Peatland Conservation and Wise Use in the Context of Climate Change

Research and major gaps

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This revitalisation needs a lot of time; often far away from the human perspective!
Research is highly benefiting from human weaknesses

Impatience
(„Thinking in legislative periods“)

Dissatisfaction
(„We do not get what we want“)

Conflicts of interests
(„We are not accepting other ideas“)
“The methane obstacle”

Figure: Groundwater levels and annual CH$_4$-C emissions

Tiemeyer et al. 2014

Shallow lake

100 g CH$_4$-C
$\approx$ 764 g CO$_2$-C
$\approx$ Arable land or intensive grassland

Figure: Groundwater levels and annual CH$_4$-C emissions
How long we have to expect “warming sites”?

A „late“ inundated phase with „neutrality“ or „cooling effect“ only if rewetted sites become terrestrialised???

In case of detailed interest on our findings please check our recent publication in Biogeosciences (Zak et al. 2015).
How to kill three flies with one stone?

Sulfate removal by reed bed using highly degraded peat at lake outflows???

Sulfate + Fe + DOC = FeS

What else can we do with degraded peat?

Top soil removal drops down matter fluxes by factor 10 to 100 (Zak et al. in prep.)

River

Spree

Research for the future of our freshwaters
Find opportunities to harmonize restoration and economy, however be careful with the „Big Market“!

Water buffaloes in rewetted mires (Mowing and Mozzarella)

Usage of Alnus wood for furniture

(V. Luthardt 2015)