

Results and Recommendations: Water Quality

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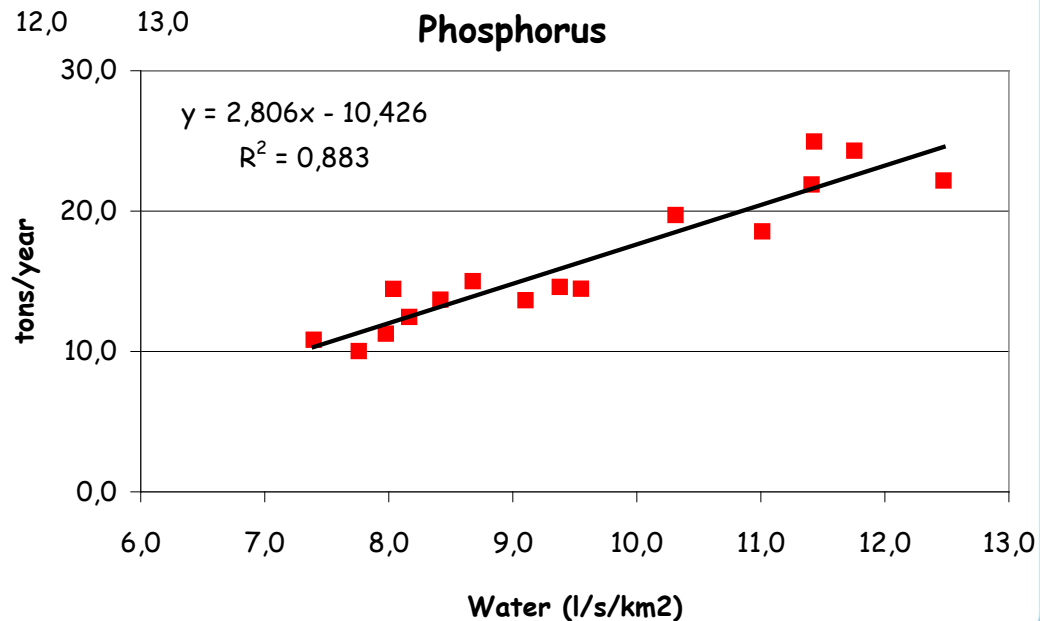
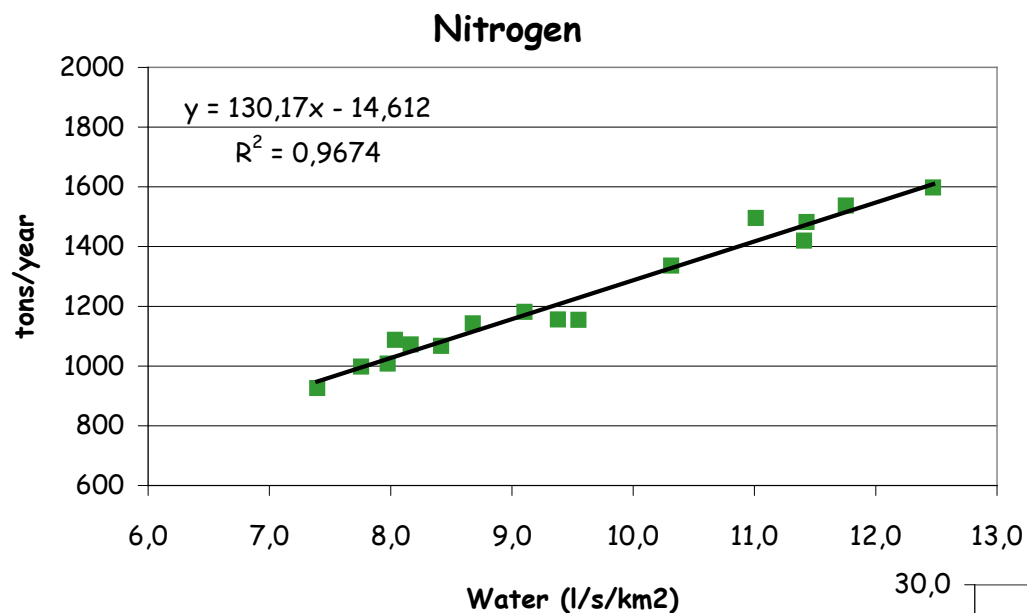
Common challenges

- We have to meet the objectives of the Water Framework Directive and Habitats Directive. Good ecological status of all waterbodies and favorable conservation status of habitats and species
- Climate Changes will make it harder to meet the objectives of the directives.

Common challenges

- Focus quality
 - losses of nutrients to the water environment
- Focus drought
 - quality element: lack of water in rivers and streams
- Focus flooding
 - quality element: losses of nutrient and increased amount of suspended material in rivers.

Danish pilot Mariager Fiord



Quality elements in pilots

- **Norway:** Eutrophication of lake due to Phosphorus losses
- **Sweden:** Eutrophication and oxygen deficit in marine water due to nutrients leaching



Quality elements in pilots



- **Delft, NL:**
Nutrients leaching to water course



- **Denmark:**
Eutrophication and oxygen deficit of estuarine waters due to nutrients leaching

Finding cost-effective solutions



Technical:

What are the technical solutions

Participatory:

How to involve farmers as water managers

Financial:

Where are the win-win solutions



Technical Findings

- Model to target measures to areas with largest nutrients leaching
- Grazing guild
- Catch crops
- Willow production
- GAP for diary farmers
- Constructed wetlands

Technical Findings

- Buffer stripes and nature friendly banks to hold nutrients back
- Use areas while managing flooding to remove nutrients from water course
- Reduced P-content in soil by using less manure and P-fertilizer
- Water managing plans at farm level
- Contracts with farmers

Participatory Findings

- Meetings between farmers, authorities and specialists at catchment area level or with individual farmers.
- Creating local stakeholder group with farmers, authorities and specialists
- Using innovative farmers and demonstration projects as inspiration

Participatory Findings

- Take time to reach clear agreements about the mutual tasks and responsibilities at the start
 - What do we mean when we says farmers as water managers?
- Create a solid technical basis - and make it understood by all parties
- Focus on good communication and building trust.
- Visualisation of ideas and discussion help understanding each other

Financial Findings

- Financial compensation is a strong trigger for farmers to participate.
- Involve stakeholders and seek win-win solutions
- Difficult to find enough Win-win projects
- Even win-win solutions can be difficult to implement - barriers / sociology
- Stakeholder involvement - only cost-effective if it leads to results.

Financial Findings

What is win-win solution?

- Win-win - for who?
 - Individual farmer
 - Farmers in a catchment area
 - Farmers community as a whole
 - The whole society
- Cost-effective measures for society can be damaging for the individual farmer

Recommendations

- Target measures to places with largest effect (cost effective)
- Involve stakeholders in discussions and brainstorming - seek the win-win situations
- Take time to reach clear agreements about the mutual tasks and responsibilities at the start
- Create a solid technical basis - and make it understood by all parties
- Focus on good communication and building trust.