Supplementary material

Title: Methane and nitrous oxide emission fluxes along water level gradients in littoral zones of constructed surface water bodies in a rewetted extracted peatland in Sweden

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Figure S1. Drained peat extraction site (front) and rewetted site (back). Picture: Hasselfors Garden.

Figure S2. Schematic transect over the littoral zone of the constructed shallow lake (rewetted peat extraction site).

Figure S3. Examples of methane concentration time series during chamber closures.

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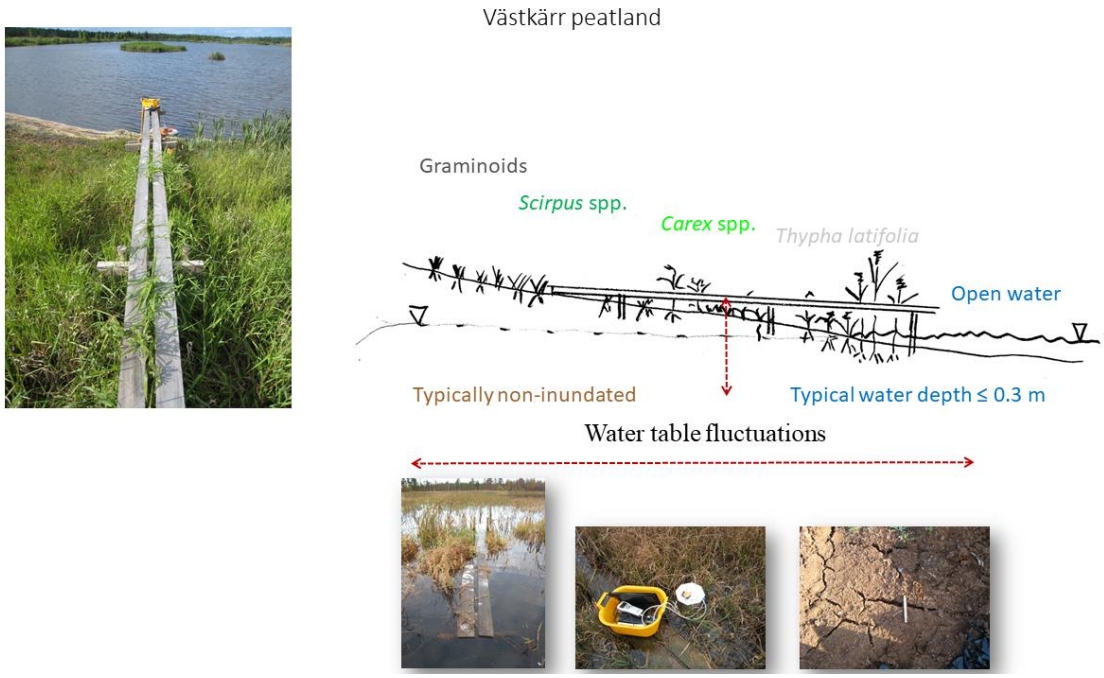

Figure S2. Schematic transect over the littoral zone of the constructed shallow lake (rewetted peat extraction site).

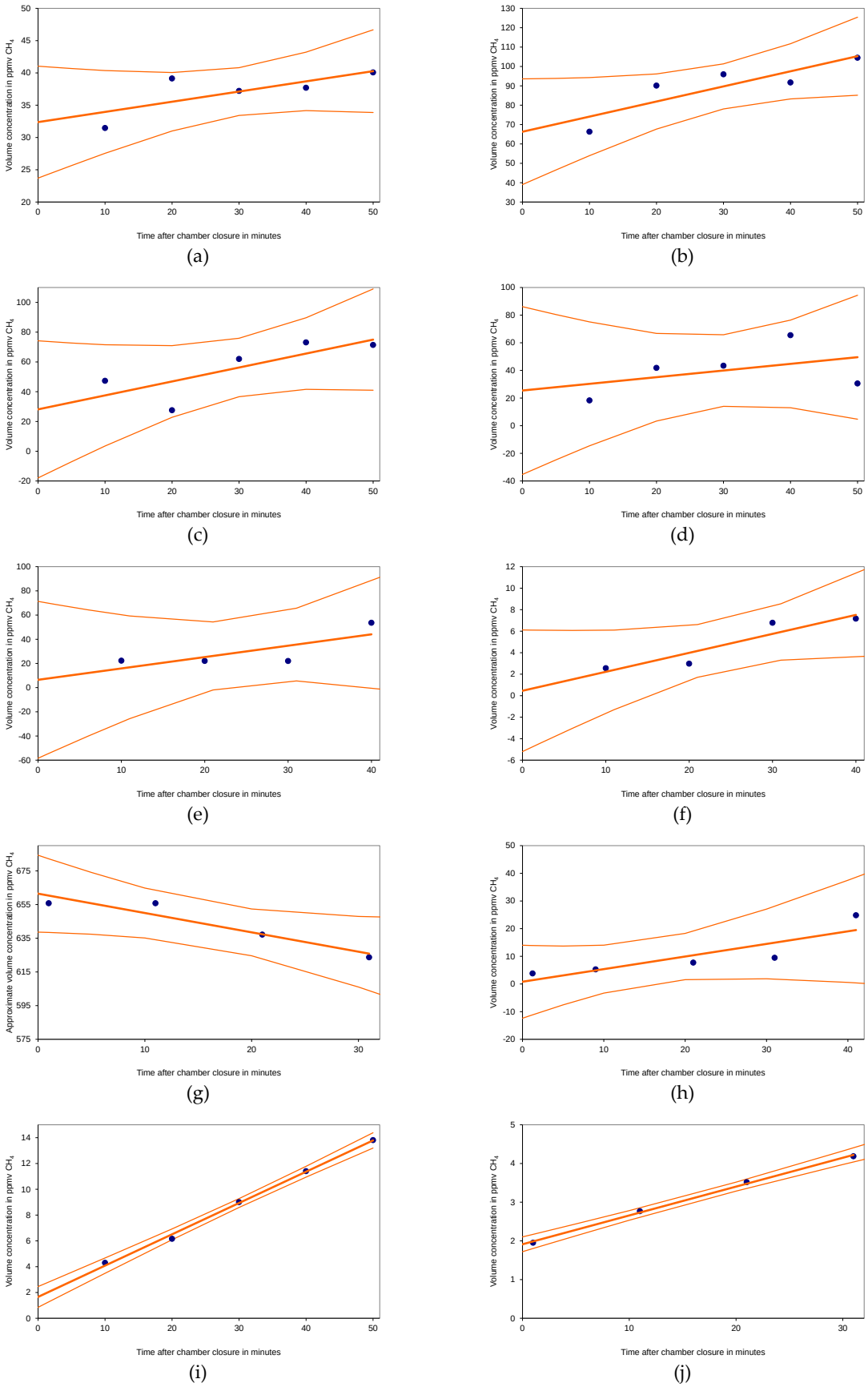

Figure S3. Examples of methane concentration time series during chamber closures. Dots: measured methane concentration; thick line: linear regression; thin lines: 95 % confidence band of the linear regression.

(a) Measurement on inundated *Carex* plants on 17-04-2009: Estimated initial concentration clearly above atmospheric concentration, trend test failed, ebullition and inadequate crossflow air mixing assumed during chamber closure. The confidence band's width indicated that reliable flux estimation was not possible.
(b) Measurement between non-inundated *Typha* plants on 07-07-2010: Estimated initial concentration clearly above atmospheric concentration, trend test failed, ebullition and inadequate crossflow air mixing assumed during chamber closure. The confidence band's width indicated that reliable flux estimation was not possible.
(c) Measurement on non-inundated *Carex* plants on 07-07-2010: Estimated initial concentration above atmospheric concentration, trend test failed, ebullition and inadequate crossflow air mixing assumed during of chamber closure. The confidence band's width indicated that reliable flux estimation was not possible.
(d) Measurement on another non-inundated position with *Carex* plants on 07-07-2010: Estimated initial concentration above atmospheric concentration, trend test failed, ebullition and inadequate crossflow air mixing assumed during of chamber closure. The confidence band's width indicated that reliable flux estimation was not possible.
(e) Measurement on inundated *Graminoid* plants on 16-05-2012: Trend test failed, no significant concentration change during at least 20 minutes, ebullition assumed to the beginning and the end of chamber closure. The confidence band's width indicated that reliable flux estimation was not possible.
(f) Measurement on inundated *Carex* plants on 16-05-2012: Trend test failed, concentration on the same level in the periods 10…20 min and 30…40 min, respectively, ebullition assumed in the period 20…30 min. The confidence band's width indicated that reliable flux estimation was not possible.
(g) Measurement on inundated *Carex* and *Typha* plants with *Lemna minor* on 14-10-2014: Initial concentration very clearly above atmospheric concentration, trend test failed, ebullition assumed to the beginning of chamber closure, inadequate crossflow mixing assumed. The confidence band's width indicated that reliable flux estimation was not possible. Such a flux estimate would even be misunderstood as a methane uptake.
(h) Measurement on inundated *Graminoid* and *Scirpus* plants on 14-10-2014: Trend test failed, fairly linear increase of concentration in the period 1…31 minutes, ebullition assumed to the end of chamber closure. The confidence band's width indicated that reliable flux estimation was not possible. A flux estimate only for the period 0…31 minutes probably underestimated the real emission.
(i) Measurement on another inundated position with *Carex* plants on 17-04-2009: Trend test passed. The confidence band's width indicated that reliable flux estimation was possible.
(j) Measurement at another inundated position with *Graminoid* and *Scirpus* plants on 14-10-2014: Trend test passed. The confidence band's width indicated that reliable flux estimation was possible.