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Supplementary material

Waterlogging and soil reduction impact the amount and apparent molecular weight distribution of dissolved organic matter in wetland soil: a lab-scale study

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Table S1. Soil sample characteristics

Major elements (%)											
SiO_2	Al_2O_3	Fe_2O_3	K_2O	Na_2O	CaO	TiO_2	MgO	P_2O_5	MnO	Cr_2O_3	Loss On Ignition (LOI)
53.01	10.04	3.09	1.42	0.84	0.63	0.63	0.34	0.25	0.02	0.006	29.60

pH_{KCl}	pH_{water}	Organic matter ($g.kg^{-1}$)	Total C ($g.kg^{-1}$)	Total N ($g.kg^{-1}$)	Total organic P ($g.kg^{-1}$)	CEC (meq.100 g^{-1})
4.2	5.4	200	116	9.06	1.98	13

Granulometric composition (%)		
Clay	Silt	Sand
34.6	34.9	30.5

Table S2. Sequential extraction procedure for Fe– and Mn–bearing solid phases

Step	Target phase	Extractant	Procedure/duration	Reference
F1	Loosly adsorbed	1M sodium acetate pH 8.2	2h shaking	(Tessier *et al.* 1979)
F2	Strongly adsorbed	0.05M sodium phosphates pH 5	16h shaking	(Wenzel *et al.* 2001; Keon *et al.* 2001)
F3	Carbonates bound	1M sodium acetate pH 5	5h shaking	(Tessier *et al.* 1979)
F4	Amorphous Fe, Al and Mn oxyhydroxides	Tamm's reagent (0.2M ammonium oxalate /oxalic acid pH 3	2h shaking in the dark (performed twice)	(Keon *et al.* 2001)
F5	Crystalline Fe, Al and Mn oxyhydroxides	0.2M ammonium oxalate /oxalic acid + ascorbic acid (0.1M) pH 3.25	30 minutes in the dark at 96°C (performed twice)	(Wenzel *et al.* 2001)
F6	Associated with OM and secondary sulfides	30% H_2O_2+ 3.2 M ammonium acetate pH 2	1) 2 h 6ml of 0.02 M HNO_3 and 10 ml of 30% H_2O_2 (pH 2) at 85°C for 2h, 2) 6ml of 30% H_2O_2 (pH 2) at 85°C for 3 h, 3) 10 ml of 3.2M NH_4OAc in 20% (v/v) HNO_3 for 30 min	(Tessier *et al.* 1979)
F7		HCL+HNO_3 digestion		

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