

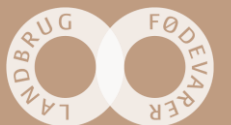
Catchment officers

– a new water management approach in Denmark

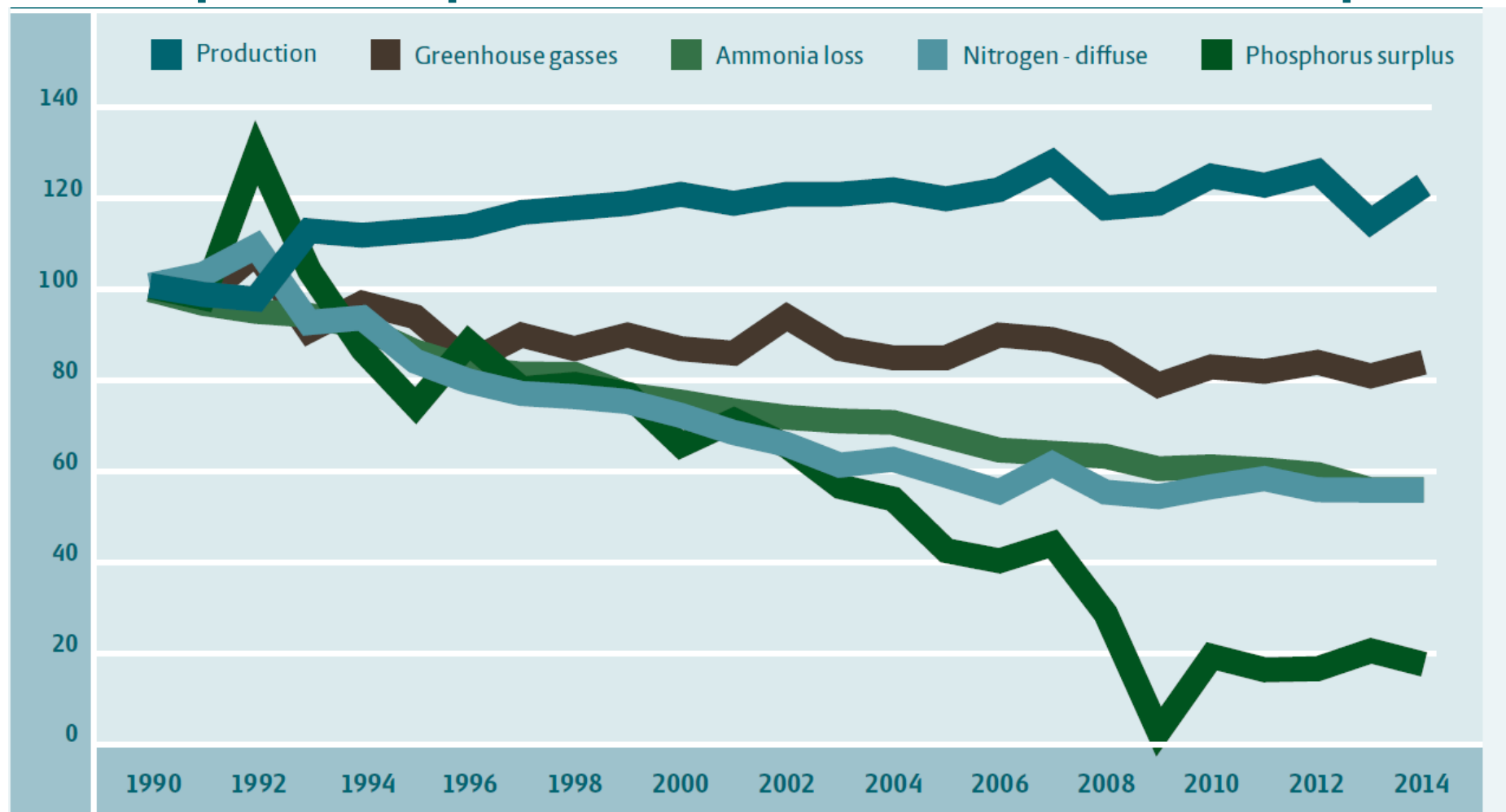
Flemming Gertz, SEGES, Simon Rosendahl Bjorholm, SEGES

Denmark, Aarhus 4th June, LUWQ Conference

SEGES



Development in production and environmental impact



Source: Statistic Denmark.

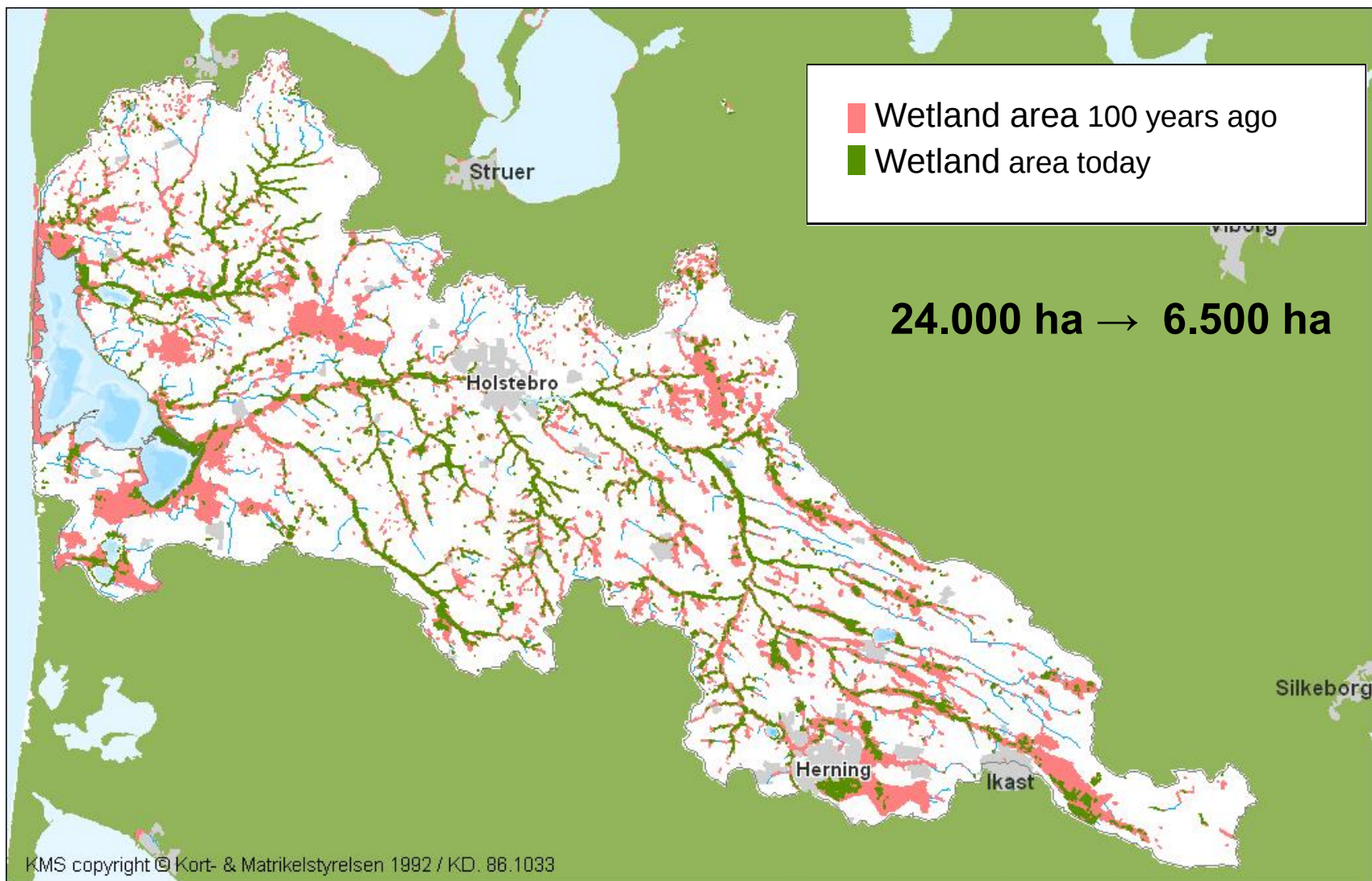
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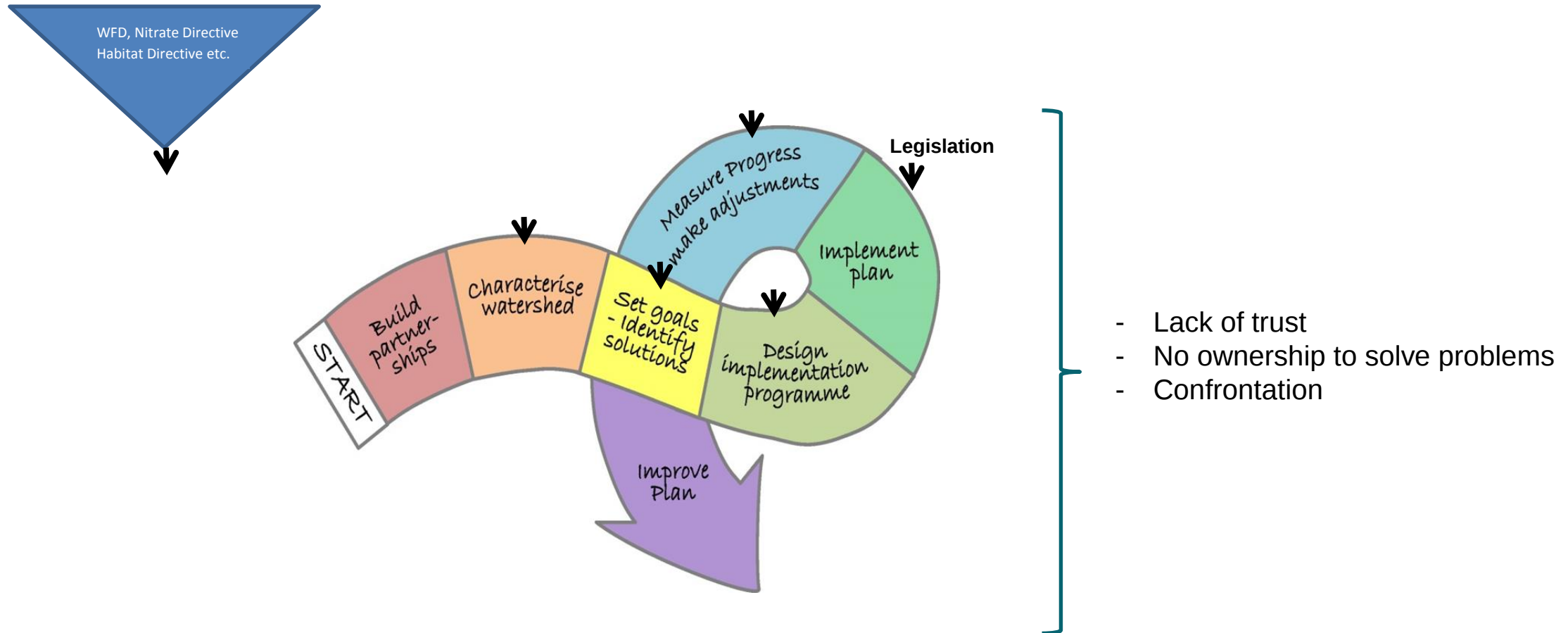
Government decision 2015

- Economic optimized N use – compensated with extra catch crops
- Continue restoring larger wetlands (270 mill €)
- Implement 900 ha of constructed wetlands (52 mill €)
- Targeted regulation – even more catch crops

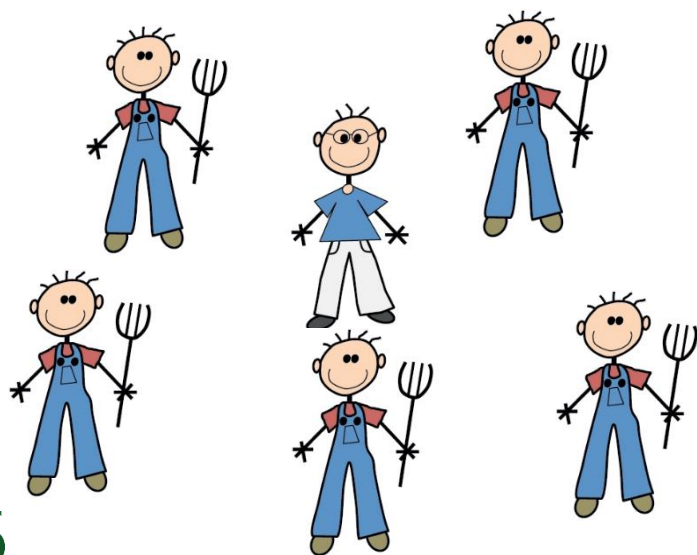
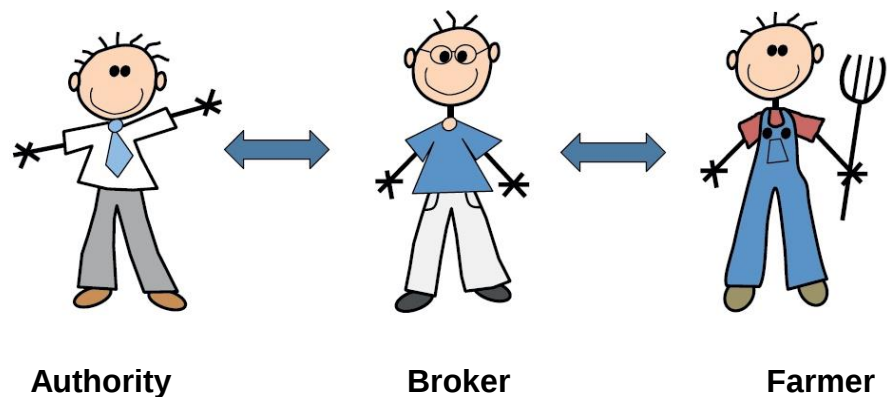
Potential for reducing nutrients to surface waters



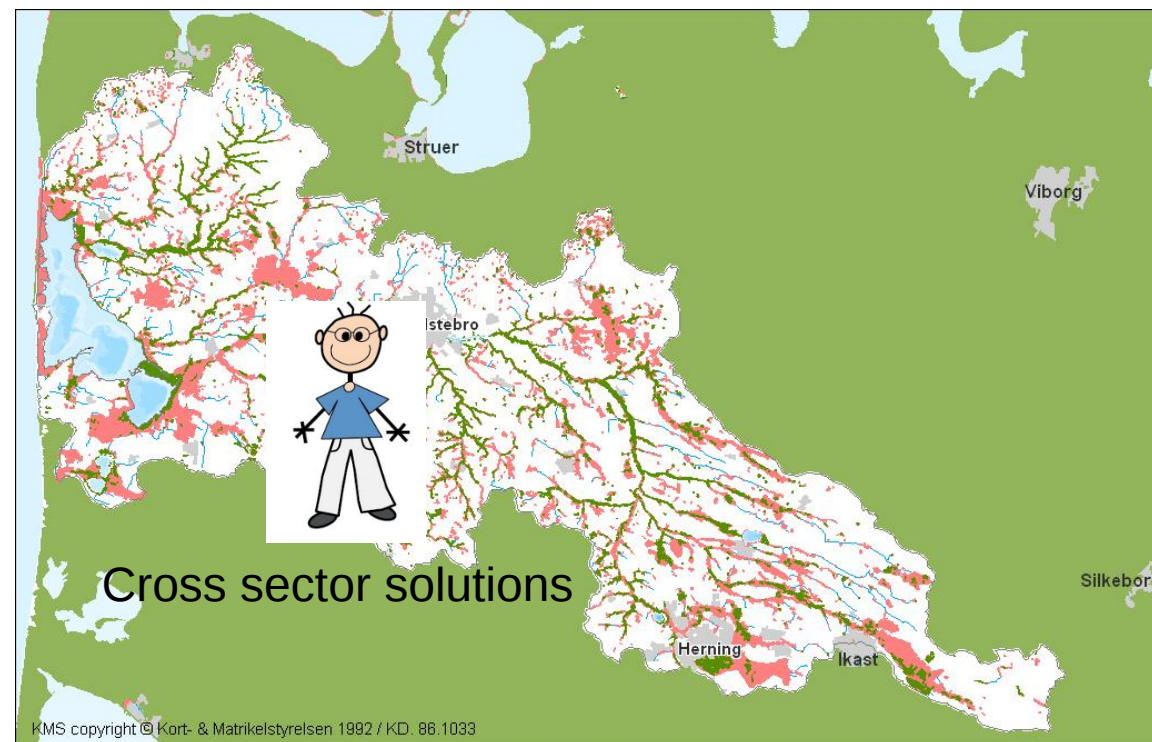
30 years of Top down regulation - consequences



Catchment officer



SEGES



Tested in Water CoGovernance in 2016



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)
- All ready now in 2019: 338 applications for CW

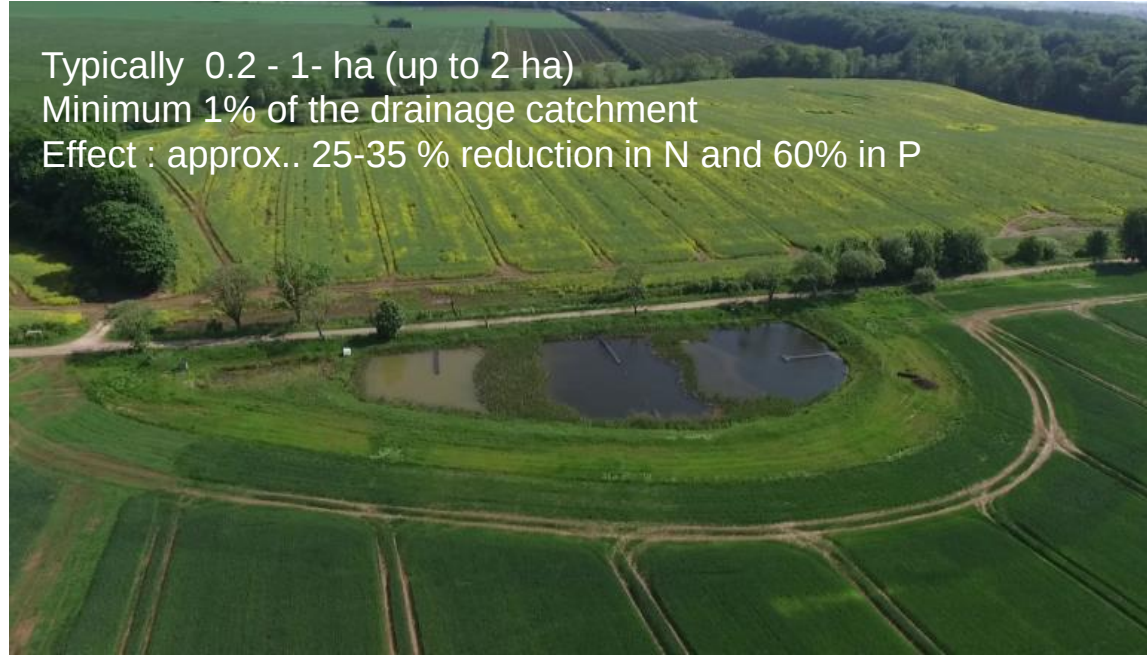


Wetlands restoration and constructed wetlands

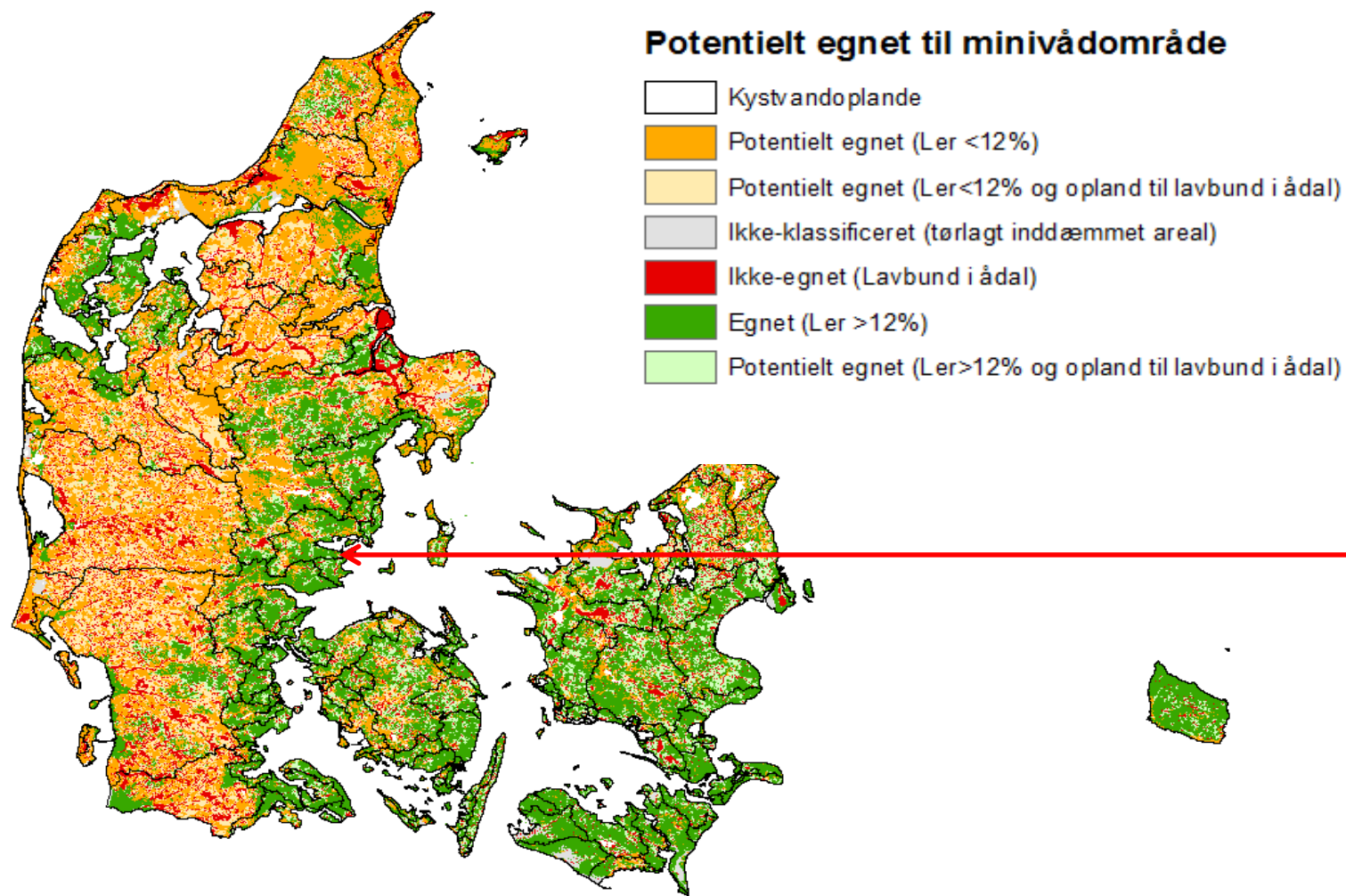
Typically 100-500 ha (up to 2000 ha)
Minimum effect : 100 kg N/ha



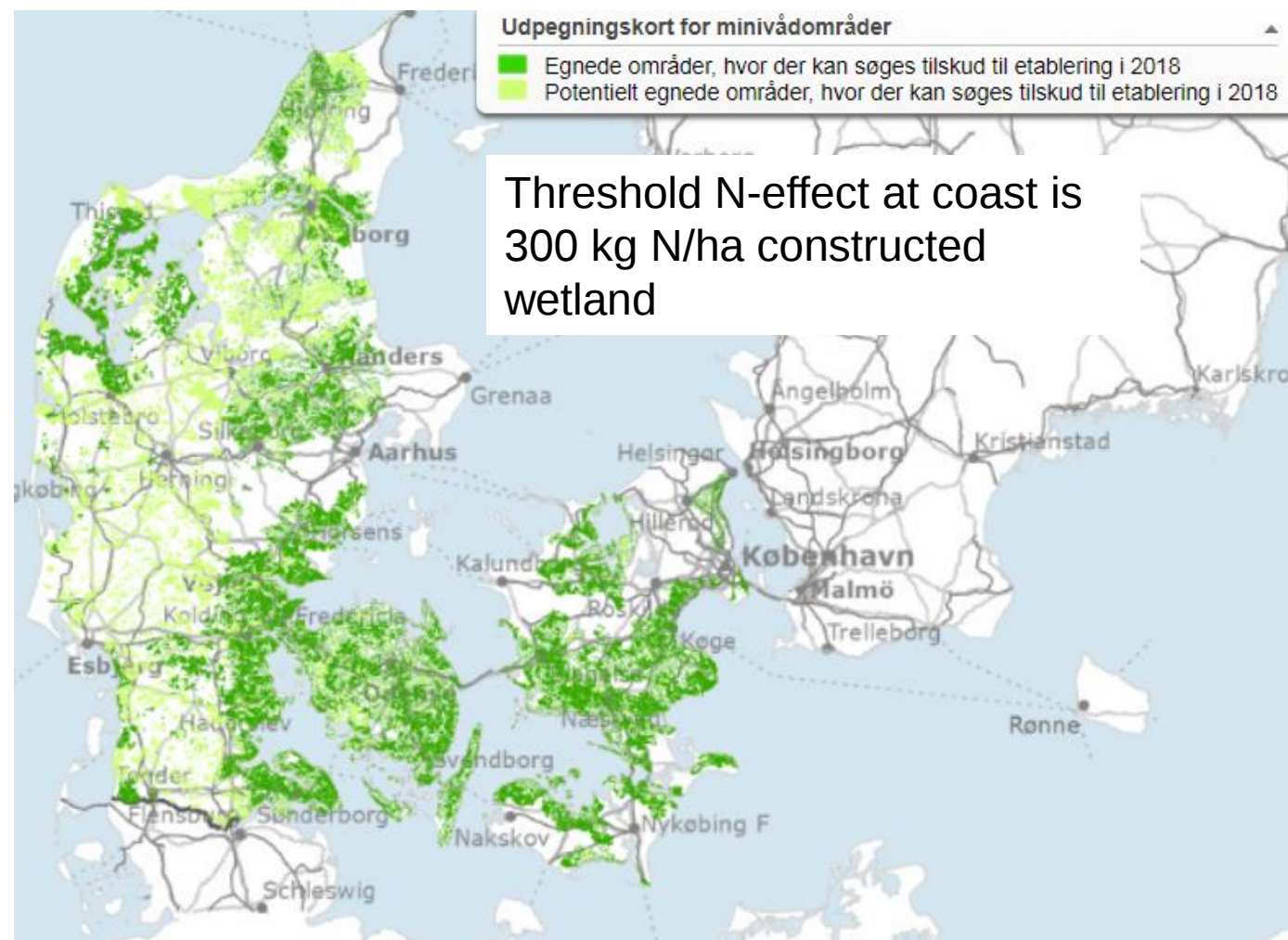
Typically 0.2 - 1- ha (up to 2 ha)
Minimum 1% of the drainage catchment
Effect : approx.. 25-35 % reduction in N and 60% in P



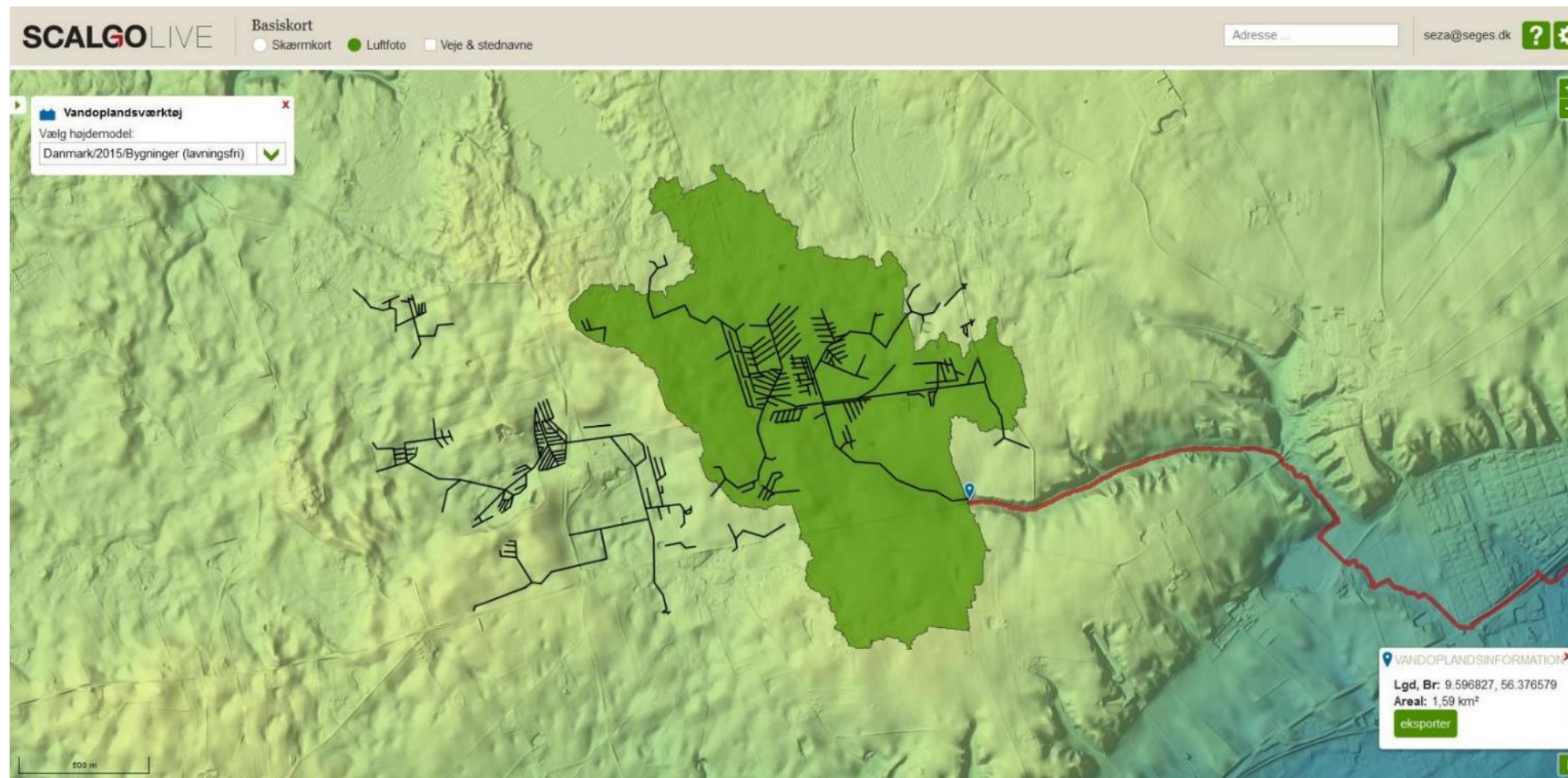
National map – potential suitable sites



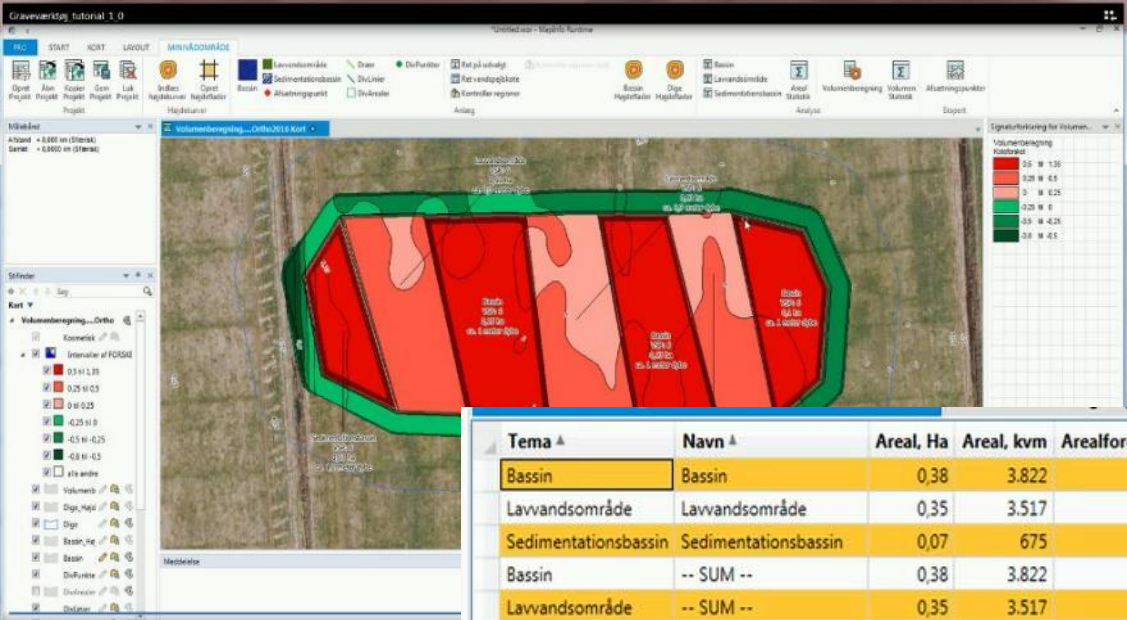
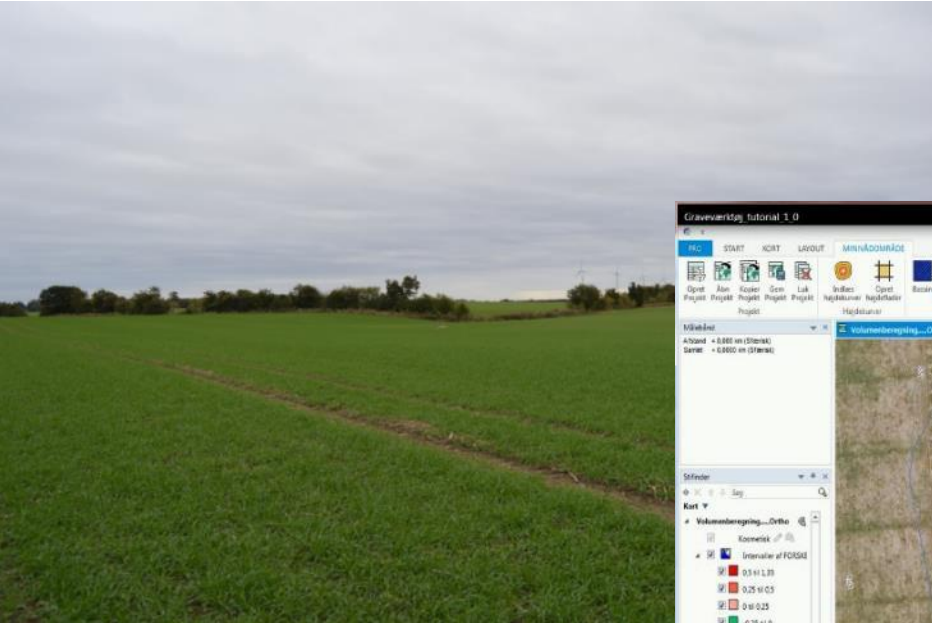
National map – potential suitable sites



Scalgo Live – to find drained catchment



Digital “dredging” GIS-tool



Tema ^	Navn ^	Areal, Ha	Areal, kvm	Arealfordeling, %	Afgraves, kbm	Påfyldes, kbm	Volumen, kbm	SORTERING ^	Tabel
Bassin	Bassin	0,38	3.822	0,0	4.108	-1	4.107	1	Bassin_
Lavvandsområde	Lavvandsområde	0,35	3.517	0,0	1.107	0	1.107	1	Bassin_
Sedimentationsbassin	Sedimentationsbassin	0,07	675	0,0	731	0	731	1	Bassin_
Bassin	-- SUM --	0,38	3.822	47,7	4.108	-1	4.107	2	Bassin_
Lavvandsområde	-- SUM --	0,35	3.517	43,9	1.107	0	1.107	2	Bassin_
Sedimentationsbassin	-- SUM --	0,07	675	8,4	731	0	731	2	Bassin_
-- SUM --	-- SUM --	0,80	8.014	100,0	5.946	-1	5.945	3	Bassin_
Dige	Dige - Indvendig skrænt	0,01	136	0,0	0	-29	-29	1	Dige_H
Dige	Dige - Kronetop	0,20	2.005	0,0	0	-640	-640	1	Dige_H
Dige	Dige - Udvendig skrænt	0,03	261	0,0	0	-56	-56	1	Dige_H
Dige	-- SUM --	0,24	2.402	100,0	0	-725	-725	2	Dige_H
-- SUM --	-- SUM --	0,24	2.402	100,0	0	-725	-725	3	Dige_H
-- SUM --	-- SUM --	1,04	10.416	0,0	5.946	-726	5.220	1	TOTAL

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What do we need

- More cross-sector thinking/solutions (Nutrients, water, climate, nature)
- New local structure for corporation – local based planning
- Better bottom-up / top-down interaction in the Danish governance

Thank you for your attention

