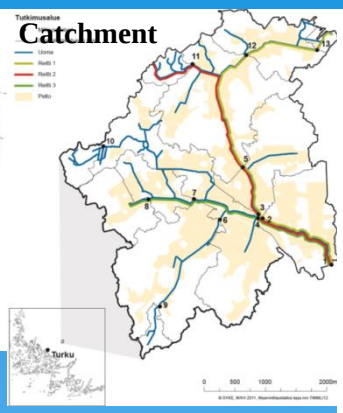
ADAPTING CULTIVATION SYSTEMS TO CHANGING CLIMATIC CONDITIONS AND ENVIRONMENTAL REQUIREMENTS – PRACTICAL SOLUTIONS AND IMPACT MONITORING IN EXPERIMENTAL AREAS

Different scales of agricultural diffuse loading

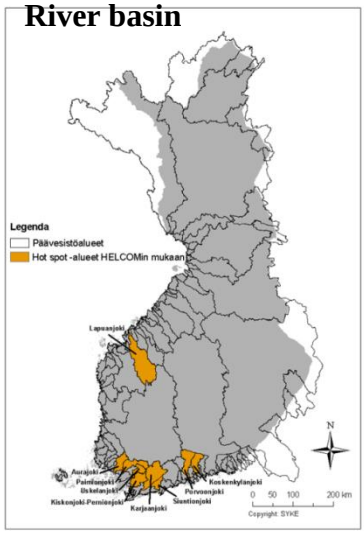
Field block

Drainage area

Catchment



River basin



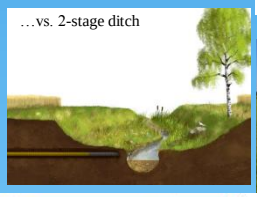
Drainage "property management"

- A new way of thinking
- Drainage co-operation coupled with environmental co-operation
- 2-stage ditches when refurbishing the basic drainage
- Better quality of drainage waters
- Soil tillage, plant well-being
- Local (field-block) drainage & soil structure
- Crop rotation & soil improvement

In the "Shared Waters" project we test and verify the total effects of various agricultural management practices on water quality, productivity and climate change adaptation in a drainage area in southern Finland

Traditional straight, trapezoidal basic drainage ditch

…vs. 2-stage ditch



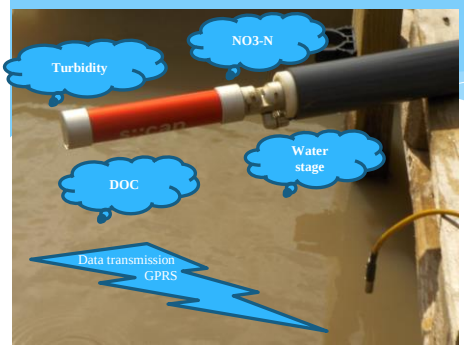
Leppioja 2-stage ditch in Tyrnävä, northern Finland

Target area: Uuhikonoja drainage area in Tammela municipality

- Urgent need of refurbishment in the main ditch
- Field area ca. 300 ha (40% of the catchment)
- 15 farms
- The local drainage co-operative was activated with assistance of the Shared Waters project

Other management practices

- Carbon-binding in fields
- 0-fibers and & structural liming
- Soil structure improvement
- Stabilizing of 2-stage plateaus
- Training of drainage property managers
- Nutrient losses via crop yields: monitoring



Monitoring of the target and reference areas is implemented by continuously recording optical sensor systems

From turbidity by correlation
- Total suspended solids
- Total P

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