

## DENMARK

### Main results of the second focus groups in case area at Fangel Inn 10 December 2019



Second focus group meeting 10. December 2019 in Waterdrive, Fangel Inn Fyn. Fotos Frank Bondgaard, SEGES

### Main tasks/goals of the focus groups

Implementation of [environmental measures](#) with main focus on end of pipe solutions. Next step can be discussion of wetlands and more forest.

### Strategic planning of focus groups (what to do when and how?)

Next steps:

The catchment officer will together with the landowners, the municipality and SEGES look deeper into the good locations for environmental measures in the case area in 2020. (SEGES and the catchment officer)

Field excursion to Haderslev 26. February 2020 looking at already implemented measures. (SEGES)

Theoretical calculation of environmental effects and costs of the measures in the whole area. (SEGES and the catchment officer)

### **Minutes/resume of meeting**

#### **The main purpose of the meeting**

Discussion of implementation of environmental measures as a first step constructed wetlands, intelligent buffer zones, wetlands and other measures

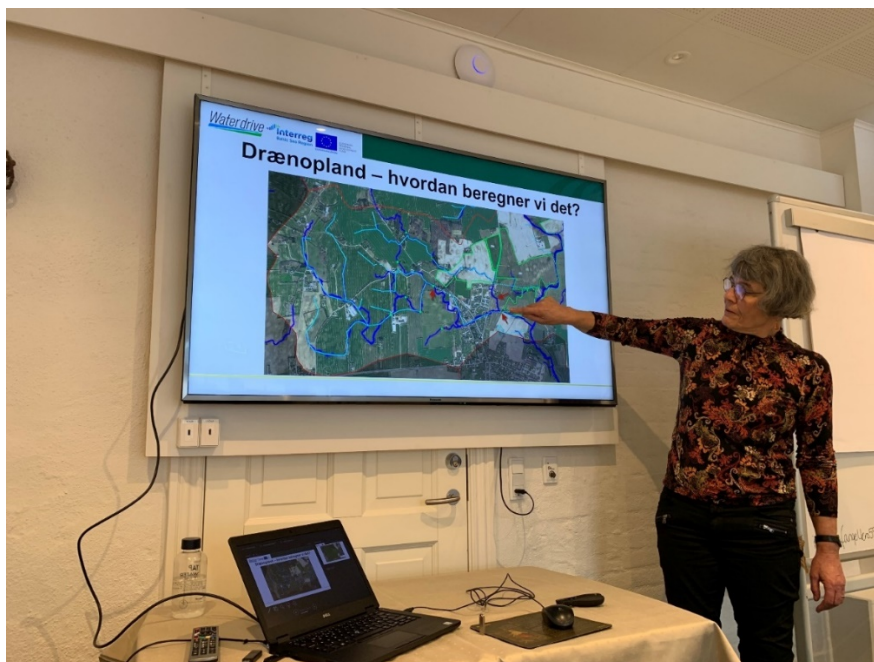
#### **Participants (at least the stakeholder categories)**

5 Landowners, 1 catchment officer, 2 from Odense and Assens Municipality, 1 representative from the farmers union and SEGES

#### **What we learned from the second focus group meeting**

If the landowners have measures working at their own drainage system, it's easier to relate to, because you clean your own drainage water.

It may be more complicated if you have to clean other landowner's drainage water, especially if you need to invest in pumps and have to deliver 1-3 hectares of land to a constructed wetland. The landowner has the cost of maintenance and the cost of buying a new pump when it breaks down. In the case area we have a good example of this challenge. In some cases, the drainage water end at a farmer who don't have so much land.



An example of constructed wetlands with pumps – a challenge. Foto Frank Bondgaard, SEGES

*Suggestions to solve the problem from the landowners:*

They can share the total costs based on the drainage system or the land they own in the catchment area to the constructed wetland, but the area is only partly drained so the farmers think this might be difficult? How much water do I really send to the measure?

We were told by the farmers that pumps are not an environmentally friendly way to clean drainage water. A solution could maybe be to use solar cells/panels? See this [link](#)

Need of contracts between landowners. What is possible in the new CAP?

All installations of pumps need a regulatory permission (Regulerings tilladelse). The owner shall answer these questions very clear.

- a. How do you plan to handle each drain in the area (should they be raised / lowered / rescheduled / disconnected?)
- b. How to establish and regulate inlets and outlets regulated to the constructed wetland?
- c. How is it ensured that the drainage of upstream areas is not changed – backwater in the drainagesystem?
- d. Who is the developer/builder (often the farmer) and who will be responsible for the future maintenance of the constructed wetland?

The municipality could maintain and invest in pumps in the area.

Land consolidation could be a tool. This is possible in the larger wetland projects. The farmer gets new land, but who should then own the constructed wetland and maintain it – the municipality?

A lot depend on pressure, but it rarely results in a good bottom up process.

The landowners at the meeting were very positive about doing something but they need advice to find the right solutions to the problem. In economic terms, it's hard to bind to something which is difficult to see through and what consequences it will have in the future.

### **What worked great?**

Looking at big maps with drainage systems all together at a table and putting flags (potential places) and checkmarks (applications for measures).

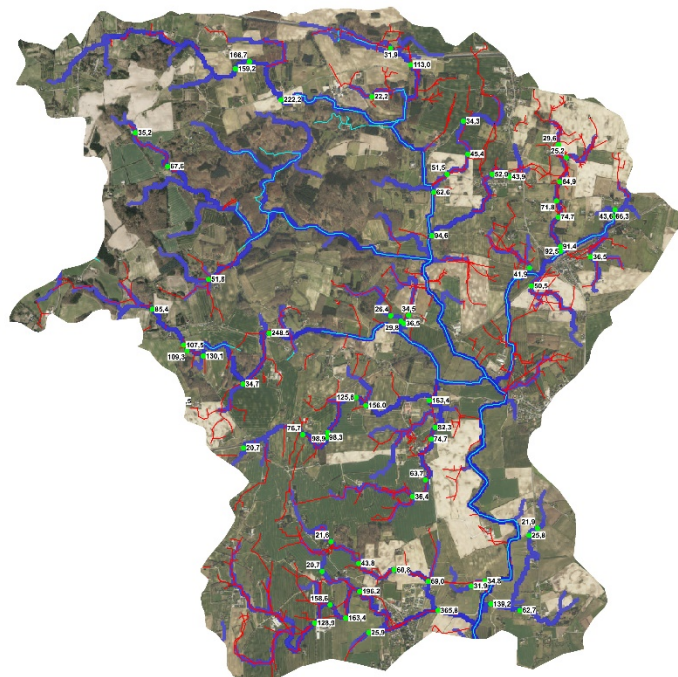


Flags (potential places). Checkmarks (applications for measures).

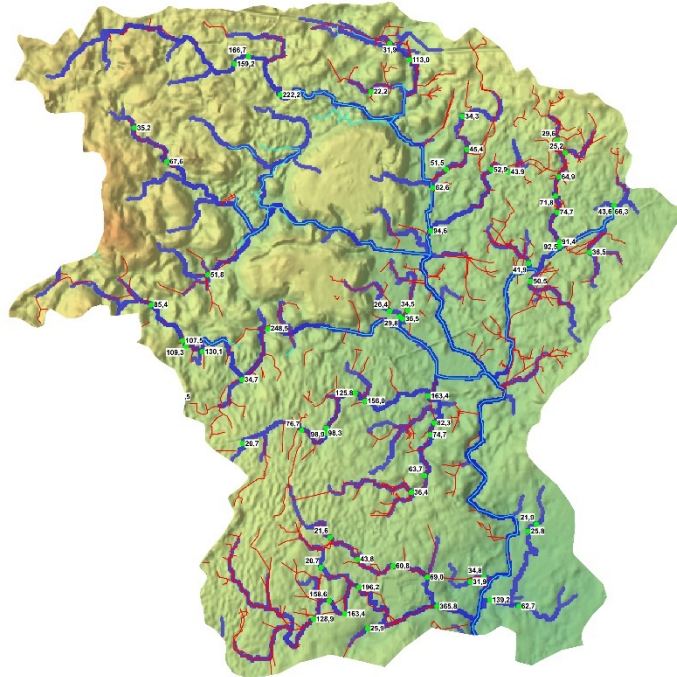
We - landowners, catchment officer, Odense and Assen's Municipality have been working together. Available information and files about the drainage system (red), flow paths (blue) have been put together in poster size maps. The green spots indicate potential places for drainage measures and the number in white squares indicate the catchment area.

Collaboration about the drainage system has strengthened the reliability of the map showing the drainage systems of the catchment area and it strongly indicates that the flow paths in the SCALGO software are a great help to predict the course of the drainage systems in the landscape (in Denmark the drainage systems are only documented in 50-160 year old maps . that are only partially digitized).

At the map we see clear crossings between the drainage system and green spots.



The landscape in Ortho photo with flow paths (blue) drainage systems (red) and potential places for constructed wetlands (green dots) by Sebastian Piet Zacho, SEGES



The landscape in 3D with flow paths (blue) drainage systems (red) and potential places for constructed wetlands (green dots) by Sebastian Piet Zacho, SEGES

### **What might be improved at the next meeting (content, format, facilitation, etc)?**

SEGES has to be much more clear about the costs of implementation of pumps in constructed wetlands.

- Special needs?

### **Possible actions and improvements before and during next meeting**

Investigate the use and costs of pumps. That can be a challenge in an area with very deep drainage systems.

### **Results (actions, measures, ideas, products, etc)**

1 February 2020 all participants are going to Haderslev to see a constructed wetland, constructed wetlands with woodchips and an intelligent bufferzone. We will in the same time have the 3. Focus group meeting In relation to this field trip a third focus group meeting will be conducted.

More field visits all together

2 landowners have submitted applications for constructed wetlands in the area.

## **Conclusions**

More work with potential places in the case area.

2 applications for constructed wetlands in the case area.

Theoretical calculation of environmental effects and costs of the measures in the whole area.