

Better integration of Agricultural Practice and Groundwater Protection

Web-conference Nov., 18th 2020 - Session 1

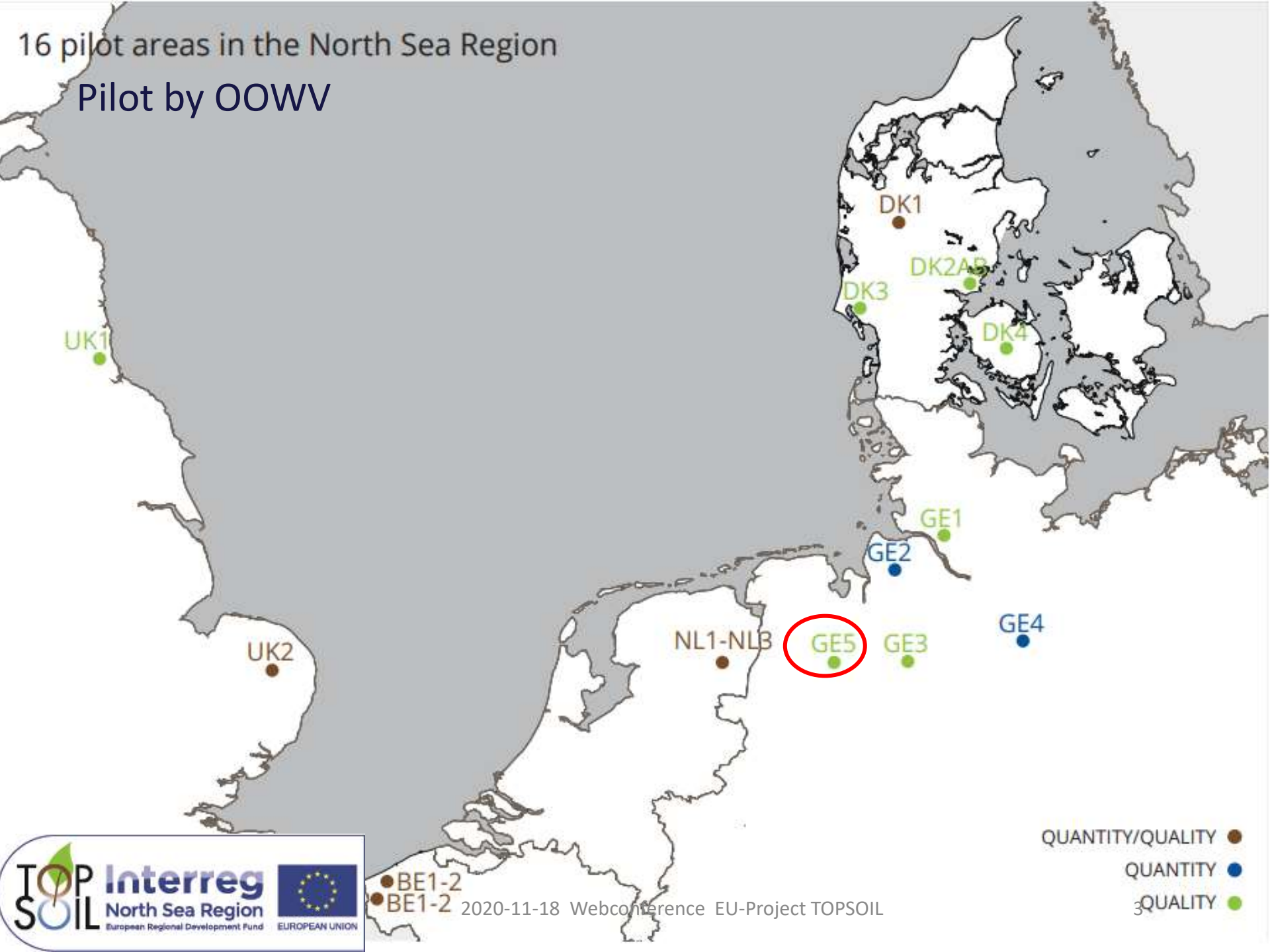
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What was our task within the TOPSOIL Project?

→ Enabling Farmers to better protect the groundwater from nitrate (and veterinary pharmaceuticals →BGR`s pilot)

16 pilot areas in the North Sea Region

Pilot by OOWV



TOP SOIL Interreg North Sea Region European Regional Development Fund EUROPEAN UNION

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How was the setting when starting the project?

- Groundwater quality in water protection areas of the OOVV failed the quality aims of the EU nitrate directive
- 20 year old compensation scheme of Voluntary Agreements was not successful due incoherence in legislation
- Growing numbers of bioenergy plants (..) and missing regulations in the field of animal husbandry impaired groundwater quality

How is the setting now?

- Drinking water quality is still very good, but groundwater quality in water protection areas of the OOVV failed the quality aims of the EU nitrate directive
- 25 year old compensation Scheme of Voluntary Agreements was not successful due to bioenergy plants and missing regulations in the field of animal husbandry
- Water quality problems stayed and water scarcity occurred on the todo list latest
- EU accused Germany of not fulfilling the EU-nitrate directive
- National water dialogue was set in place by the federal ministry of environment

In 2019 Federal Ministry of Agriculture (...) released new regulations regarding fertilization to come into effect in 2021

- Administrative regulations regarding identification of so-called „red areas“ of high vulnerability and high immission rates were released November 3rd, 2020
- Definition will be done via combination of monitoring data and modelling
- Prescription to reduce fertilizer input in „red areas“ by 20 % on farm level
- Maximum of 170 kg N/ha now on each plot
- Longer blocking periods for spraying manure
- Catch crops without fertilizer (exception when producing fodder)
- Maize and other summer crops need a winter catch crop
- No manure on winter-barley and winter-rape in autumn

Additional regulations up to the “Länder”

- Additional regulations vary from federal state to federal state in Germany
- Not yet clear in Lower Saxony, whether or not data of observations wells from water supplier are considered while identification-process of the „red areas“, but
- New scheme called “Lower Saxonian way (Der Niedersächsische Weg) of nature-, wildlife-conservation and water protection” is focussing on surface water and will be paid by water abstraction charge → water-consumer is financing the farmers

How are the perspectives regarding groundwater?

- Water protection areas are not for sure within the “red areas”
- Maps with “measles plots” will make it more difficult to manage cooperation agreements
- Polluters Pay Principle has been turned upside down while designing the “Lower-Saxonian Way”
- The spread of Maize will be bigger → N-load will be bigger too, due to late harvest
- Resource for drinking water needs even more protection regarding quality and quantity
- The topic of “reducing pesticides” slowly enters the scene
- New answers are needed to urgent questions asked by climate change

What has the TOPSOIL pilot GE 5 achieved meanwhile?

- We developed a new scheme of compensation together with farmers
- Replacing the old-school- rules of paying for participation and implementing measures in the scheme of cooperation and voluntary agreements
- *New:* The effort of changes in management is recompensed while paying for success regarding reduced immission of nitrate on farm level
- The EU-project works as a catalyst, contributes with funding for monitoring costs and funding for soil maps for the farmers - Funding the farmers is paid by the water supplier OOVV
- An organic farmer joined the group. Now 5 farmers with app. 200 ha are participating
- Main parameter for measuring success is the content of mineralized Nitrogen in soil in autumn

What makes the difference?

- Farmers are free regarding crop rotation and fertilization, ploughing or not ploughing
- Close cooperation with advisors and experts
- Meetings to exchange
- Farmers start thinking of changing management practice to achieve as much money as possible and to be as good as possible

Did we implement “integration of agricultural practice and groundwater protection”?

Agricultural practise

Drivers:

- Yield/ profit
 - Personal income of private enterprise
 - Investments for future competibility
 - Heritage to future generations
 - ...

Groundwater protection

Drivers :

- EU-legislation
 - Avoidance of contamination and exploitation
 - Caring for mens future living conditions
 - Preserve natural heritage
 - ...

GE 5- Project: enabling farmers to

Did we implement “integration of agricultural practice and groundwater protection”?

- We started “blue farming”
- Specialization of the farms **to earn money substantially** from groundwater protection - among other key aspects of the farms production like pig production or sugar beet production
- We only focussed on nitrate in TOPSOIL phase 1 and additionally on reduction of pesticides in the extension of TOPSOIL
- Yes, we started with “integration of agriculture and groundwater protection” on a small scale

How to upscale the method to bigger areas?

- We are promoting the TOPSOIL-model to the ministry of environment
- We work for opening the list of measures within the agri-environmental-scheme towards the TOSPOIL-model
- We do advertisement within the cooperation for Voluntary Agreements for the TOPSOIL-model
- We work for the possibility of opening the scheme to organic farms, while upgrading organic farming (no potatoes in october...) given that “Blue farming” is already in place, because organic farms comparatively are realizing water protection (...no pesticides),

Will we have the same effect?

- We are talking about a voluntary scheme, which can only be as good as the new regulations on fertilization show better monitoring data
- Blue farming either on organic farms or on common farms needs the conviction of the farmer him- or herself
- Training plays an important role
- Expansion of farming in an organic way is depending on marketing, processing, advisement, cooperation with other members of the sectorthere are limits!

What is missing? - Findings from a scientific thesis within research project STEER (supported by BMBF), as part of the funding measure “Water as a Global Resource” (GRoW)

Franziska Meergans (University of Osnabrück) et al. in cooperation with University of Kassel and “ecologic” (2020):

Overcoming coordination gaps between water, energy and agricultural policy: Future paths to water protection in Weser-Ems

- improve legislative coordination in the water, energy and agricultural sectors,
- expand and promote successful (local) projects (e.g. whole-farm approach),
- transform intensive farming into business models combining profitability with ecological compatibility (e.g. organic farming),
- support this by integrating practical knowledge into the development of new policy instruments, and
- elevate water protection issues in agricultural training.

How to carry on?

- Climate change and growing of the worlds population will ask for higher crop production in a sustainable way
- Not solved problems in terms of water quality and water quantity will be aggravated by climate change
- More data needed to proof the effect of the TOPSOIL-model
- A 3 to 5 years project is too short to produce results from experimental field studies
- Efficient measures for all aspects of the water cycle are needed to get implemented immediately
- TOPSOIL Project is already a symbol and therefore needs a second phase

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*Vielen Dank für Ihre
Aufmerksamkeit.*

Mange tak
Thanks for your attention

