

Advancing local engagement in nitrate regulation

- from top down regulation towards local
engagement in Denmark

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SEGES

TReNDS

Transport and Reduction of Nitrate in Danish Landscapes at various Scales

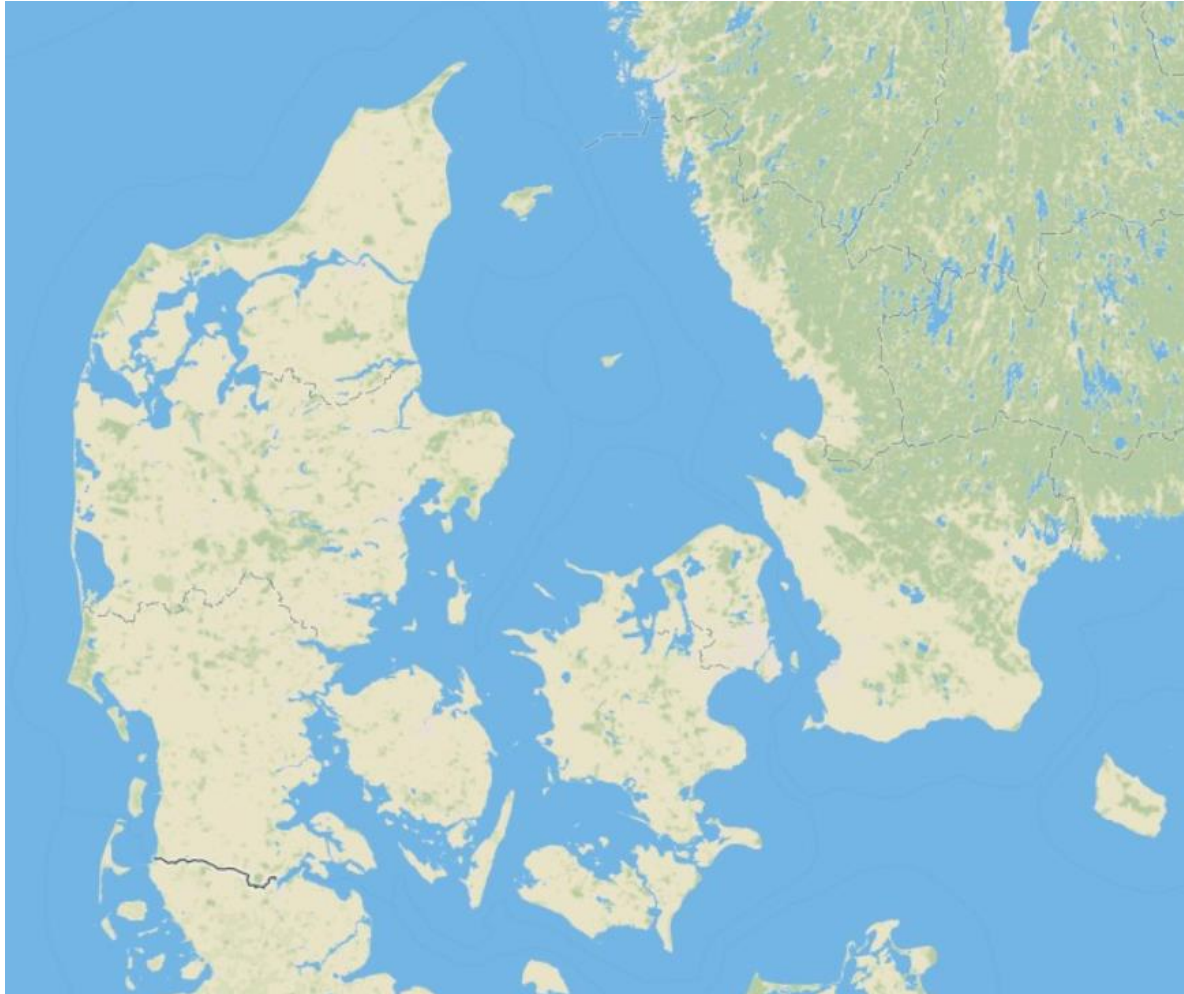


Innovation Fund Denmark

RESEARCH, TECHNOLOGY & GROWTH

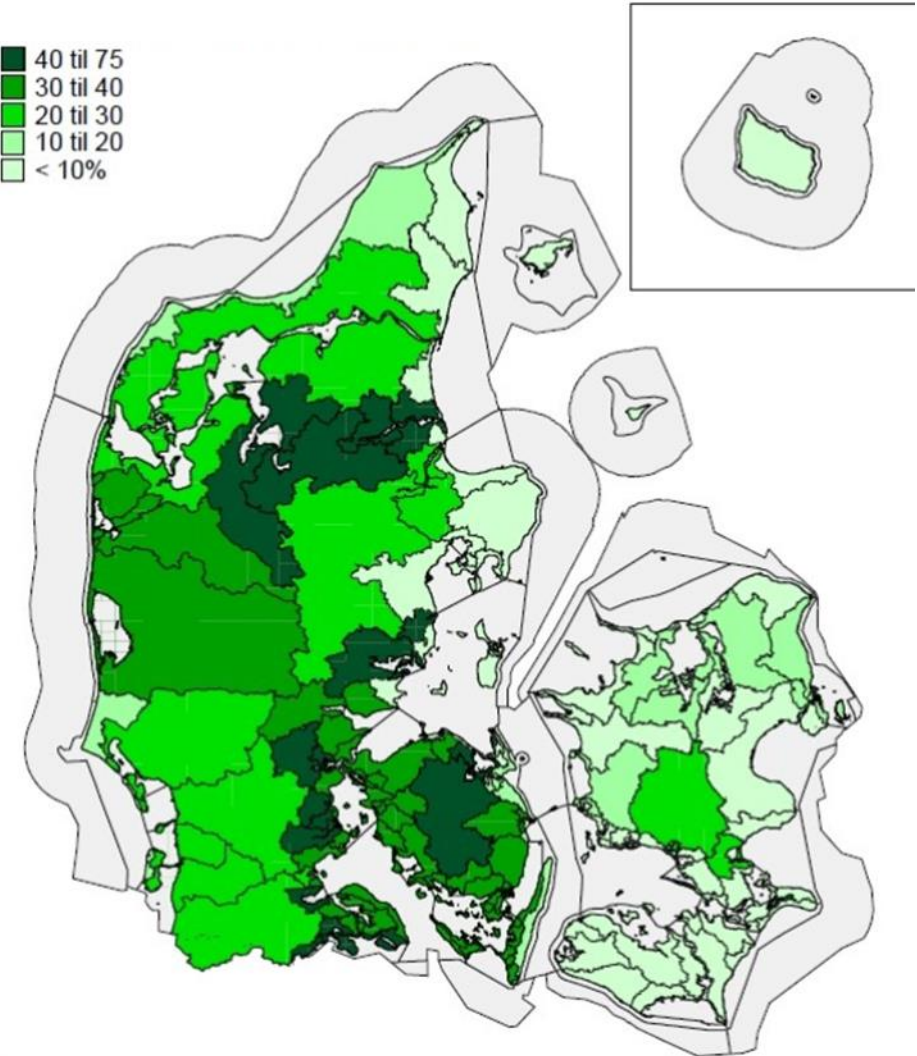


Nitrate to coastal waters is a main issue



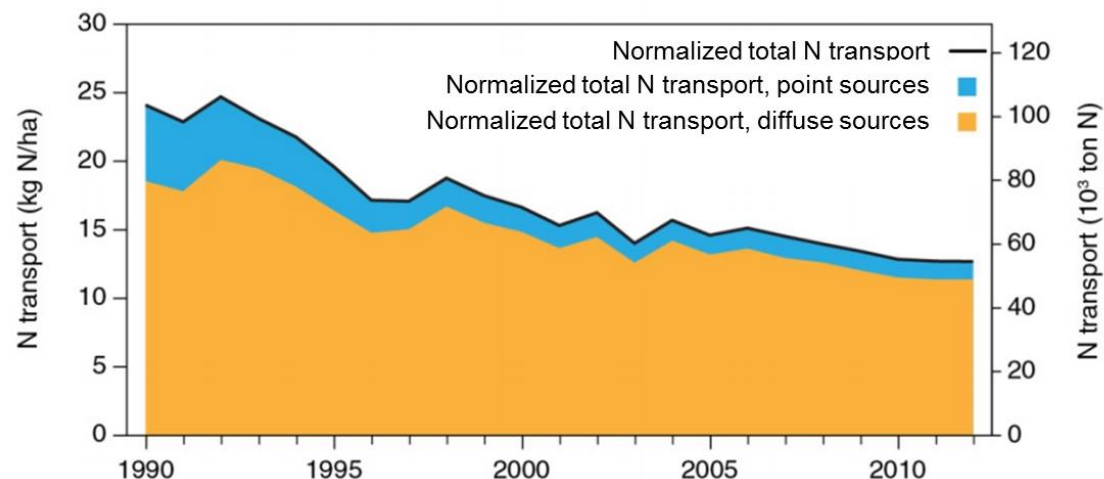
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N reduction targets %



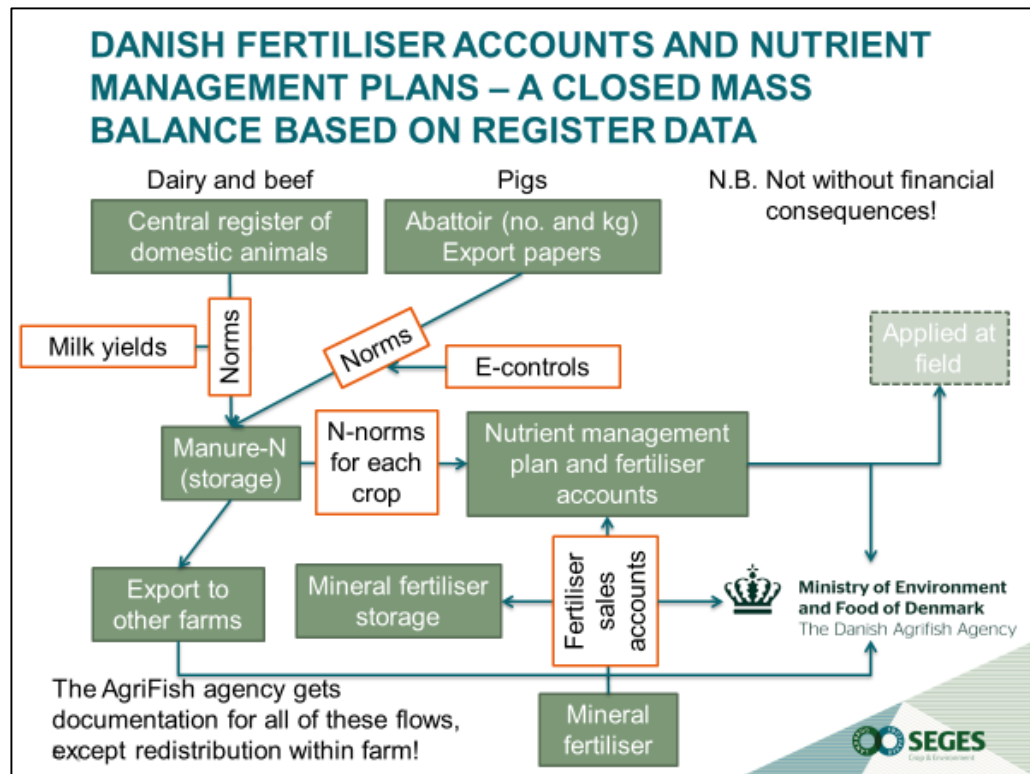
Fra Erichsen m. fl., Vand og Jord, 2015

Top down (general) regulation has worked

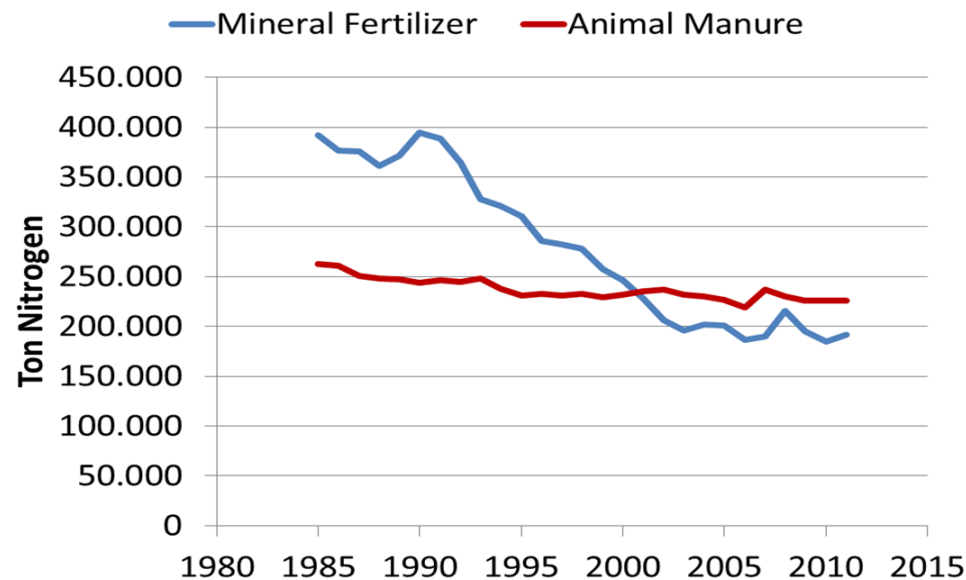
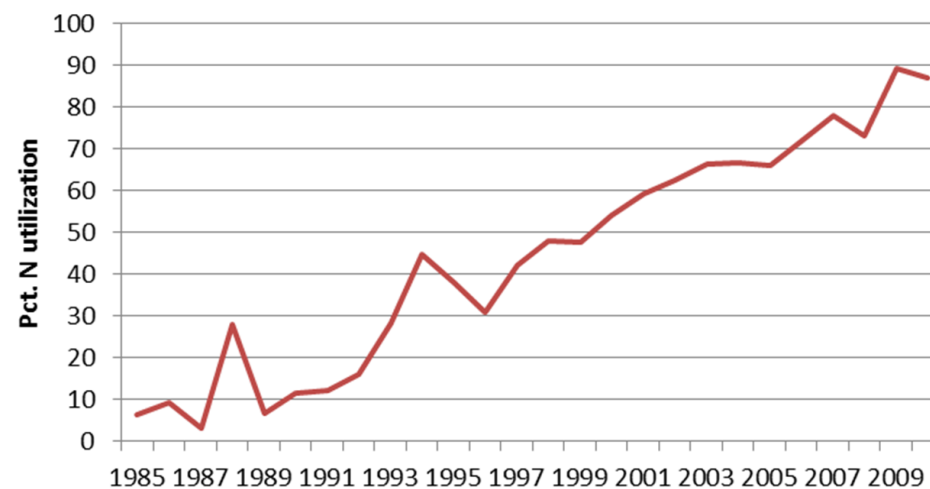


Time	Plan	Significant elements in legislation:
1985	NPO-plan	-regulation of allowed animal unit per ha. - min. storage capacity for animal manure
1987	Water Environm. Plan I	-50 pct reduction in N-leaching from agr. -65 pct "autumngreen fields" -Slurry in autumn only to wintercov. fields
1992	Action plan for sustainable agriculture	-Slurry only to grass or oilseed rape in autumn -Max. N-standards for crops (N-quota per farm) -Min. utilisation of nitrogen in animal manure -Fertilizer plans and -accounts.
1998	Water Environm. Plan II	-10 pct decrease of N-standards (The N-quota) - 6 percent "super" green fields in autumn -15 pct higher utilization of N in animal manure
2003	Water Environm. Plan III	-Target for decrease of P surplus -More wetlands - 10/14 pct. covercrops (10 at <80kg manure-N pr ha., 14 at >80 kg manure N pr. ha)
2011-2013	WFD	-More cover crops -Establishment of wetlands
2016	Agricultural package WFD 2. gen plans	- Area specific regulation based on need to obtain "Good Ecological Quality" - N-standards back to financially optimal levels (gain of ~160\$ pr. ha) - Max. 170 kg N pr. ha (previously 140) for pig production

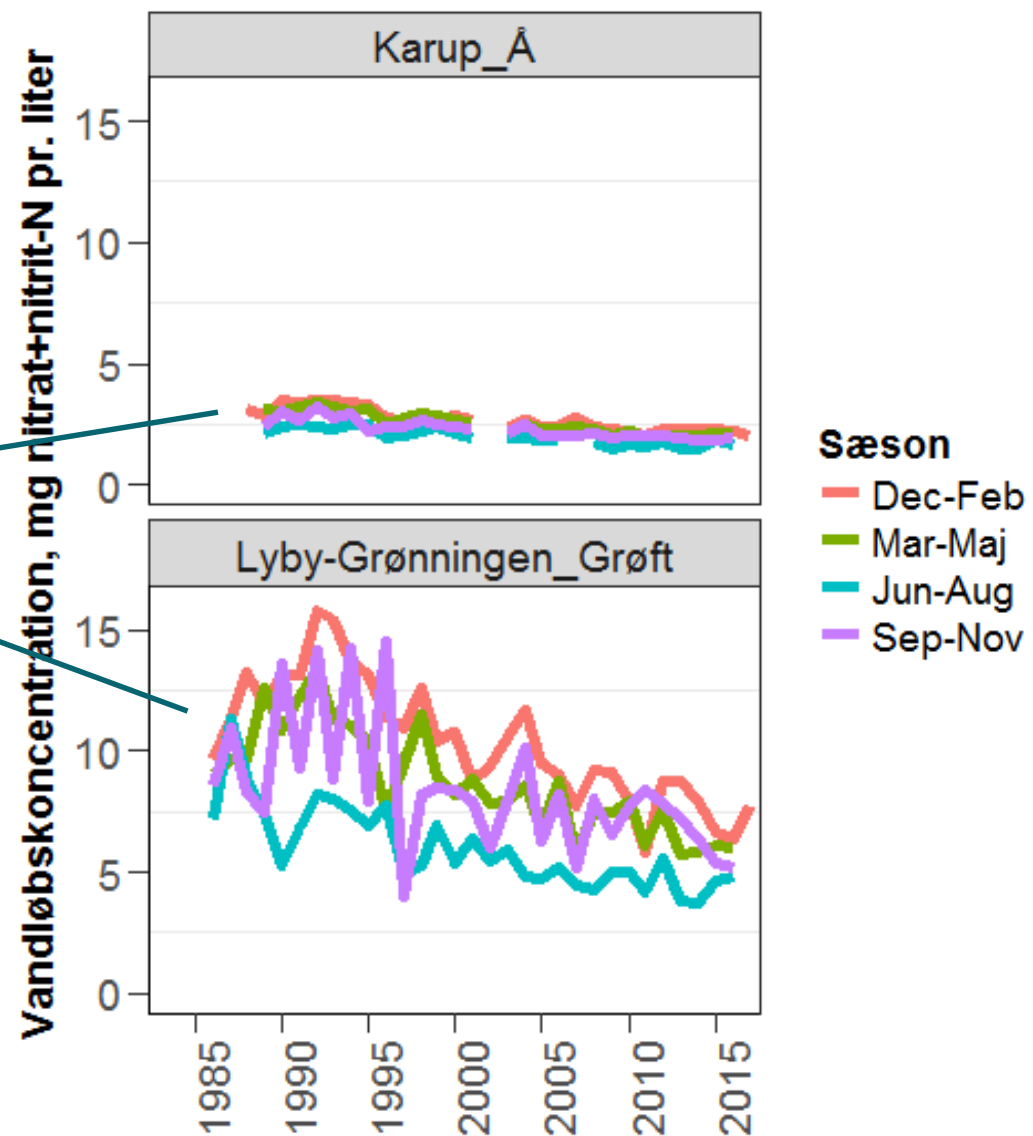
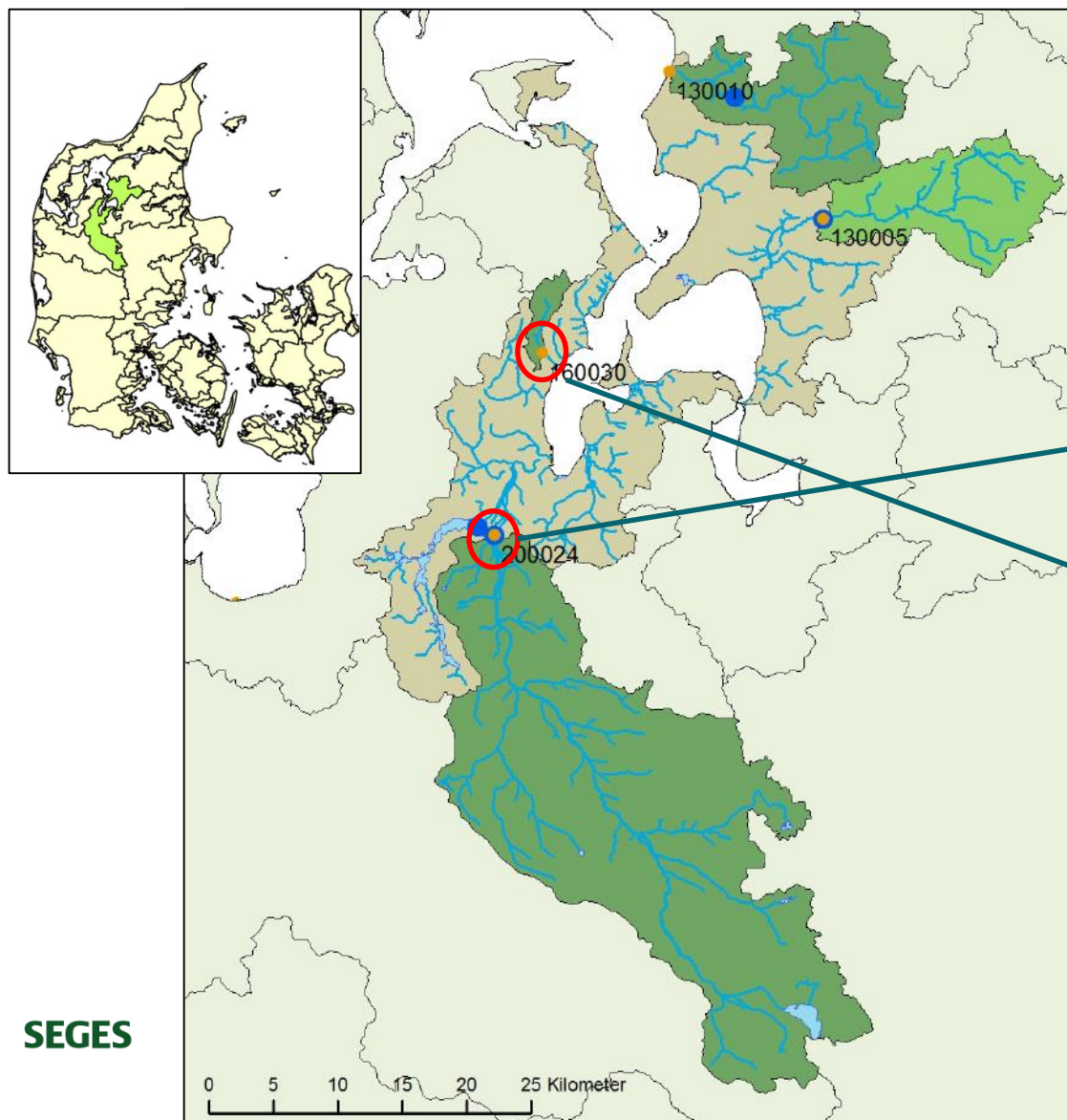
Top down (general) regulation has worked



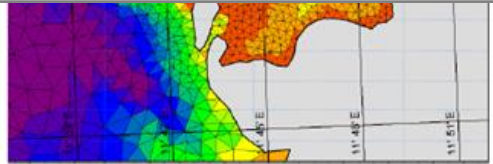
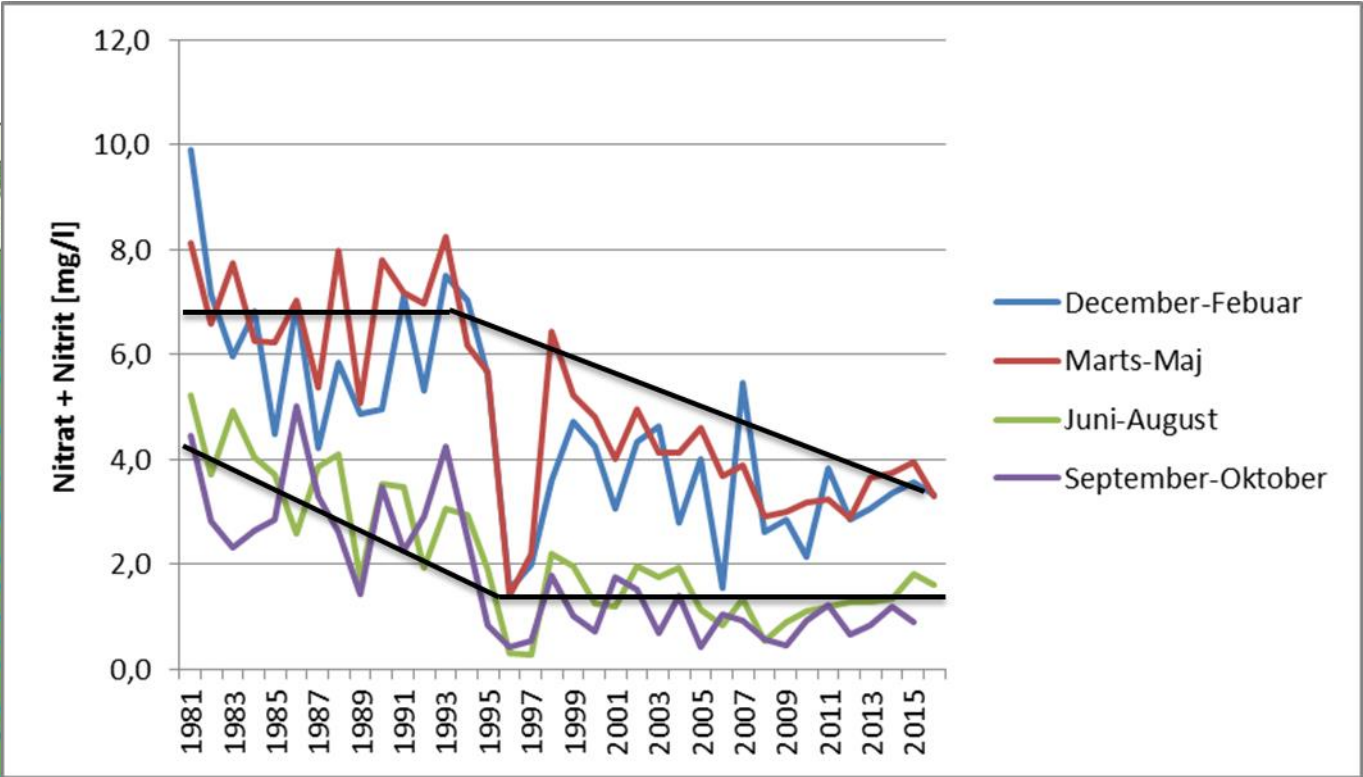
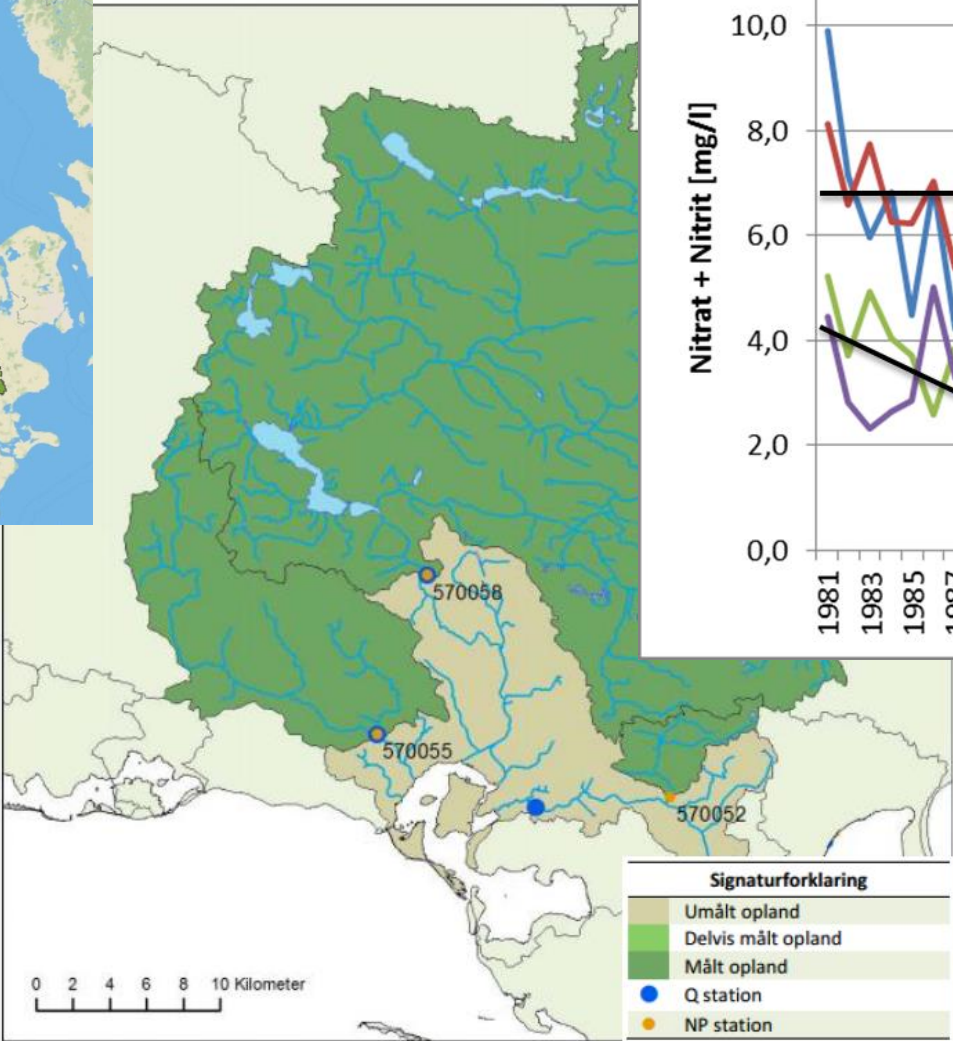
Utilization of N in animal manure



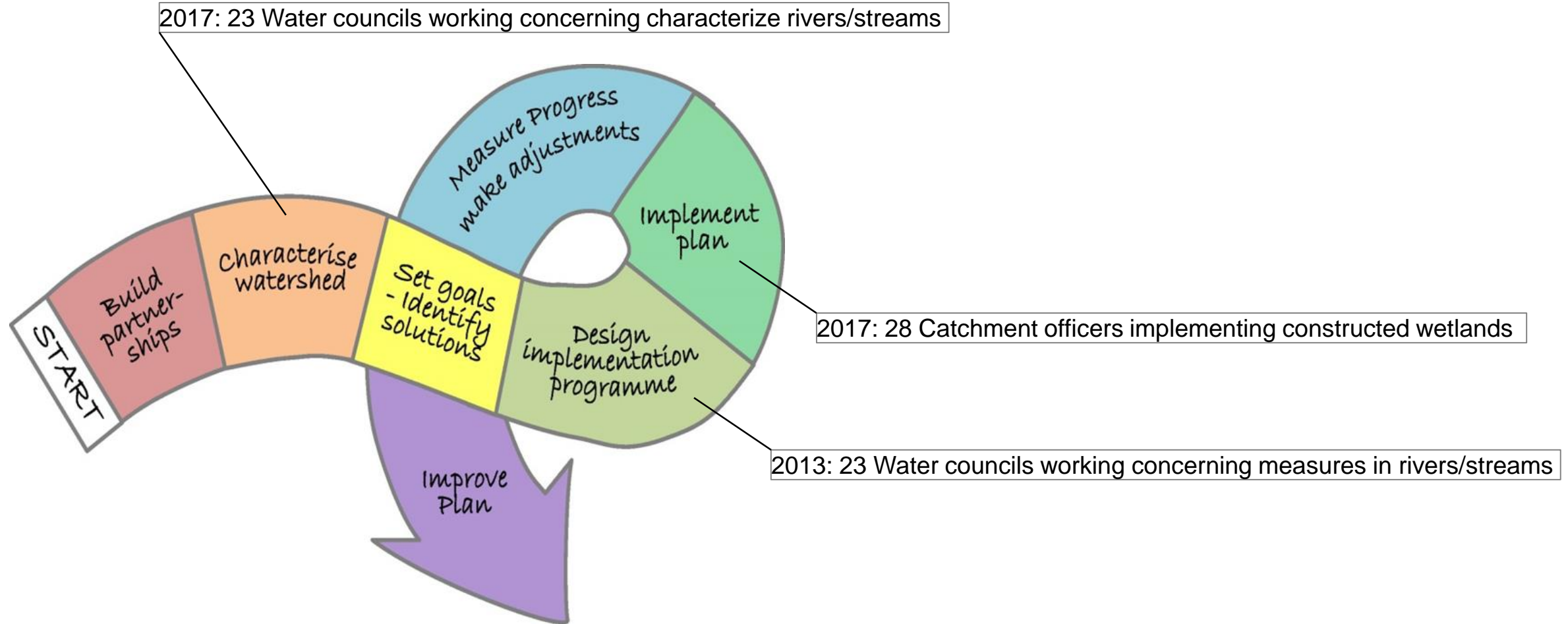
Spatially differentiated response



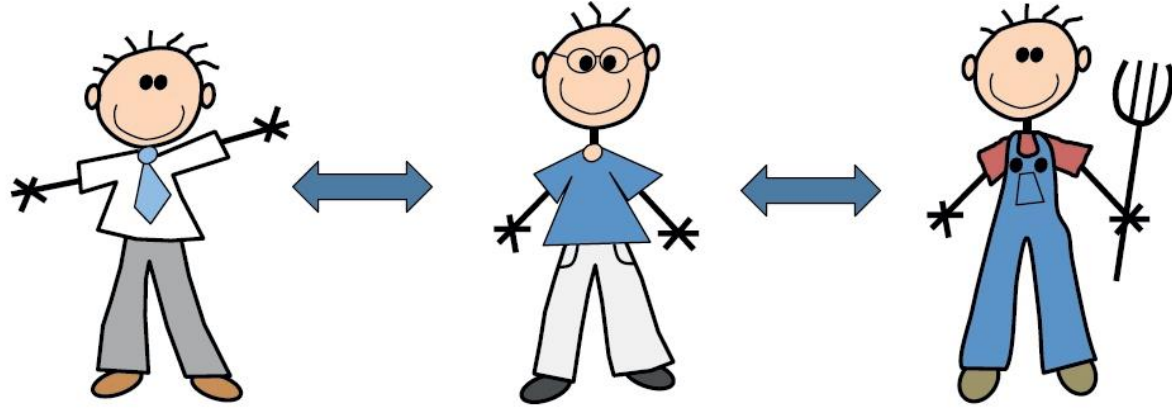
Seasonal differentiated response



Towards local engagement



Catchment officers



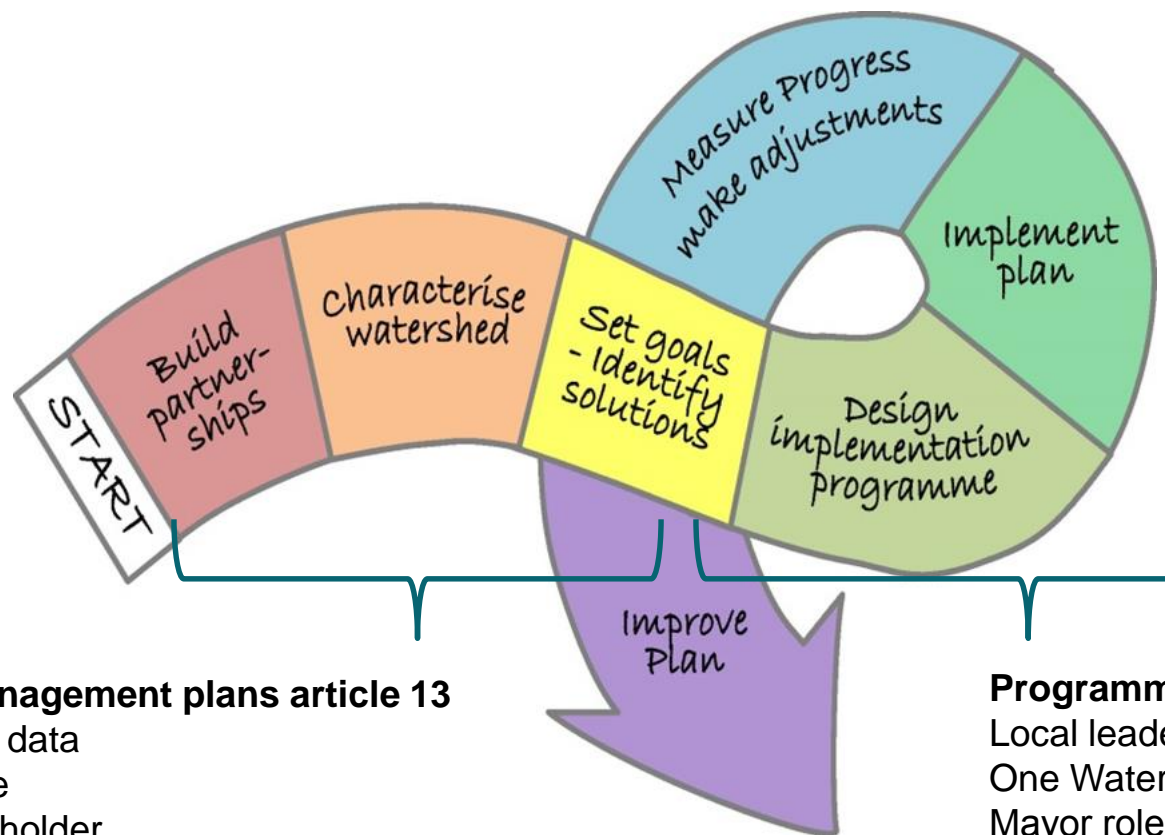
Authority

Broker

Farmer



What is needed



River basin management plans article 13

- Transparency in data
- Local knowledge
- Input from stakeholder
- Transparent process
- Models as dialog tools

Programme of measures - article 11

- Local leadership
- One Watershed one Plan
- Mayor role for "implementation organ"
- Local priorities
- Transparent process

Ownership

