

# Kort status for modelarbejdet

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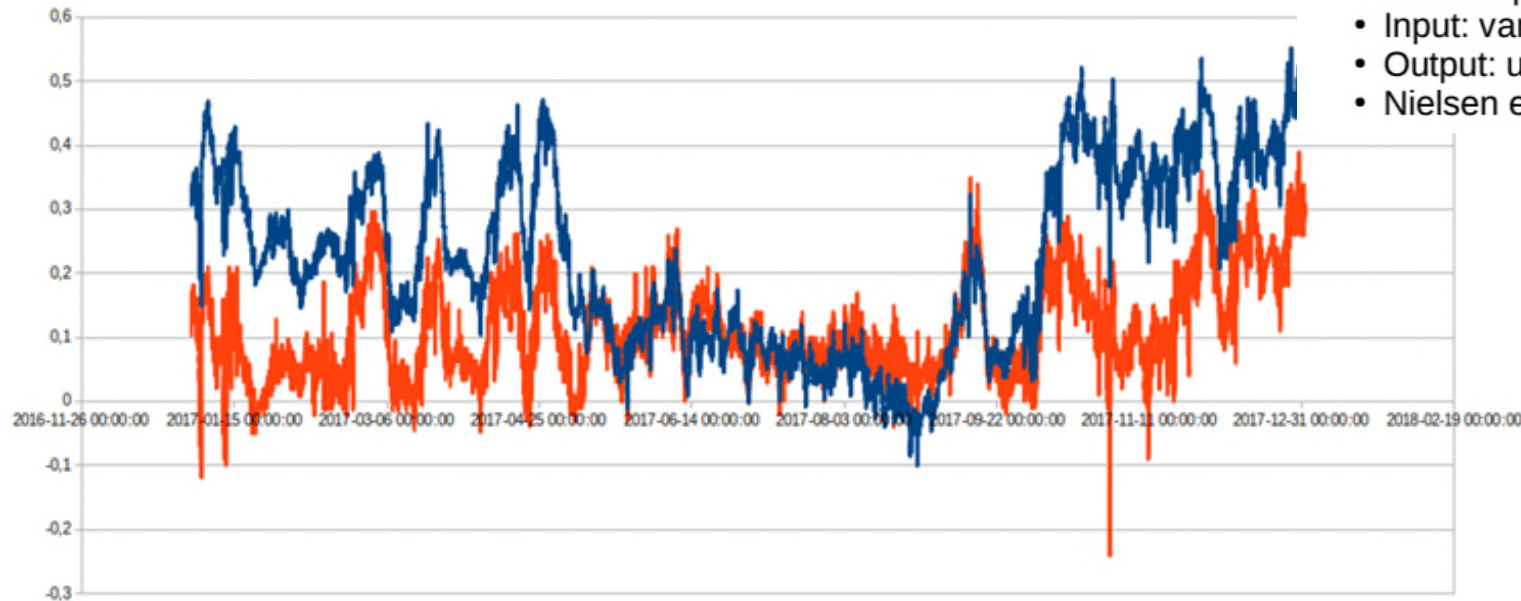
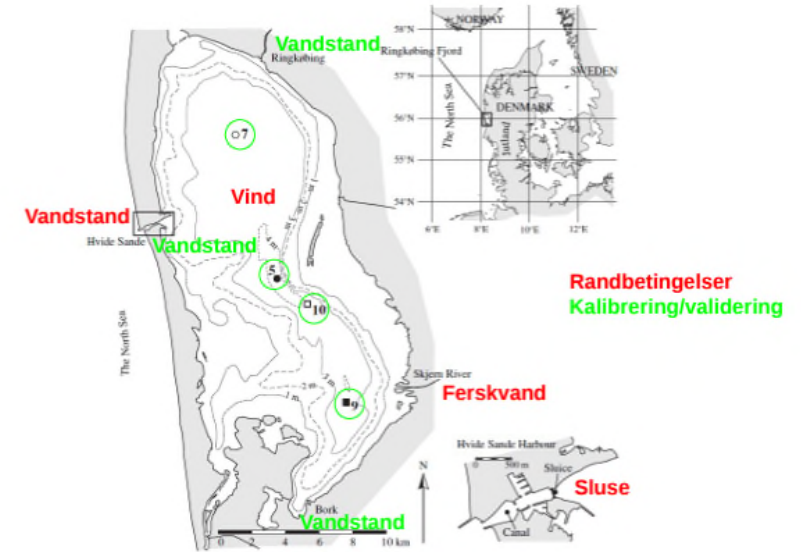
Møde i Kystvandråd Ringkøbing Fjord

23. juni 2023, Ringkøbing

# Slusemodel

Kører for 2017

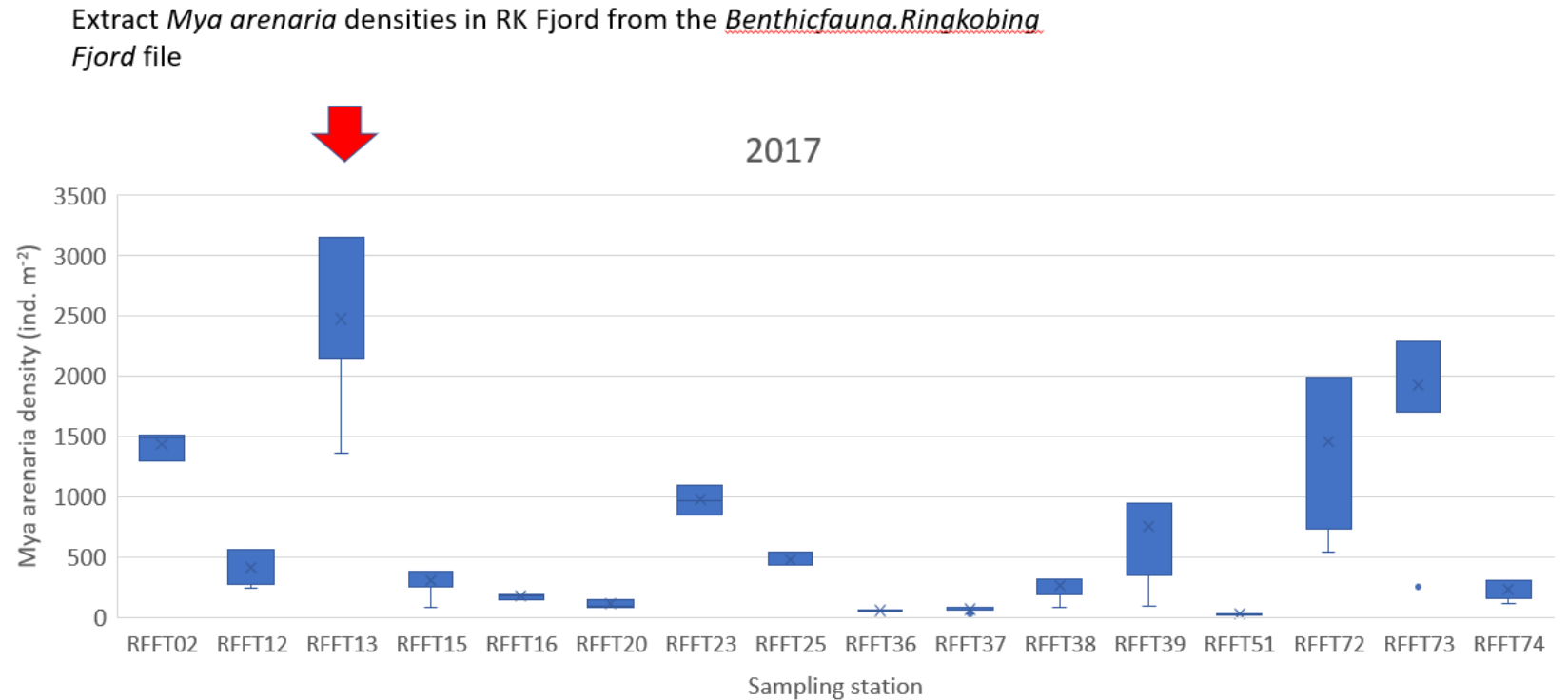
Venter på bedre vandtilførsel fra SWAT-model  
2019 er undervejs



- Baseret på beskrivelse af processer
- Input: vandstand, vind, ferskvandsafstrømning, slusepraksis
- Output: udveksling med Nordsøen, salt, lagdeling, vandstande
- Nielsen et al. (2005) "A simple model for volume and stratification"

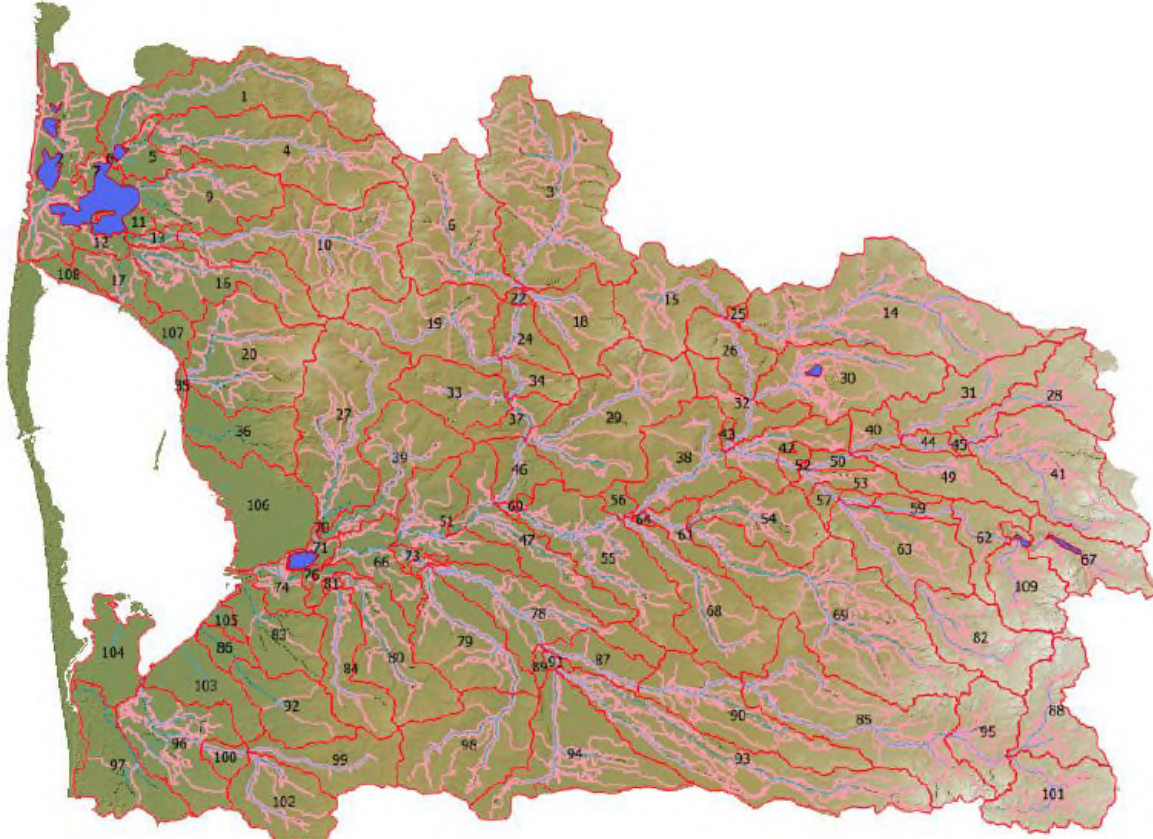
# Ringkøbing Fjord model

- Der arbejdes på
  - Hydrodynamisk del
  - Muslinge modul
  - Ålegræs modul





# Oplandsmodel (SWAT+)



## Watershed delineation characteristics:

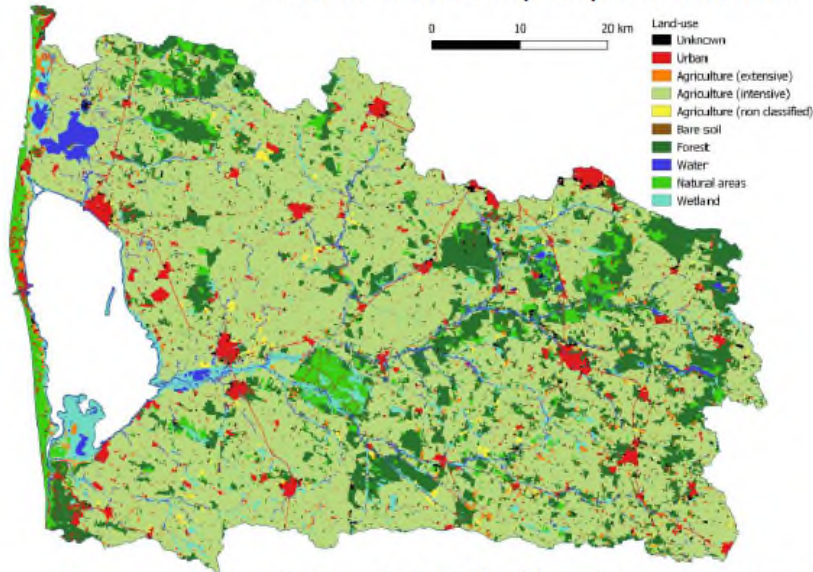
- 9 lakes
- 109 subbasins
- 467 landscape units
- 7607 Hydrological response units (field scale)
- 12 discharge points into Ringkøbing Fjord

## Main features:

- Lake and floodplain areas implemented
- Coastal subbasins implemented
- Detailed landuse map implemented
- Precipitation and climate implemented

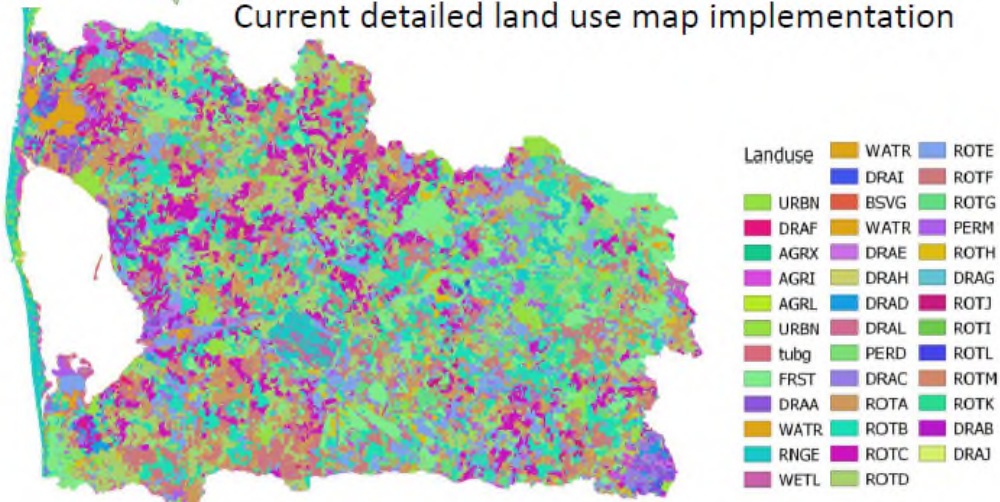
# Oplandsmodel (SWAT+)

First land use map implementation



- Agriculture: from 3 to 22 classes
- Include drainage areas

Current detailed land use map implementation



Code	Description	%
FRST	Forest	15.68
ROTA	Planteavl_modenhed_75%	12.57
ROTD	Cattlefarm with more than 20% wholecrop for fodder	12.07
ROTB	Cattlefarm with less than 20% wholecrop for fodder	11.99
ROTC	Pig farm with more than 80 kg N pr ha fertilizer	11.92
ROTE	Other crop production	10.23
ROTF	kvæg>170	8.89
ROTG	Potato farm/kartofler	4.34
RNGE	Natural areas	2.58
URBN	Urban	2.5
WETL	Wetland mixed	1.03
DRAA	Drained Planteavl_modenhed_75%	1
PERM	Permanent crop	0.96
DRAC	Drained svin>80	0.94
ROTH	Drained Cattle < 80 kg N	0.45
DRAB	Drained Cattlefarm with less than 20% wholecrop for fodder	0.44
DRAD	Drained Cattlefarm with more than 20% wholecrop for fodder	0.39
DRAE	Drained Other crop production	0.35
DRAF	Drained kvæg>170	0.26
WETW	Wetland wet	0.21
PERD	Drained permanent crop	0.12
ROTK	Vegetables/Frilandsgrontsager	0.11
AGRI	Agriculture (intensive)	0.1
ROTI	Pig farm with less than 80 kg N pr ha fertilizer	0.02
DRAJ	Drained Seed production/Frøavl	0.02
AGRL	Agriculture (unclassified)	0



# Oplandsmodel (SWAT+)

## Next steps

=> **Finish calibration of hydrology (target is end of June)**

- Implement decision table (detailed land use management rules) for each land use class
- Implement wastewater inputs (all data are collected)

=> **Calibrate nutrients exports (target is end of July)**

# Fosfor - oplandsberegninger

	A	B	C	D	E	F
1	Ringkøbing Fjord VP3-catchment # 132					
2						
3	Total areal	347650 ha				
4	Total diffuse load	83500 kg P				
5						
6	<b>Measures</b>	kg P				
7	Afforestation	700	Municipal planning (60000 ha)			
8	Bufferzones along streams	70				
9	Perm. grass on erosion areas	350				
10	Sand traps in-stream	130	Planned in water plans 2021 - 2027			
11	Ochre traps in-stream	980	Planned in water plans 2021 - 2027			
12	Trees on all stream banks, stream width < 2 m	5900				
13	Trees on all stream banks, stream width 2 - 10 m	28100				
14	Trees on all stream banks, stream width > 10 m	6700				
15						
16						