Waterdrive

Case area Odense Fjord in Denmark

Water driven rural development in the Baltic Sea Region

Reduce nutrient loadings from agricultural landscapes in a context of ecosystem productivity and resource efficient growth considering climate change.

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Promilleafgiftsfonden for landbrug

Waterdrive

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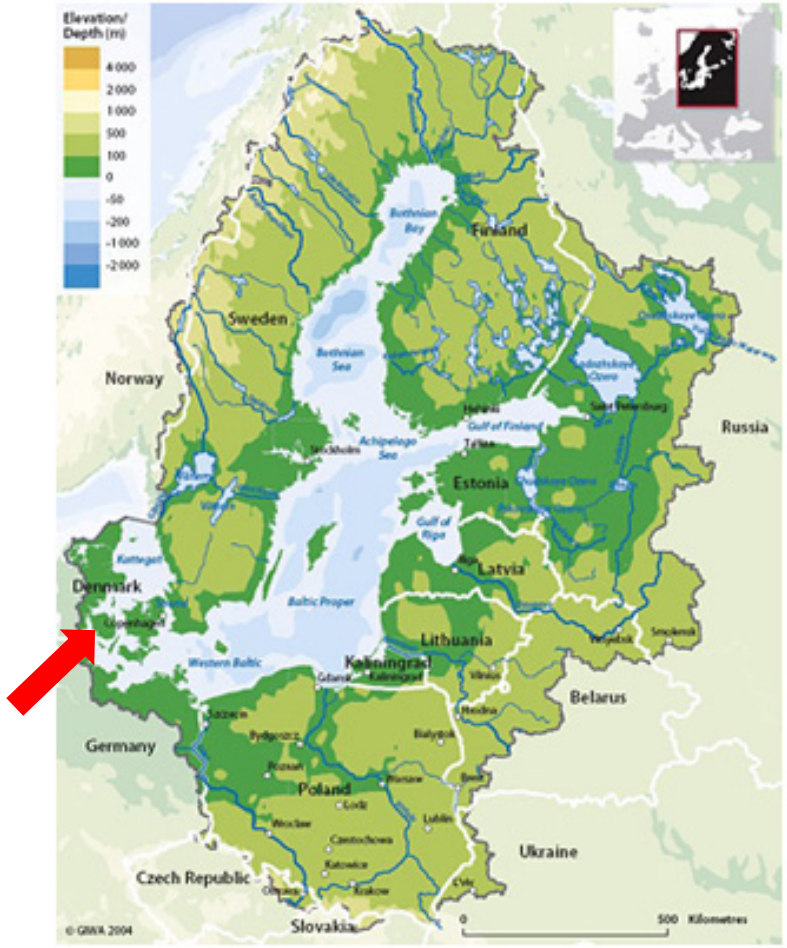
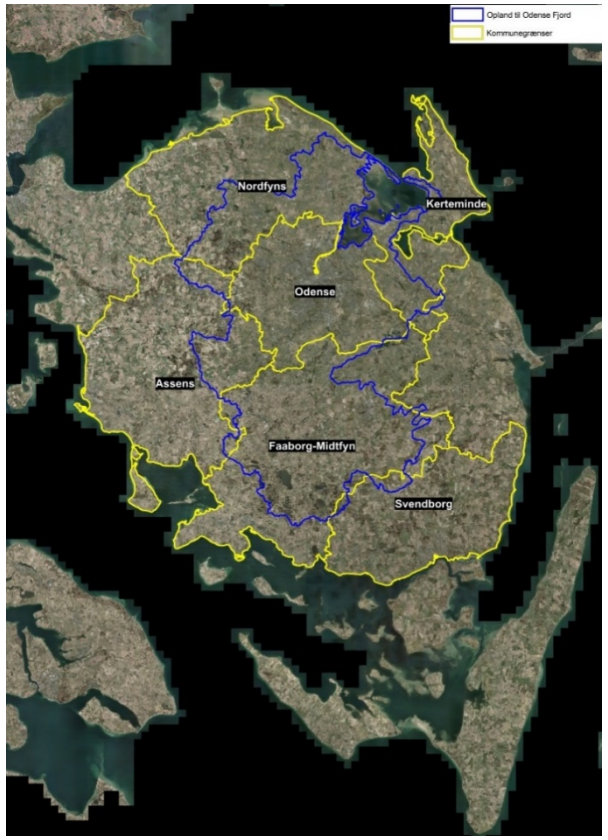
Case area Odense Fjord in The Baltic Sea Region

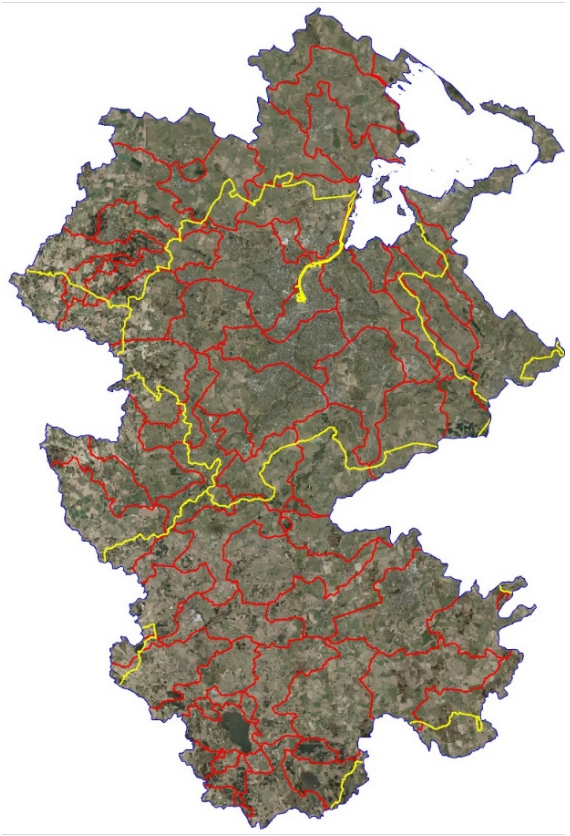


Case area Odense Fjord in Denmark

Blue boder´s - the catchment area

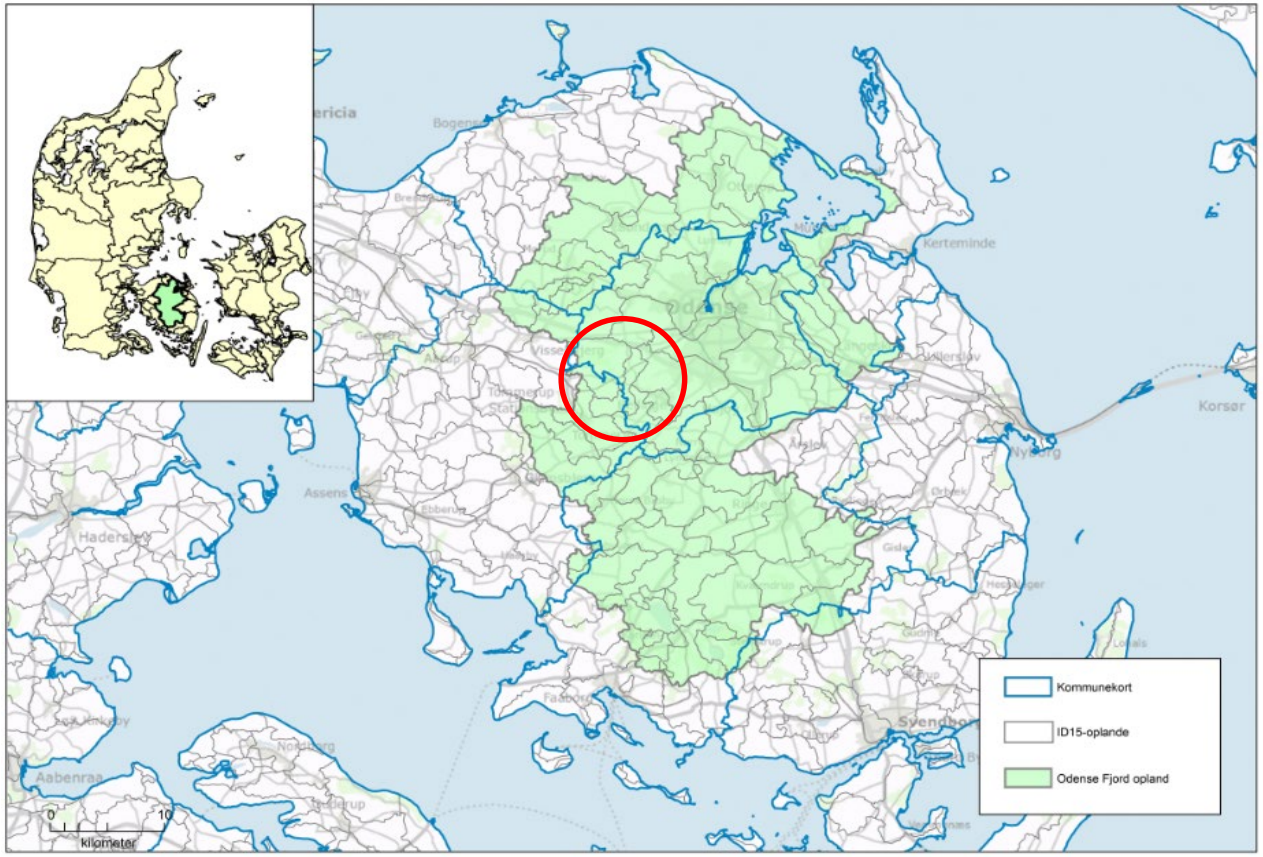


Yellow border ´s - the municipalitys



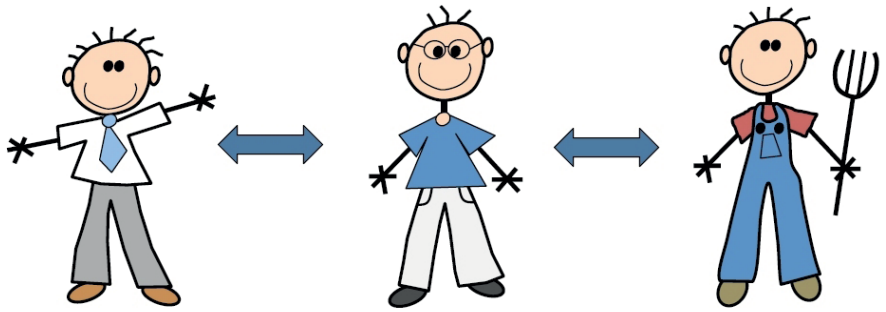
Red border ´s - Watersheds/sub-catchments

Odense Fjord – 2 sub catchments

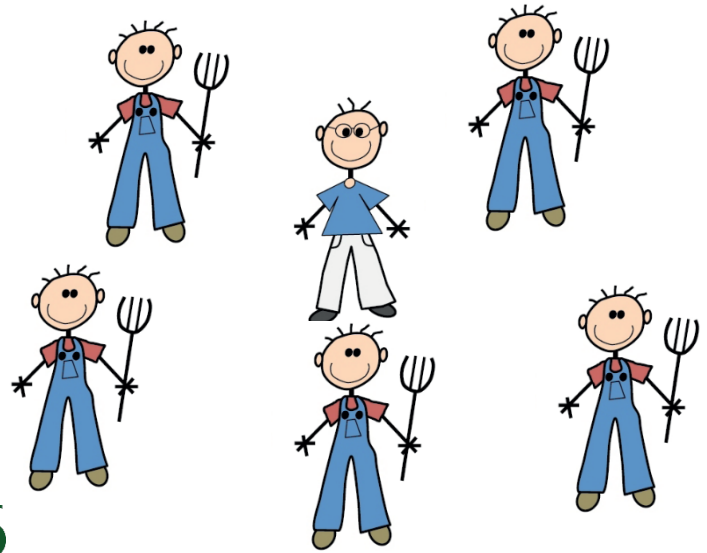


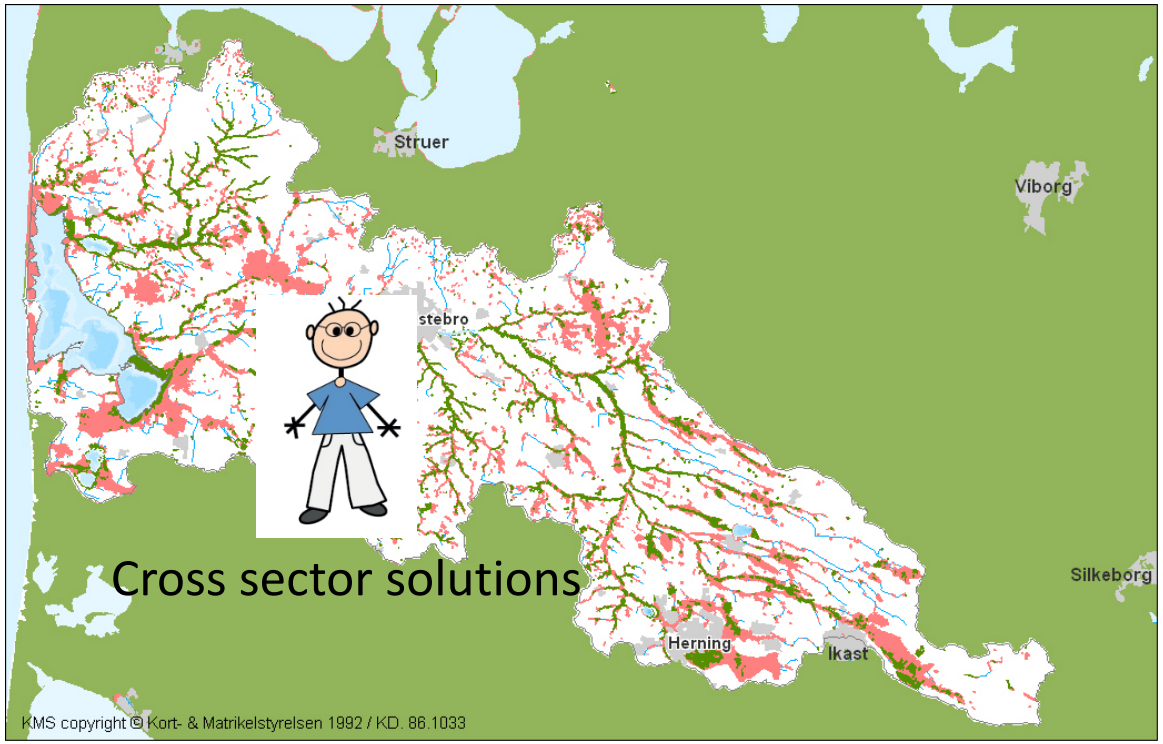
Water Area Plan, nitrogen emissions to Odense Fjord must be reduced by a total of 549.3 tonnes N.
The catchment of Odense Fjord is 105,600 ha, and the agricultural area 63,960 ha

Catchment officer



Authority **Broker** **Farmer**





Cross sector solutions

Tested in Water CoGovernenace in 2016

SEGES

Interreg North Sea Region WaterCoG European Regional Development Fund EUROPEAN UNION

LANDBRUG FØDEVARER

Catchment officer – new concept in Danish water management

- National Program in 2017
- 25 Catchment officers (16 full time)
- Budget: 8 million eur over 4 years
- 50 % payed by farmers (farmer union) and 50 % payed by the government
- No direct payment for the farmer
- Applications for 78 projects (CW) in 2018 (46 approved, 9 started)
- Goal for 2019 are 205 ha (CW) or 250-300 projects

SEGES

Activity Group 2.1 Cross-sector local participation in **Denmark**

Learning from SUCCESS-STORIES + FOCUS GROUPS + CATCHMENT OFFICER WORKING INCASE AREAS

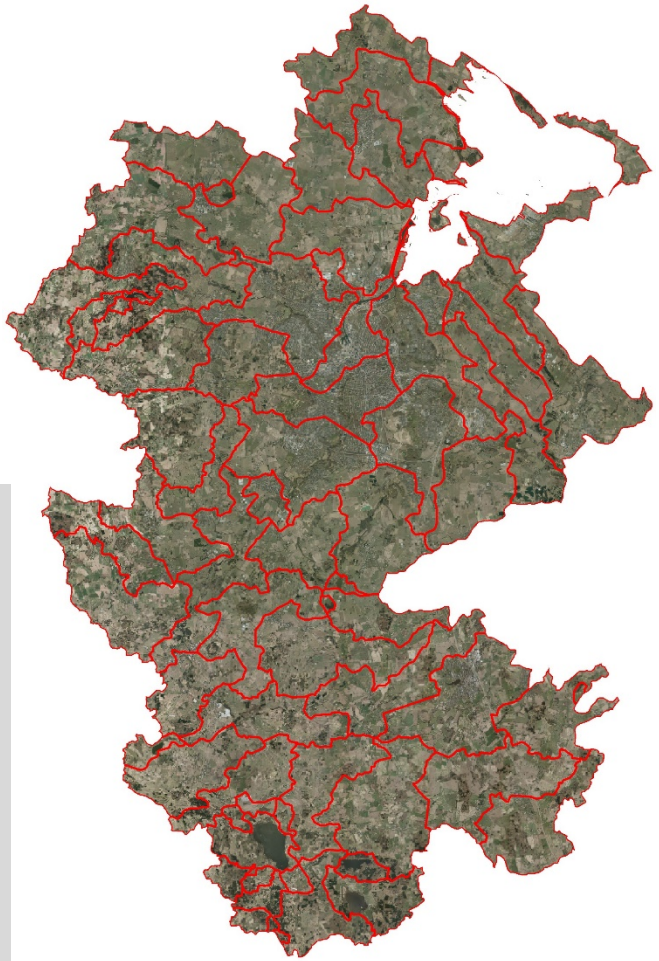
Action- and investment plans based on experience from case areas

Recommendations and strategies to be incorporated I Waterdrive

Initiate launching of the Participatory toolbox and strategies

Focus group estabiliched at a Local Watershed

Waterdrive cross-sector test:
The muncipality
Farmers Union
5-10 farmers
Catchment officers
Local stakeholders, NGO
(Government- national/regional)



Technical Support Group

Municipality (technicians)
Catchment Officers
Farmer Adviser

Field work
Reports
Monitoring

Implementation Committee

Farmer Union representors (Elected)
Municipality representors (Elected)
National/regional represent

Strategies and priorities
Decisions

1. Focus group meeting with landowners December 2019

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Implementation of environmental measures

Constructed wetlands

Constructed wetlands with woodchips

Intelligent bufferzones

Wetlands

What is the technical potential in the landscape & what are the human challenges and opportunities?

Environmental measures in the rural funds.
2,5 billion dk = 335 million Euro
2016-2021 in Denmark

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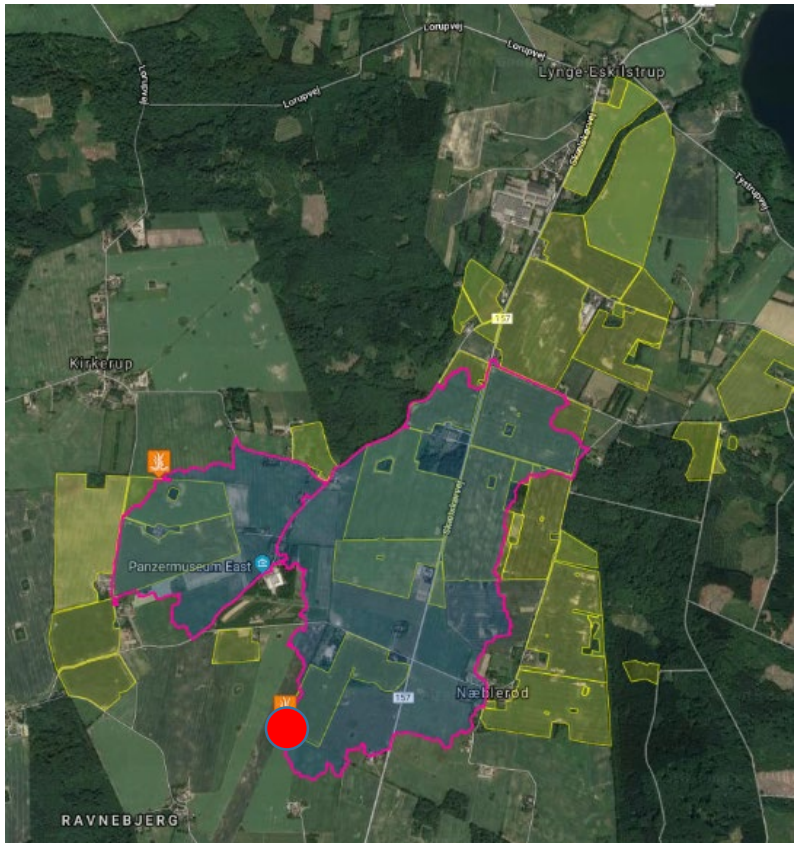
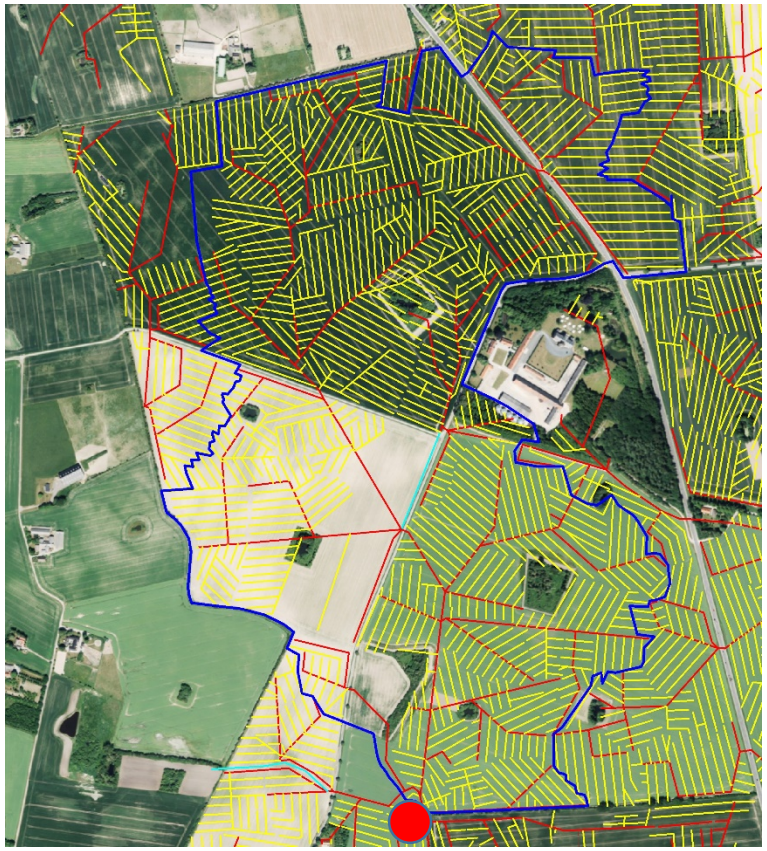
Farmer online tjek of catchment area´s based on SCALGO



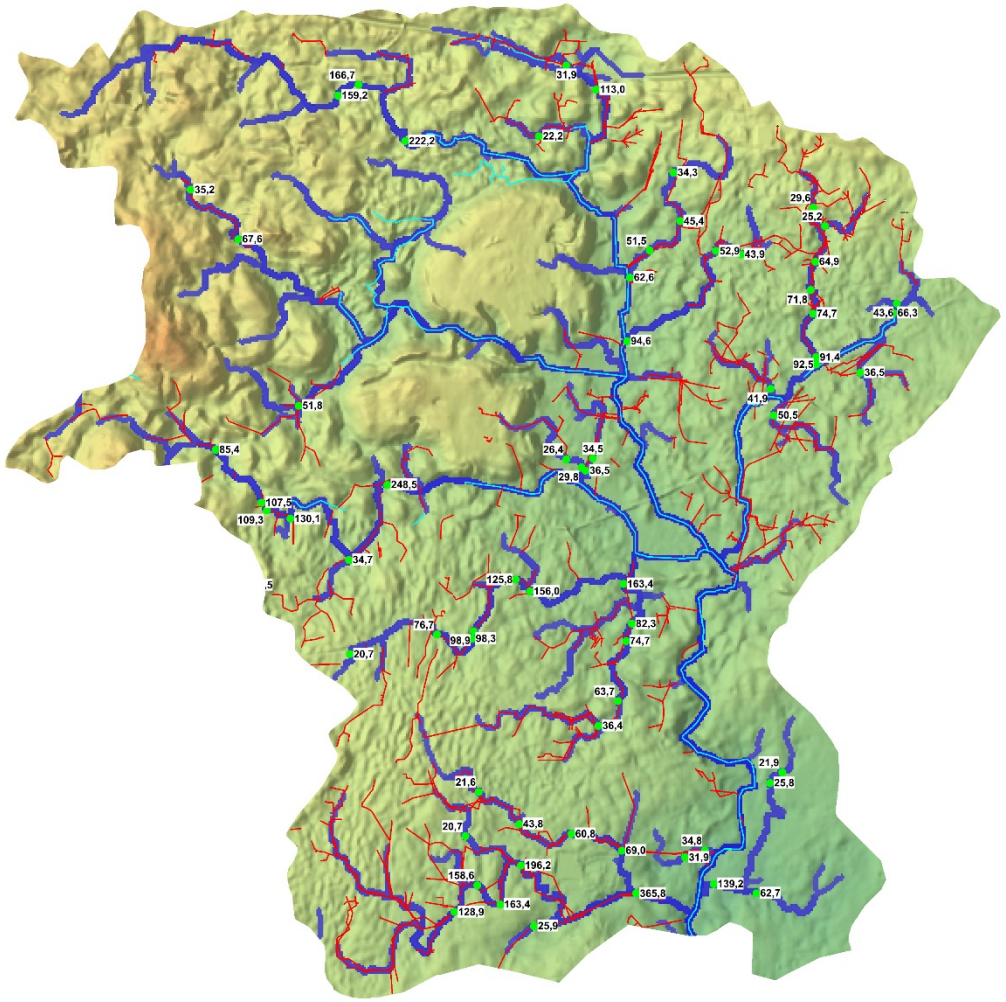
Landmand.dk (= farmer.dk)
Possible for the farmers to
se potential locations



Drainage system

Constructed wetland with woodchips 2017/2018

Drain(red), flowpaths (blu) & potential places (green spots)



Drainsystems verified in Waterdrive by individual meetings with the landowners and by the knowledge from the the catchment officer and the municipality

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Individual meetings with landowners about drain systems. How deep is the drain?

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Individual meetings with landowners about drain systems. How deep is the drain?

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Individual meetings with landowners about drain systems. How deep is the drain?

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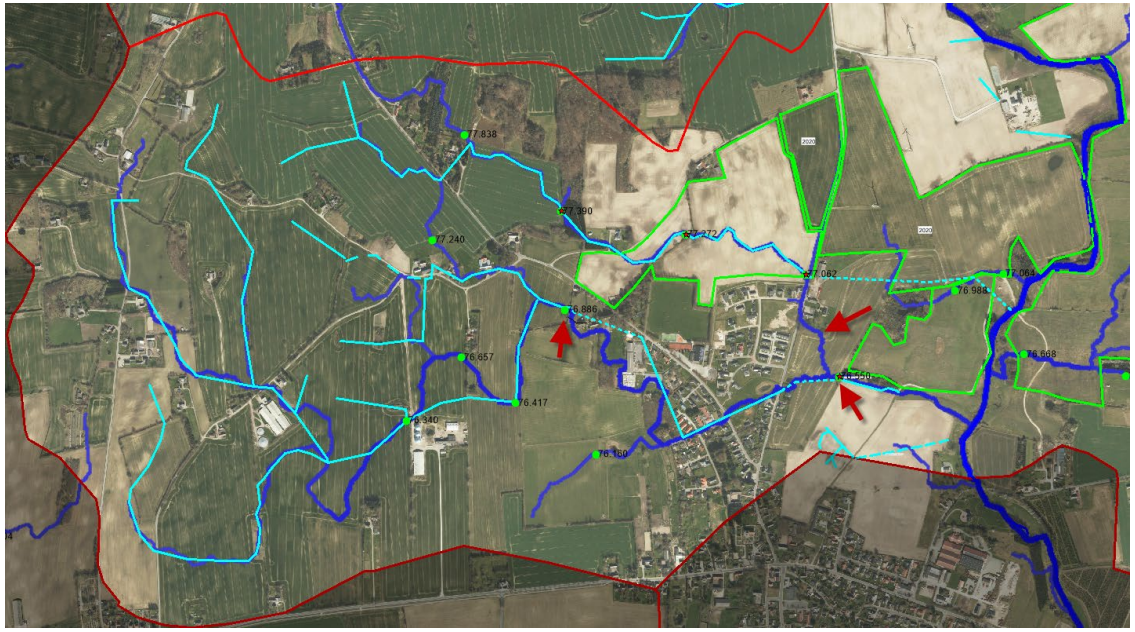
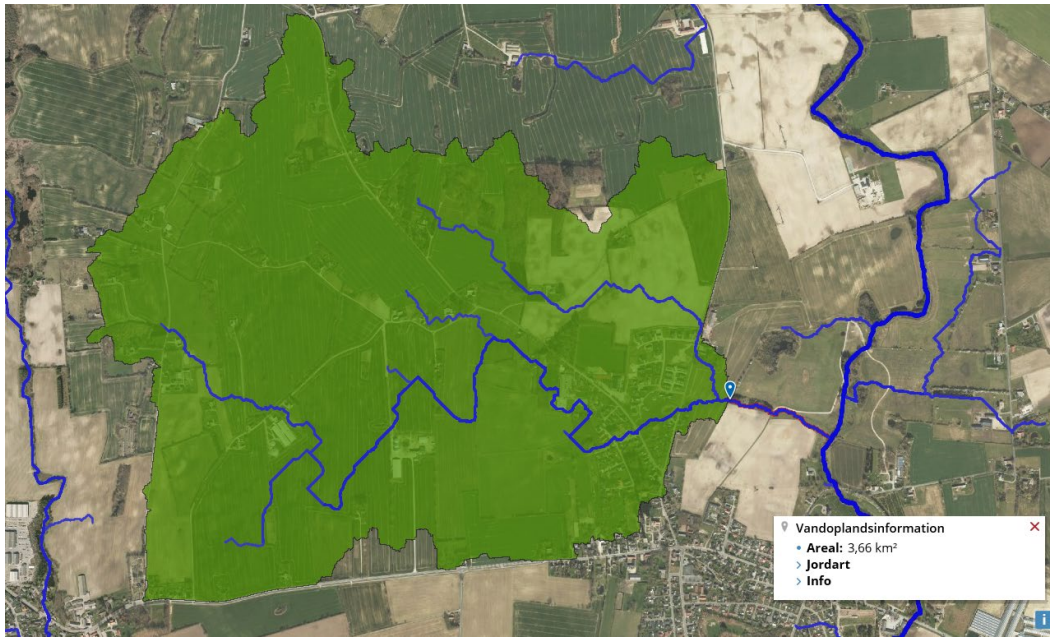
2. focus group meeting May 2019 with landowners and the municipality

Drainsystems

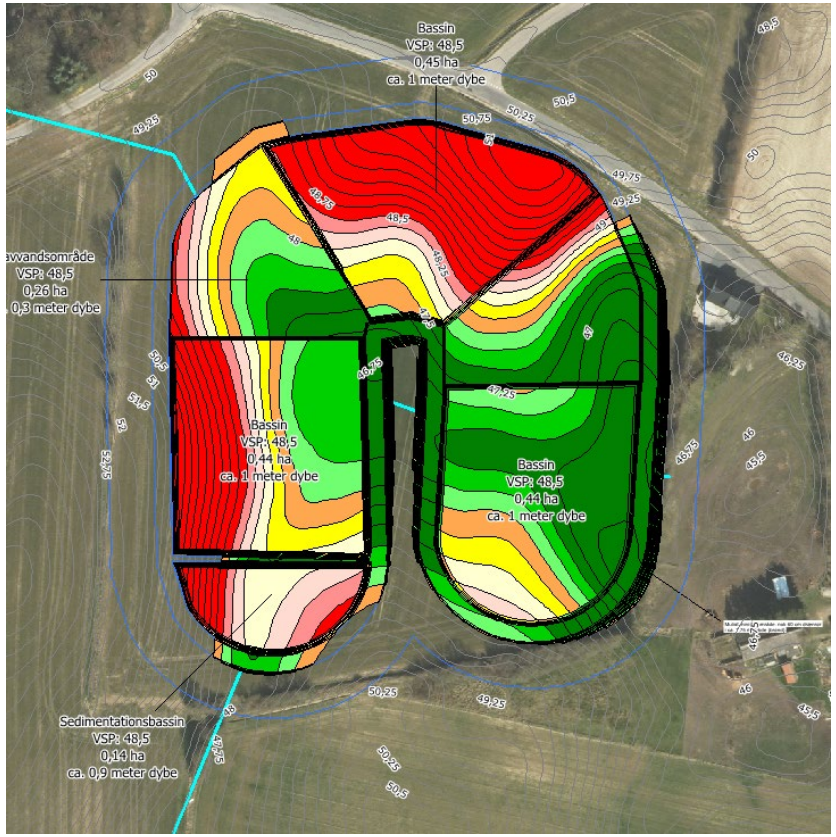


Drain and catchment area done by fieldvisits



Catchment area estiamated in SCALGO

Construction, costs and N&P effect



TEMA	NAVN	Areal, Ha	Areal, kvm	Arealfordeling, %	Afgraves, kbm	Påfyldes, kbm	Volumen, kbm
Bassin	Bassin	1,33	13.311	0,0	55.024	0	55.024
Lavvandsområde	Lavvandsområde	0,52	5.201	0,0	17.311	0	17.311
Sedimentationsbassin	Sedimentationsbassin	0,14	1.426	0,0	6.245	0	6.245
Bassin	-- SUM --	1,33	13.311	66,8	55.024	0	55.024
Lavvandsområde	-- SUM --	0,52	5.201	26,1	17.311	0	17.311
Sedimentationsbassin	-- SUM --	0,14	1.426	7,2	6.245	0	6.245
-- SUM --	-- SUM --	1,99	19.938	100,0	78.580	0	78.580
-- SUM --	-- SUM --	1,99	19.938	0,0	78.580	0	78.580

Estimation of soil relocation

ID15-nummer 42.320.719 **1135** **ha** **LOOP-opland** Fyn (lerjord)

Sted	Virkemiddel	Drænopland ha	Omdriftsprocent %	Virkemiddel ha	Effekt kg N pr. ha virkemiddel	Effekt af virkemiddel kg N	Effekt af virkemiddel kg P
83.729	Minivådområde	66	73	0,726	579,4	307	2,4 - 2,8
83.103	Minivådområde	92	80	1,012	579,4	469	3,4 - 3,9
82.736	Minivådområde	42	69	0,462	579,4	185	1,6 - 1,8
82.983	Minivådområde	37	88	0,407	579,4	208	1,4 - 1,6
82.425	Minivådområde	51	89	0,561	579,4	289	1,9 - 2,1
76.550	Minivådområde	366	62	4,026	579,4	1446	13,5 - 15,4
	Sum	**654**		**7,194**		**2904**	**24,2 - 27,5**

N & P reduction

Next steps in period 4&5

N&P Effect of environmental measures

Implementation plan

Investment plan

Questionnaire to 10 farmers by phone about their views on implementation of the environmental measures that Waterdrive is working with

Communication about Waterdrive

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