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ASA Fellowship 2025/26 Water Quality Science Communication

Agricultural Science Association Conference 2026

Roots of Resilience - Safeguarding our Food Production model for the next Generation

Thursday, 3rd September 2026

Fellowship objectives

1



To improve my science communication capabilities in water quality science to become a national trusted expert.



2



Investigate knowledge transfer and science communication strategies in water quality and other disciplines nationally and internationally.



3



Conduct a qualitative study to investigate the barriers to the translation of water quality science into translatable messages for the industry.



4



Design a framework to improve the understanding of scientific findings via communication streams applicable to all stakeholders in the agri-food industry.

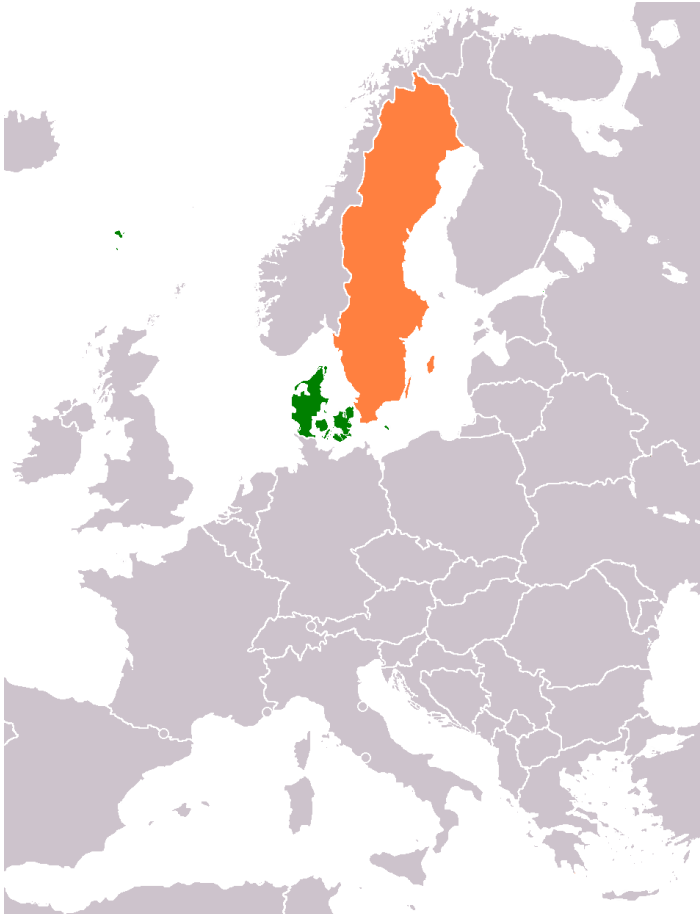
5



Write a report and presentation for the ASA conference 2026.



International research



Type of mitigation measure	Denmark	Norway	Sweden
<i>Crops, vegetation and soil cultivation</i>			
Wintergreen cover	L	–	L
Catch crop	L, S	S	S
Buffer zones	L, S	S	S
Soil tillage in spring instead of autumn	L	S	S
<i>Manure and fertilisation</i>			
Livestock density	L	L	L
Manure storage capacity	L	L	L
Nutrient balance at farm level	L	–	–
Nutrient balance at field level		–	–
Periods allowed for spreading of manure	L	L	L
Incorporation of manure in soil after spreading	L	L	L
Spreading of manure and fertilisers in vulnerable areas	S	–	L
<i>Infrastructure investments on arable land</i>			
Restored/constructed wetlands	S	S	S
Liming with gypsum or lime	–	–	S
Controlled drainage	–	–	S
Renovation of drainage systems	–	S	–
<i>Other</i>			
Advisory service on nutrient management	–	–	S

*Legislation (L); Subsidy (S)

Kyllmar et al. (2023)



Greppa Näringen (*Focus on Nutrients*)



- Established in 2001 to achieve Swedish environmental objectives specifically eutrophication
- Programme is characterised by:
 - Voluntary participation (50% FT Swedish farmers > 50 ha, >15 LU)
 - Repeated farm visits
 - Farm specific measures – environment and economic impact
 - Communication & training (twice weekly news, events)
 - Expectation is that it will take time (inform farmers of progress)





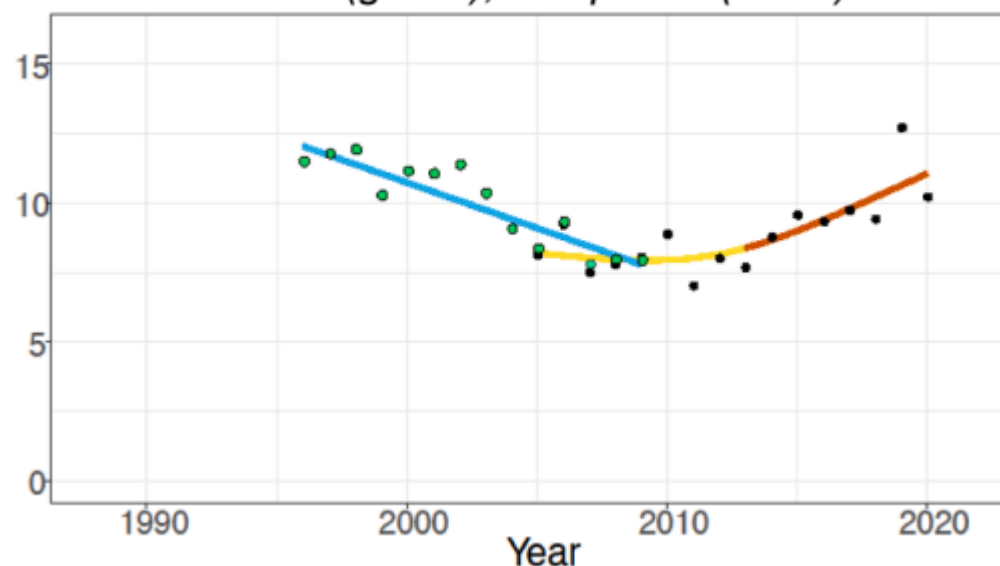
Greppa Näringen (*Focus on Nutrients*)



First decade of progress

		Change in surplus	
Farm type	No. farms	N/kg/ha	P kg/ha
Crops	919	-5.4	-1.6
Dairy	1045	-10.4	-1.4
Pig	186	-13.0	-6.1
Beef	124	-0.9	-2.2

c) TN (mg L⁻¹) in SE-N34
discrete (green), composite (black)



Kyllmar et al. (2023)





SEGES Innovation



- SEGES Innovation is an independent research and innovation company – science and digital technologies for sustainable and competitive agriculture and food
- Communications approaches:
 - » SEGES TV
 - » SEGES Facebook
 - » SEGES Podcast
 - » Annual research congress pig, plant, dairy & beef
 - » Landbrugsinfo (farms and advisors technical support)
 - » Digital solutions – up to 11 applications
 - » SEGES LinkedIn/ Instagram
 - » segesinnovation.com





SEGES TV

SEGES
INNOVATION



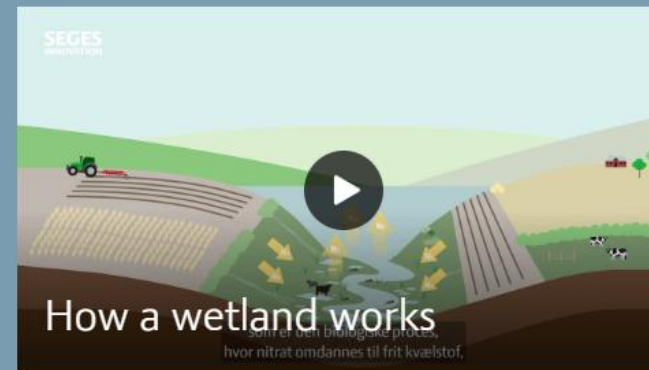
New nitrogen regulation



Your work in the field



Nitrogen reduction



Stakeholder insights



Current WQ Science Communication

- High quality scientists and robust science
- High trust in Irish research institutes and EPA
- Abundance of research and explanatory science



What is Effective Science Communication

- Empathetic starting point builds trust
- Successfully targeting an audience with a clear message that results in behavioural change



Barriers to effective WQ Science Communication

- Sheer volume of regulatory framework, acronyms, units used
- Below ground processes – invisible aquifers, water flows, delivery paths, impact on water quality in the absence of a water course
- Technical scientific information presented at appropriate level for research and regulators but overwhelmingly dense for advisors, farmers, media, non experts

"We've come a long way in water quality communication... like there's been a massive change, but having said that, we're still only really scratching at the surface... the reach of that messaging is the problem."

"I think it's understanding where the farm is coming from, these are businesses, they are families with worries and financial constraints... establishing a kind of a trusted, empathetic start point... you have to show that you care before you can show what you know..."

Stakeholder insights

Challenges

- 
- Conflicting messages, fear of pollution swapping
 - Delivery is siloed – integration with other environmental metrics & economics
 - Water quality fatigue
 - Shortage of dedicated science communicators with science & media training
 - Missing actors – general public, older farmers, hard to reach farmers

What is working well

- 
- ASSAP, one-to-one advisory service, farm walks, peer-to-peer.
 - Story telling – with researchers, farmers, advisors via testimonials video, TV, farm walk, print, Our Food Roots
 - Industry collaboration

Further development

- 
- Critical point – ASSAP, EIP, BFFW, ACP, Waters of Life
 - Utilise researchers more in public domain – trusted
 - Acknowledgement of progress and success to build momentum
 - Science communication training, researcher, advisors, farmers

"...just because you read something... there's a low probability that that will lead to a behaviour change... That comes from the more peer-to-peer communication methods....."

"I'd be concerned that less and less farmers will want to share their story... This polarising narratives around water quality... Scientists are becoming more cautious about going on the record and speaking out. So that's a real concern..."

Recommendations

- Dedicated Science Communicators – media trained catchment scientists/ scientists
- Multiple platforms, tailored messages – mass communication/ awareness v technical uptake and behavioural change
- More agricultural scientists in general media
- Need to target missing actors – public, schools, hard-to-reach farmers
- Integrated information – environmental metrics plus farm production and economics
- Empower farmers – training and a platform

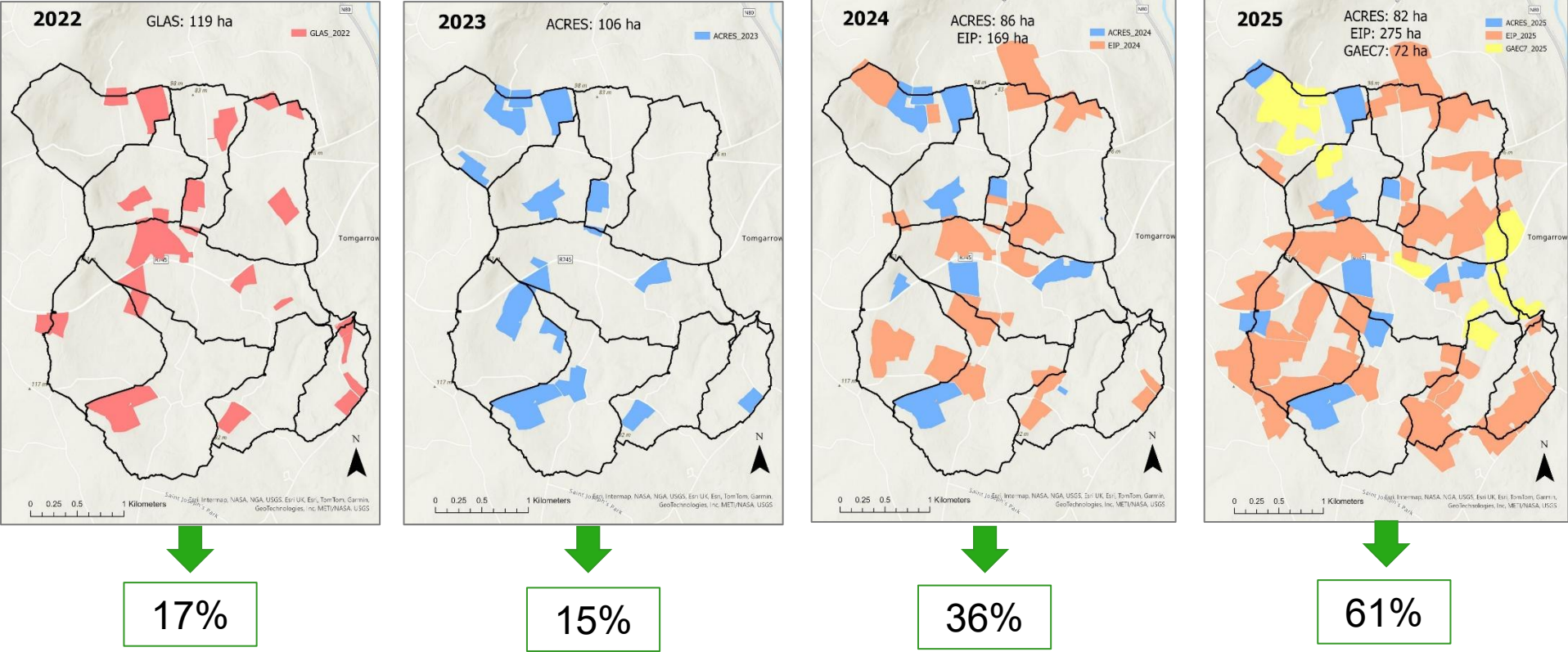


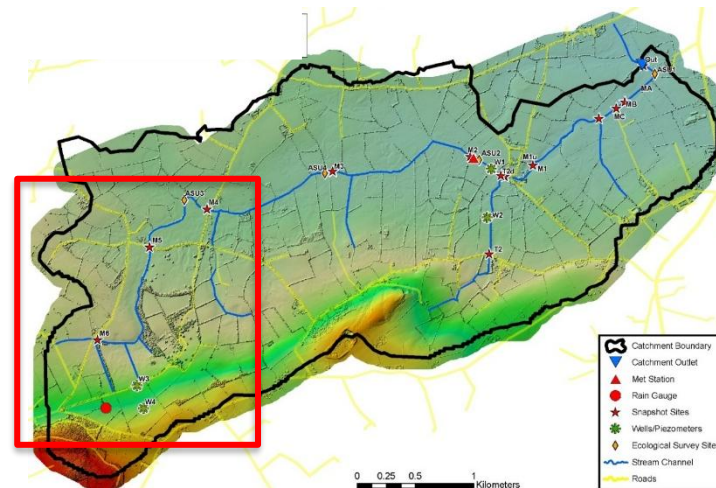
Recommendations – Story Telling

- Language – visual, emotional and logical
- Data – under stable, identifiable, applicable narrative
- Metaphors to aid comprehension



Catch crop area sown via Agri-Environmental Schemes/ EIP 2022-2025





- Riparian area across scheme 
- Hedge with earthen mound 250mts 
- Bunded drains 
- Small ponds 
- Swale 
- Riparian buffers 0.2ha 
- CSA 3ha 
- Water troughs 
- 1000mts sheep fencing 
- Hedge 250mts 
- 3mt grass margin 
- Gateway relocation  



Acknowledgements

- ASA and FBD Trust
- SLU, Greppa Näringen, SEGES Innovation, Aarhus University
- MKC Communications, Whipsmart Media
- Interviewees
- Teagasc

