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BIOØKONOMI

Monitoring and modeling stream bank stability under different vegetation cover

Dominika Krzeminska
Kamilla Skaalsveen
Tjibbe Kerkhof

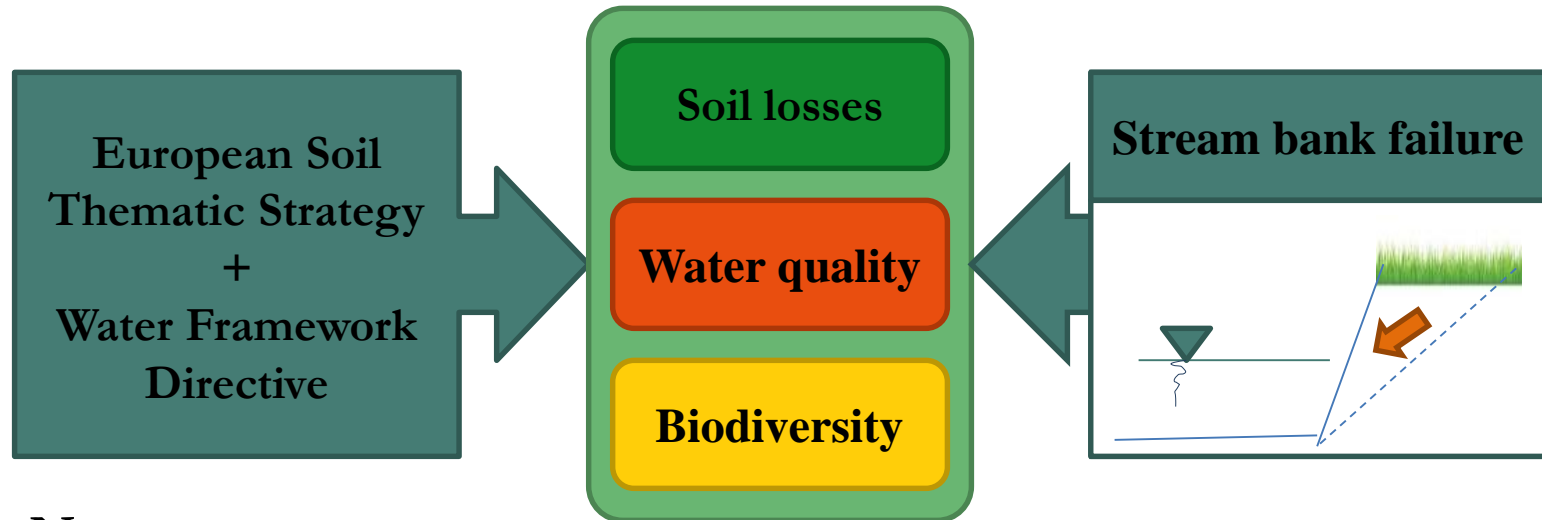


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Stream bank erosion is an important environmental challenge:

- areas along streams are often very productive, and are important habitats for plants and animals
- stream bank erosion is one of the most important non-point source of sediment (e.g. Nelson and Booth, 2002; and Sekely et al., 2002).



In Norway:

- agricultural land covers only around 3% of the total land area → stress on preserving soil quality for food production
- in areas covered by marine clay deposits, the natural soils contain a significant proportion of phosphorus → stream bank erosion = inputs of soil particles and phosphorus to water bodies (e.g. Skarbøvik and Blankenberg 2014).

The area along streams are among the landscape elements that first will notice the impact of climate change in the form of floods and increased bank erosion (??).

The hydrological processes associated with slope stability are complex, especially because their transient effects.

Vegetation influences the stability of the slope by both hydrological and geo-mechanical aspects depending on vegetation type, site-specific conditions and time (Bogaard and Greco, 2015).



Knowledge about this processes is necessary to cope with climat change adaptation mesures.