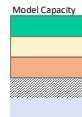


**Appendix 2.5. The applicability of various models to simulate the effect of mitigation measures on water and mass retention/transport within the landscape**

what is possible to simulate	CATCHMENT-SCALE MODELS											Field-scale models**											
	Process-based models										Empirical models			Process-based models									
	Event-based hydrological models		HBV day	PERSIST day	INCA_X day	HYPE day	SWAT day	SWAT+ day	APEX	MikeShe	Agricat year	SPARROW year	MESAW	SWAP hour/day	Hydrus-1D hour/day	Hydrus-3D hour/day	DrainMod	CropSyst	Daisy	COUP	EPIC/APEX		
	LISEM min/hour																						
Hydrology																							
Erosion / sediment transport																							
Nitrogen																							
Phosphorus																							
<b>MEASURES</b>																							
reduced tillage-no tillage in autumn																							
no tillage in the areas with high flood and/or erosion risk																							
reduced tillage - incl. direct sowing																							
catch crops as a subculture																							
organic soil amendments instead of mineral fertilizer																							
Nutrient Management (rate, source, time, placement)																							
Cover Crops (different from catch crop)																							
Crop Rotation																							
Rotational Grazing/Pasture Grazing management																							
Land Conversion (to pasture/grass, to forest, to crop, etc.)																							
grass covered buffer zones																							
grassed waterways																							
drainage (including ditching)																							
erosion protection around manhole/pipe outlets																							
new trench ditches																							
controlled drainage																							
grass cover in the areas with high flood and/or erosion risk																							
establishing constructed wetland																							
maintenance/emptying of constructed wetland																							
Channel check dams																							
Terraces																							
Sedimentation Basin																							



The processes / measures can be directly implemented in the model

Model has no direct option to implement the measures, but there are indirect tool to represent its effect

The model can not account for the processes / measures

Uncertain

For field-scale models the out-field measures are not relevant, as the scale of the models does not match the scale of the measures

Continuously being updated by Csilla Farkas, Dominika Krzeminska, Remegio Confesor and Robert Barneveld,

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