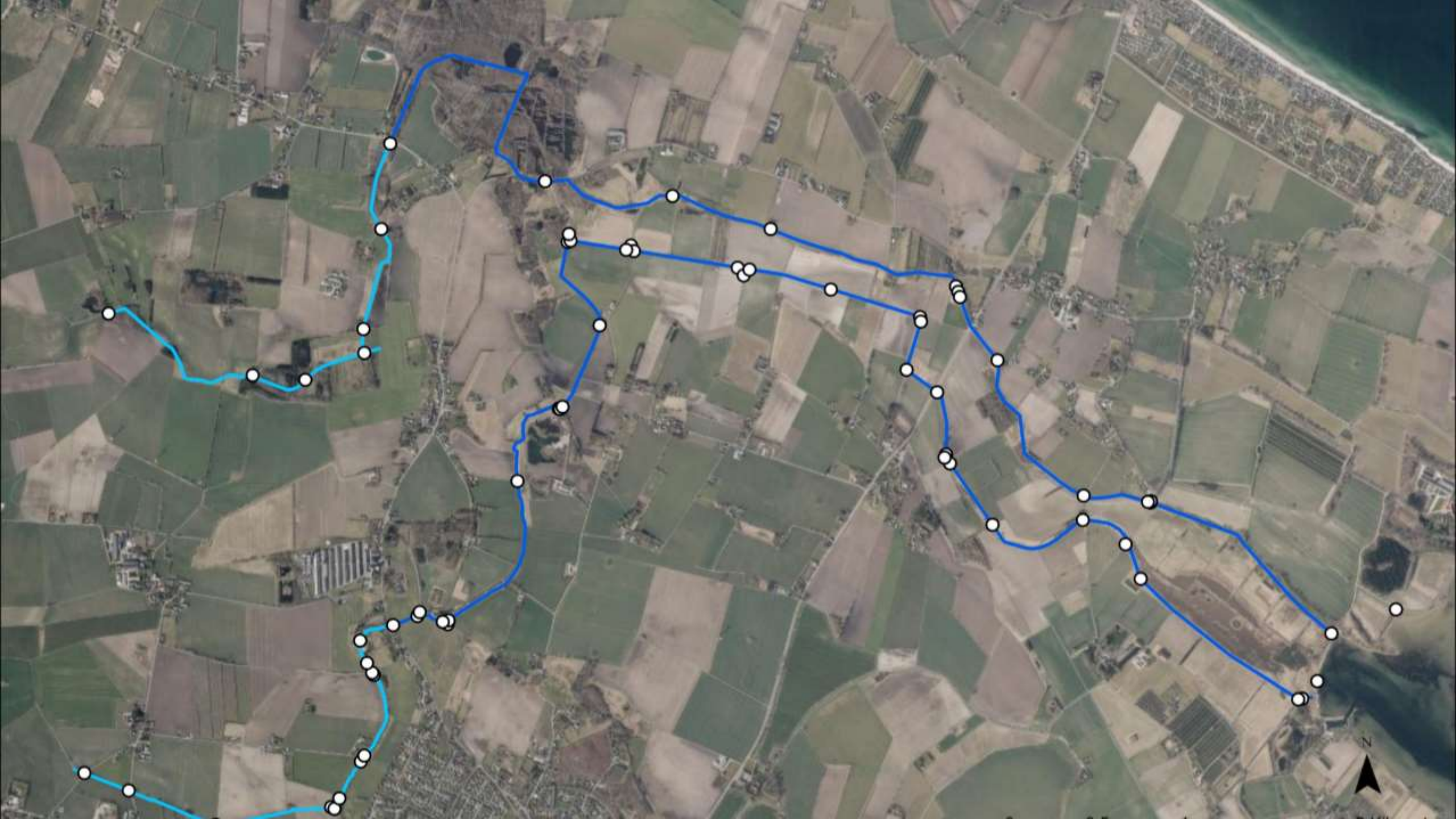
Metode

Monitering
Frekvens og dækning


N

Status

→Start Februar

→I alt (lige nu):

- →897 vandprøver
- →5382 lab analyser (uden replikater)
- → 188 ISCO prøver (vandføringskorrigeret)

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Resultater: Total TN bidrag

	Egensedybet
→ Modelleret data (periode)	27 tons N/Feb-Juni
→ Målt data (periode)	47 tons N/Feb-Juni

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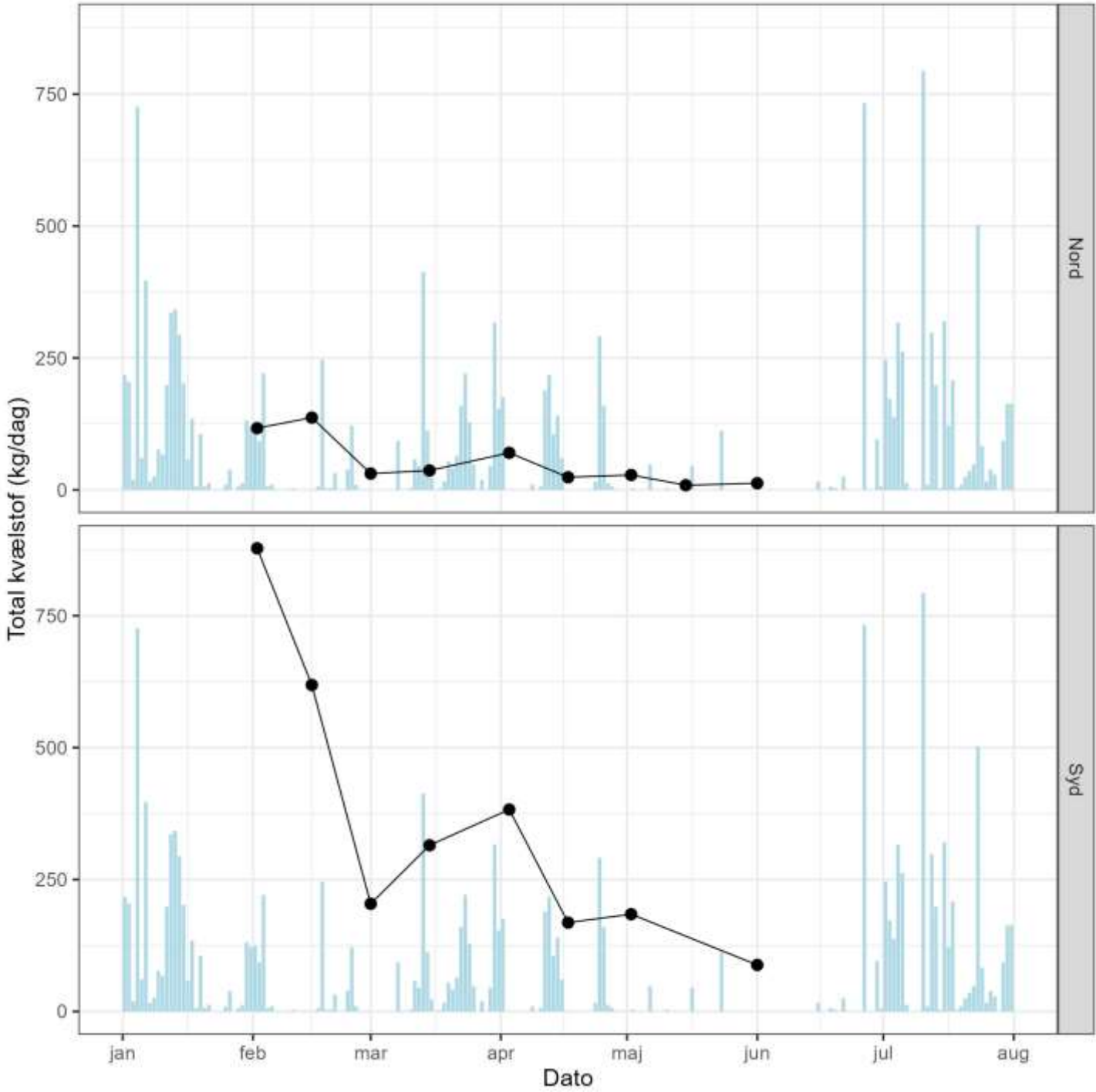
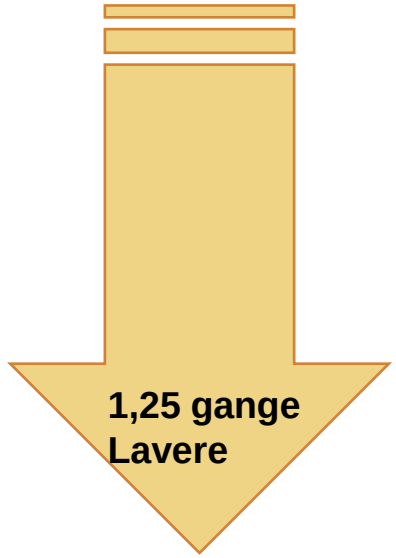
Total N sæson variationer



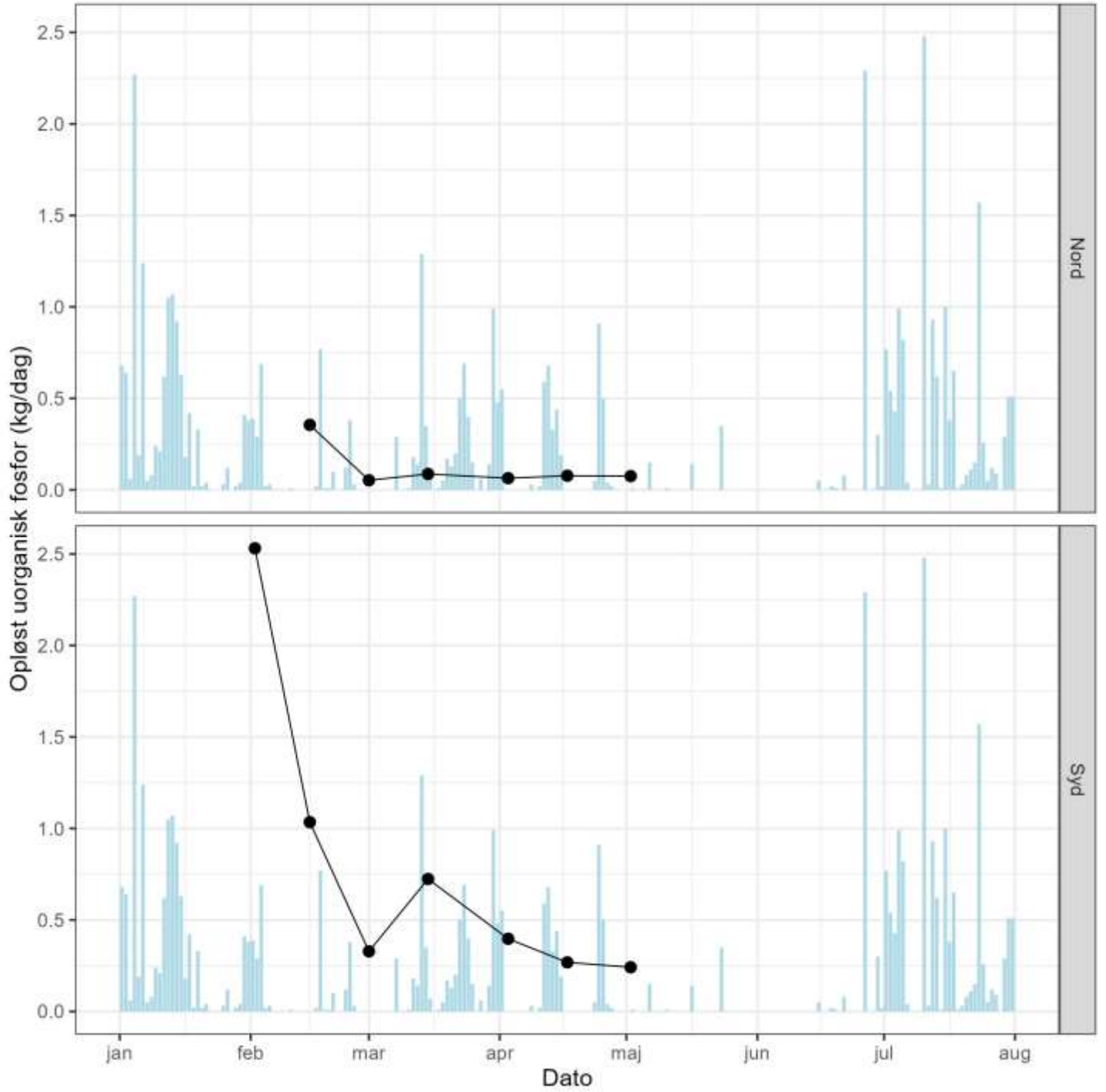
Resultater: Total TP bidrag

	Egensedybet
→ Modelleret data (period)	0,5 tons P/Feb-Juni
→ Målt data (period)	0,4 tons P/Feb-Juni

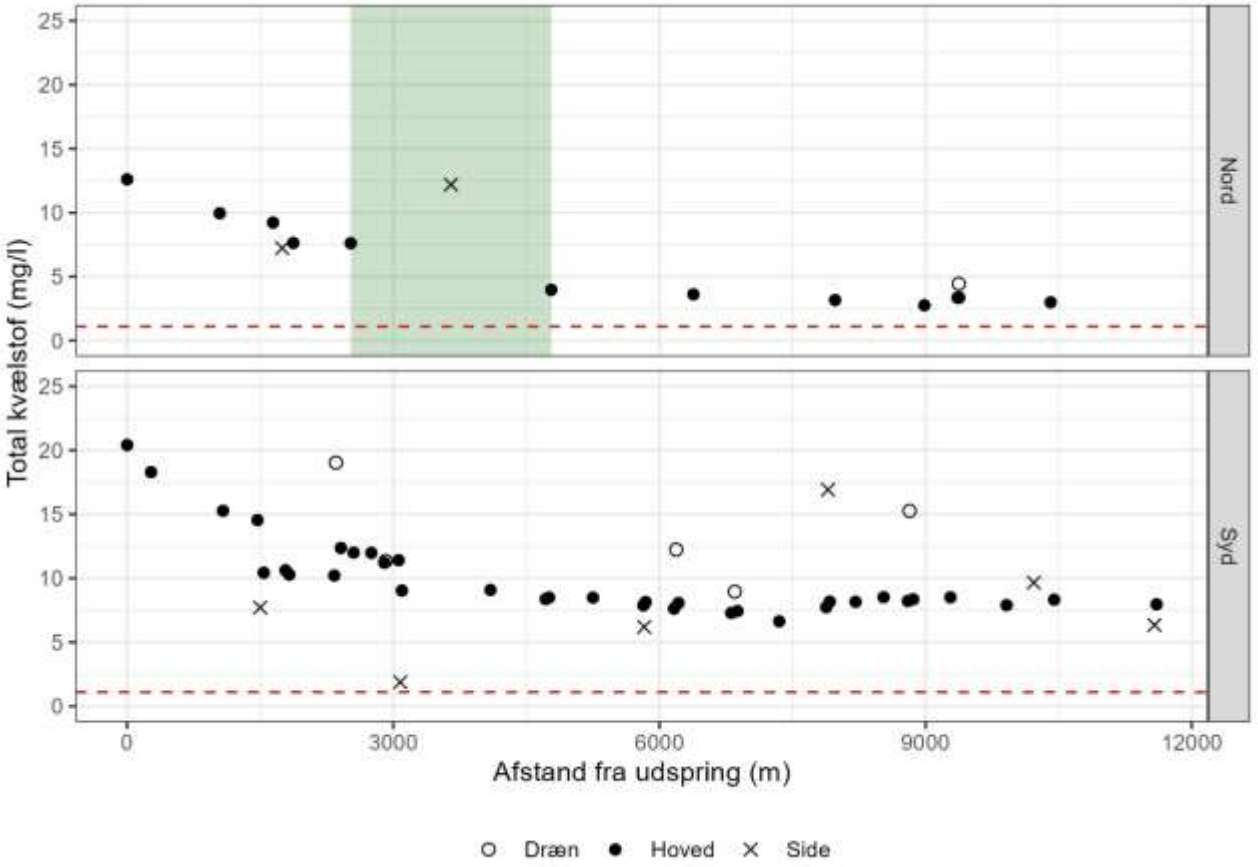


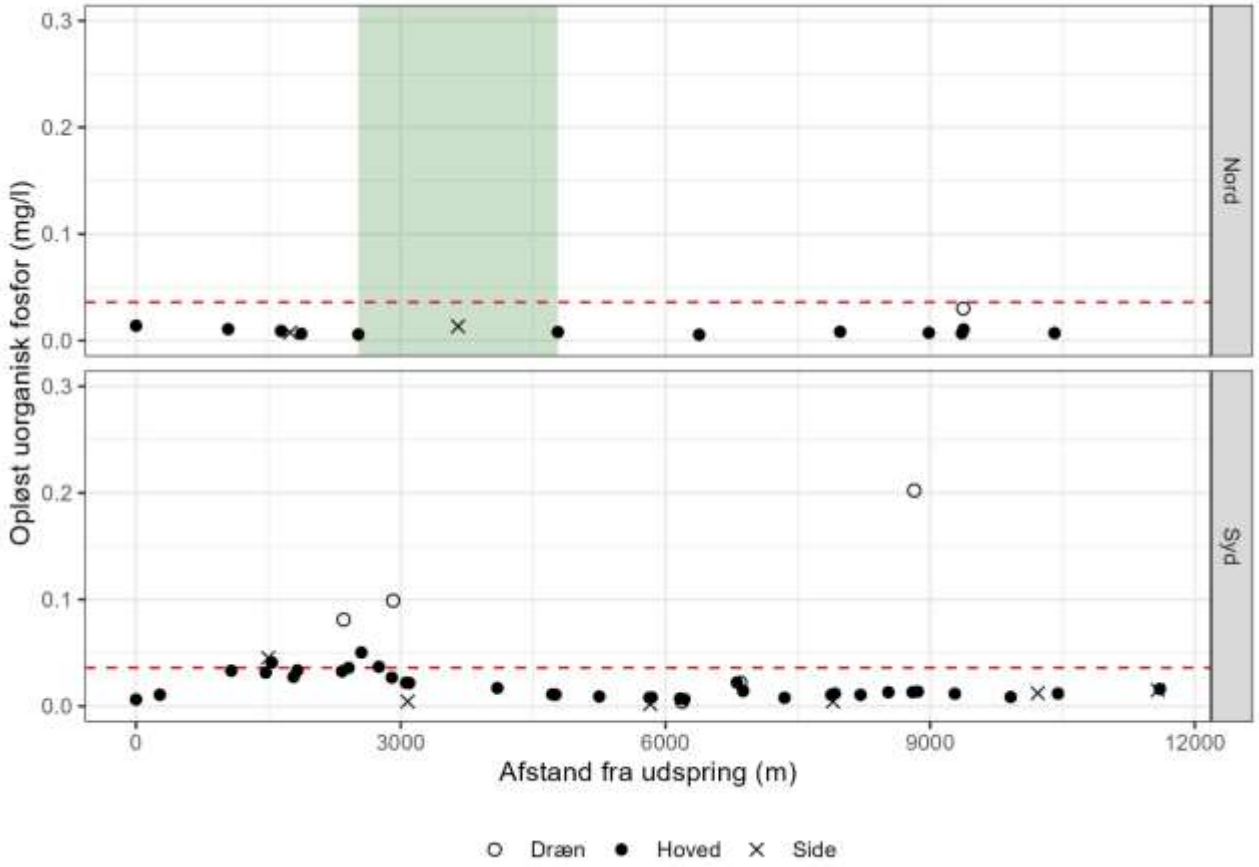
SDU

Total P sæson variationer



Næringsstofkoncentrationer (02-02-2023 til 01-06-2023)



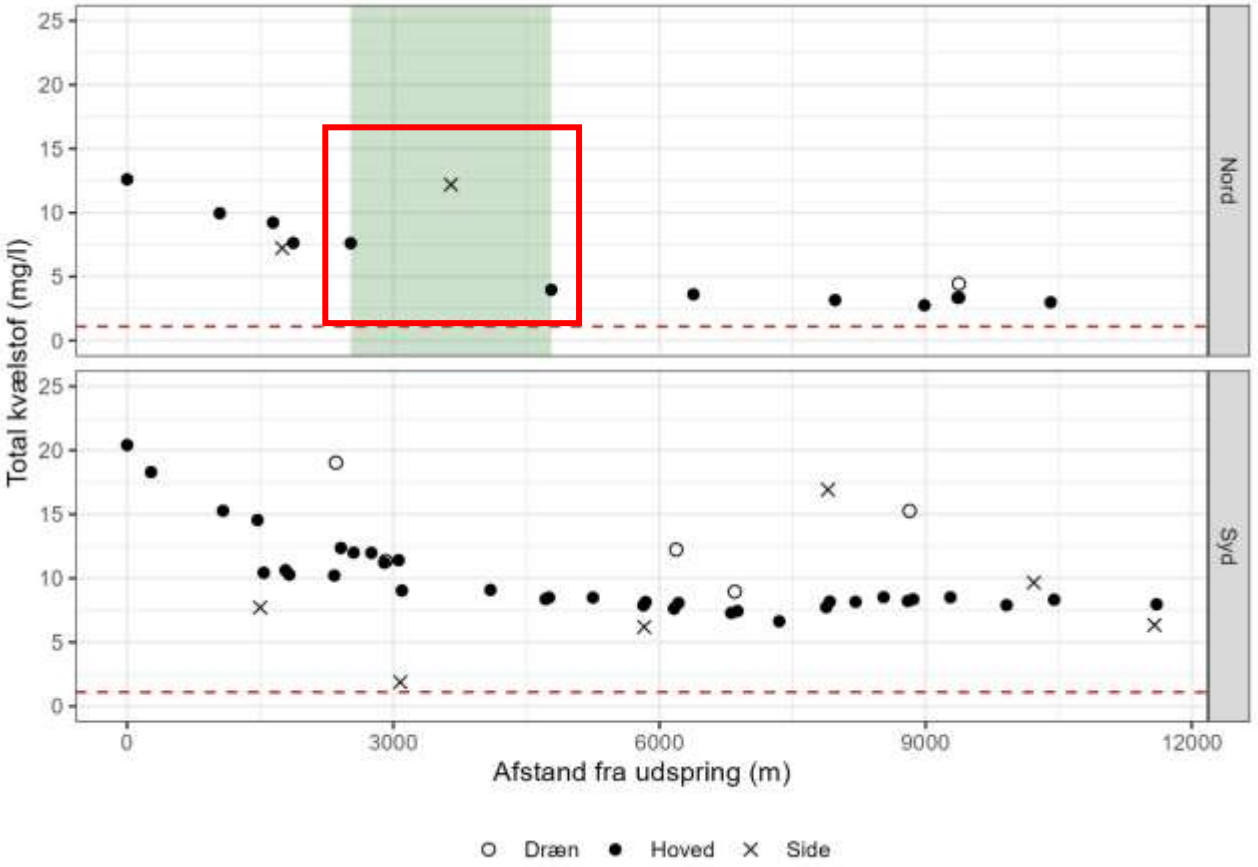


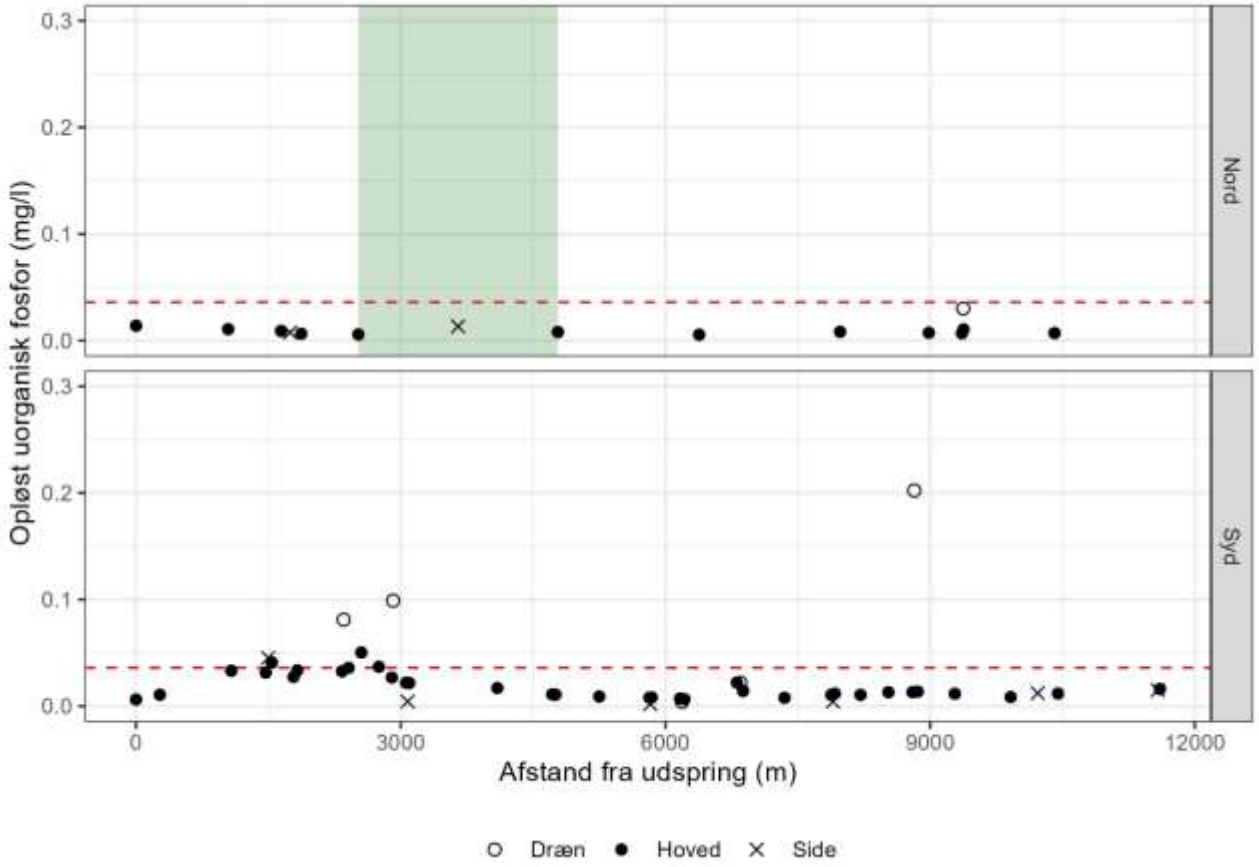
SDU

SD

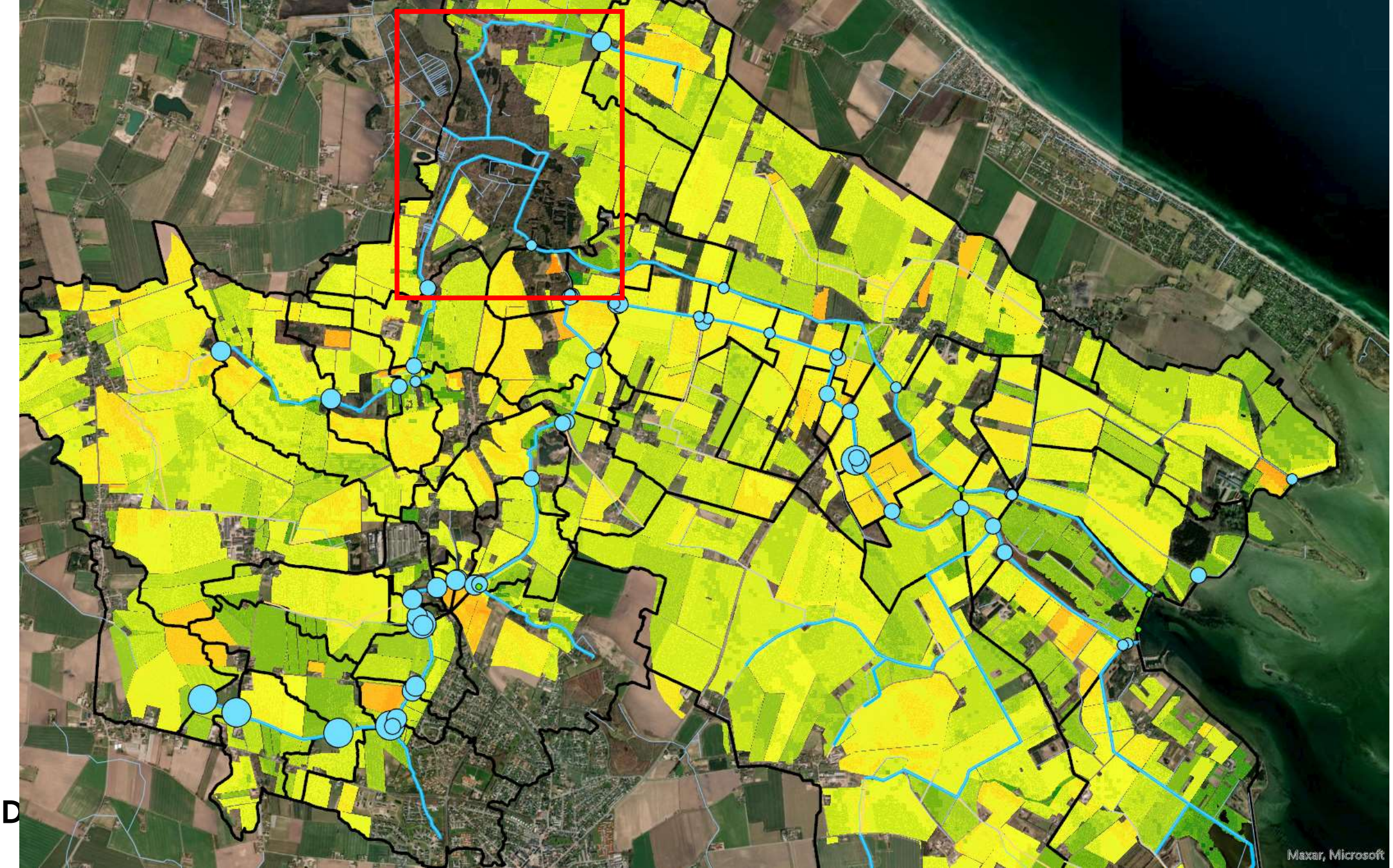
Gennemsnit TN koncentrationer for periode

Næringsstofkoncentrationer (02-02-2023 til 01-06-2023)



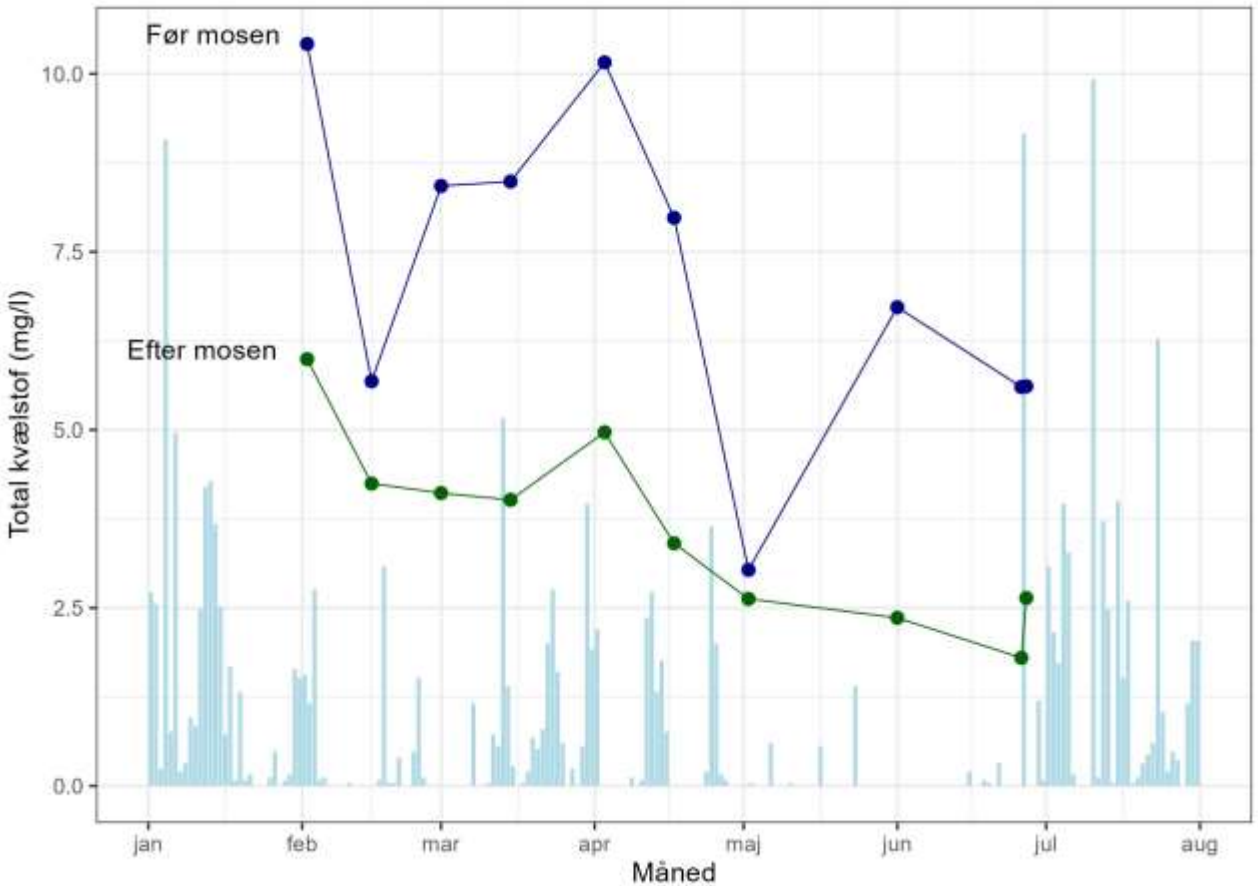


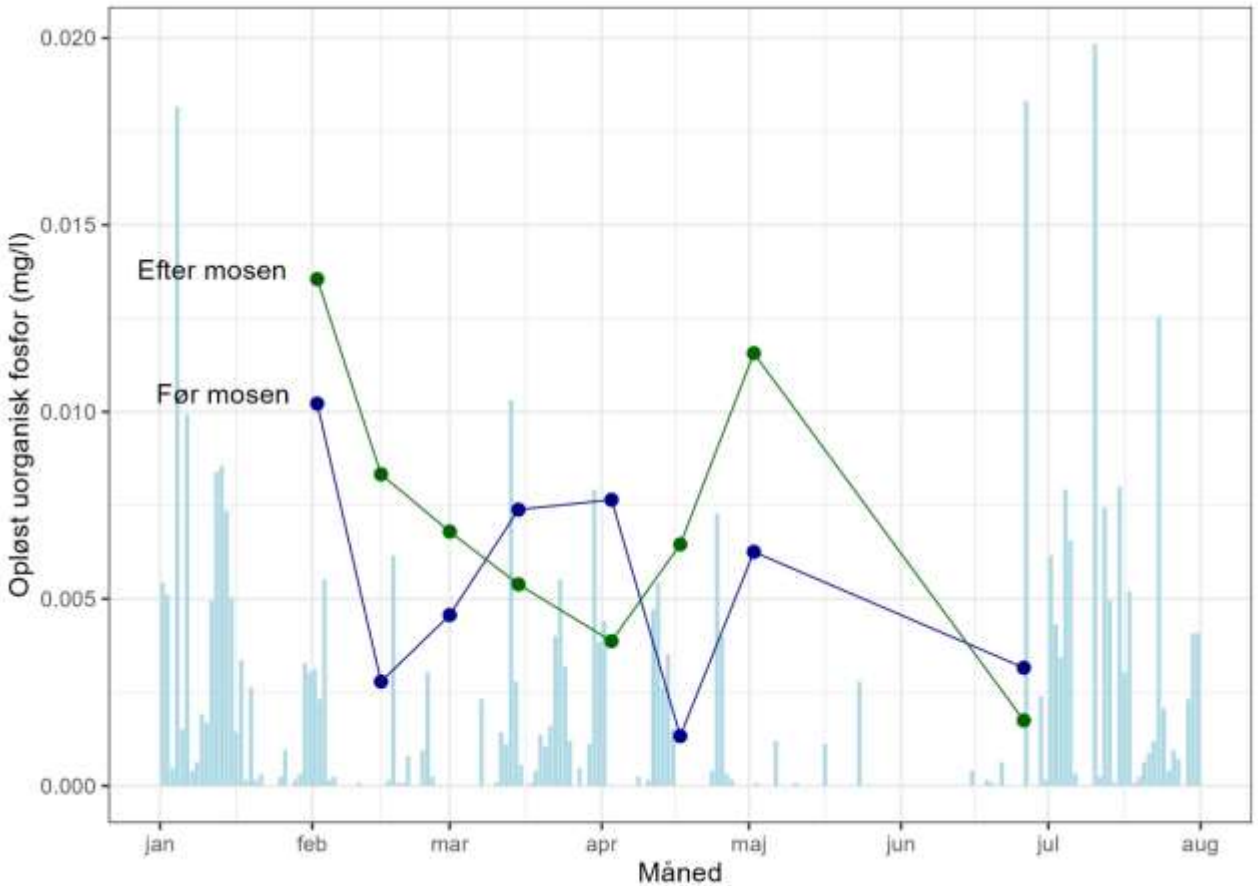
SDU



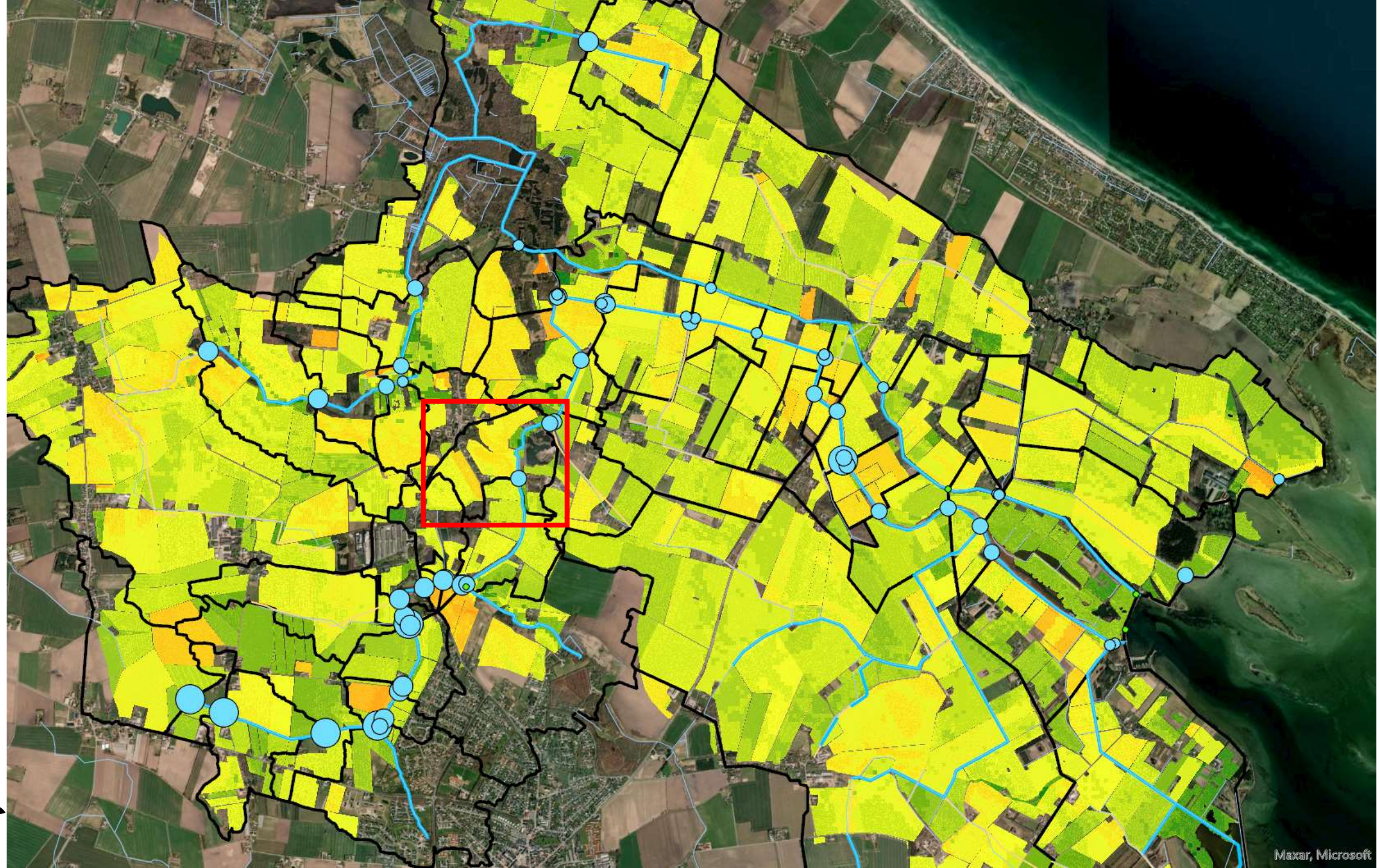
SD

Mose

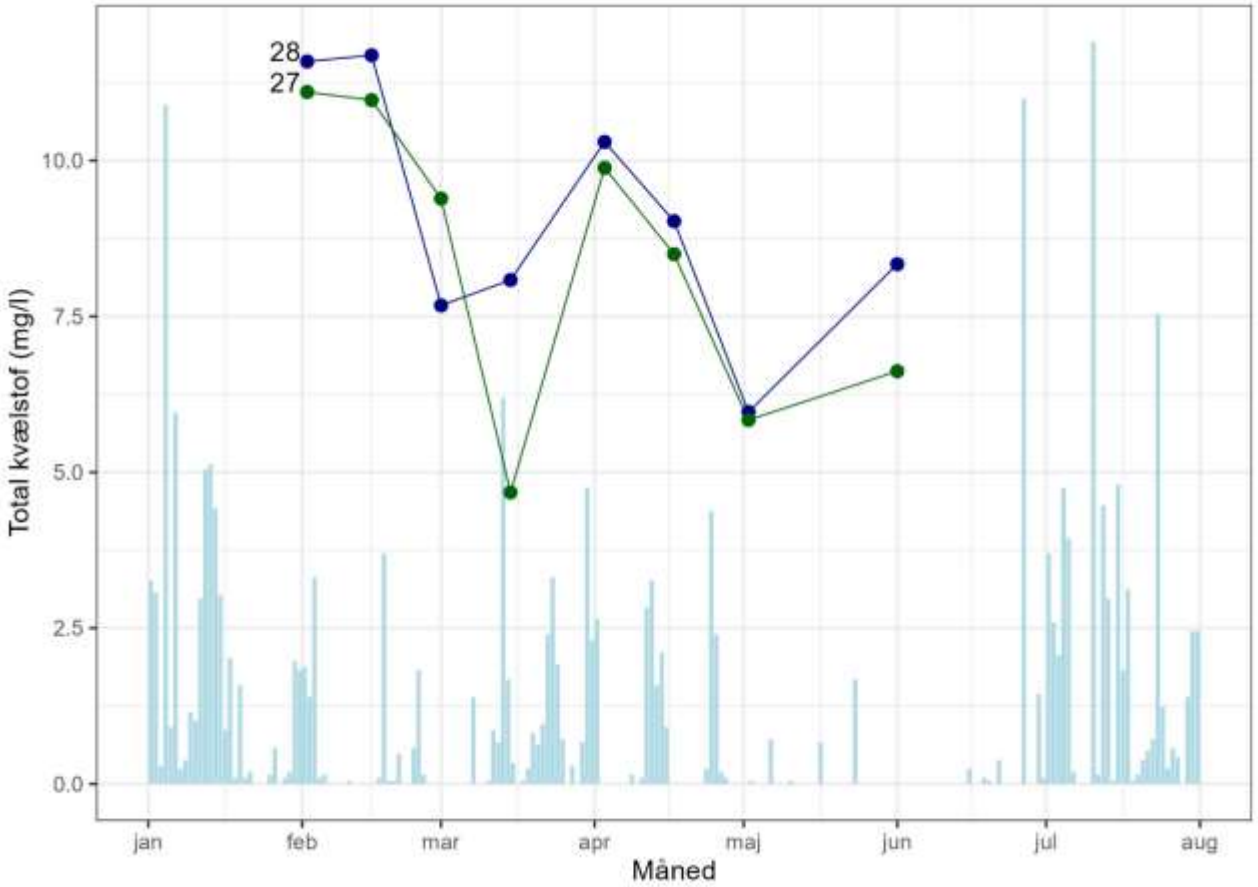

Før mosen
Efter mosen
Total kvælstof (mg/l)
10.0
7.5
5.0
2.5
0.0
jan
feb
mar
apr
maj
jun
jul
aug
Måned

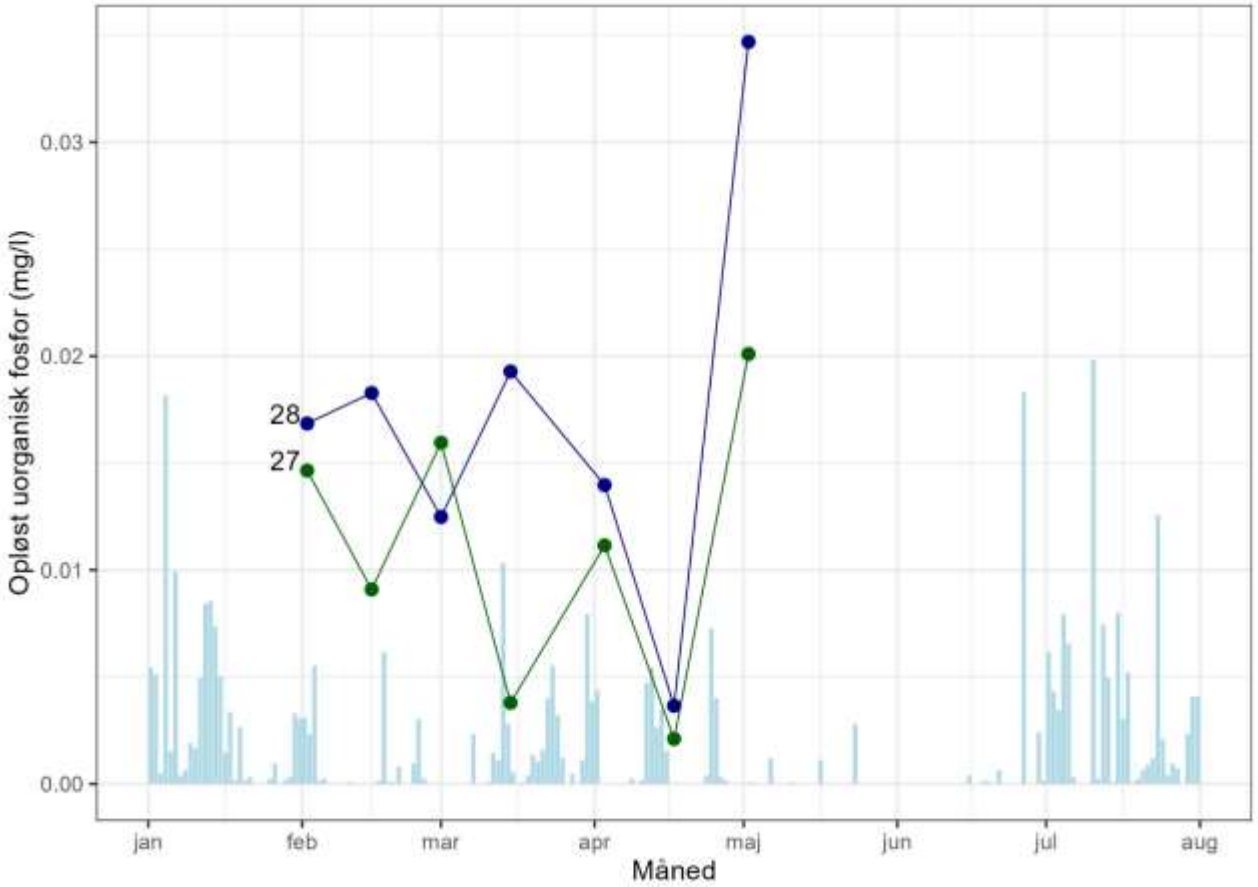

Efter mosen
Før mosen
Opløst uorganisk fosfor (mg/l)
0.020
0.015
0.010
0.005
0.000
jan
feb
mar
apr
maj
jun
jul
aug
Måned

SDU


Maxar, Microsoft

Blandet opland





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Take home message indtil videre

→Metoden fungerer

→Oplandet til Egensedybet udleder mere kvælstof end estimeret i vandplanerne

→Fosfor niveauet er relativt lavt i hele oplandet

→Stor sæson og arealvariation i både kvælstof og fosfor

→Naturarealer reducerer kvælstofkoncentrationen

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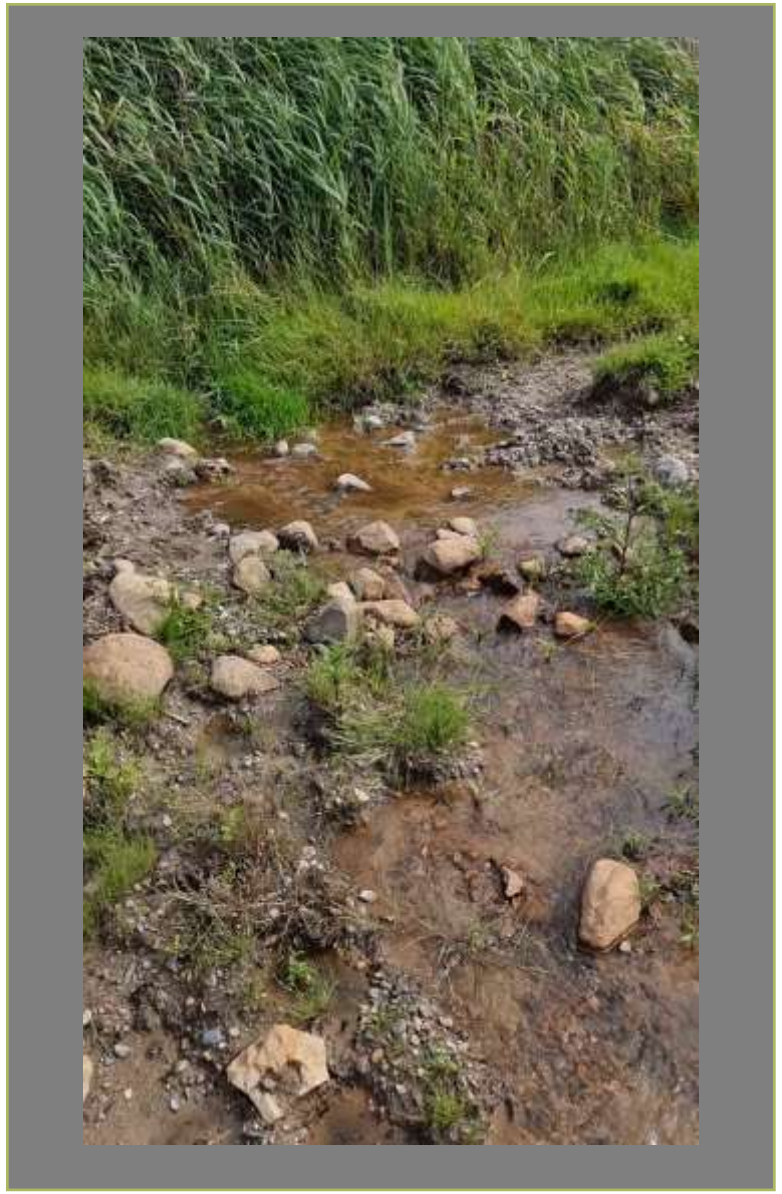
Hotspot analyser kan også bruges til at finde områder der giver god vandkvalitet



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AAGE V. JENSEN NATURFOND

ODENSE FJORD SAMARBEJDET

Spørgsmål og/eller kommentarer ?? ☺