

## **Appendix I**

### **Methodology of chemical analysis of liquid samples**

Concentrations of  $\text{Na}^+$ ,  $\text{K}^+$ ,  $\text{Ca}^{2+}$ ,  $\text{Mg}^{2+}$ ,  $\text{Mn}^{2+}$ , and  $\text{Fe}_{\text{tot}}$  were measured by flame atomic absorption spectrometry (FAAS; AAnalyst 100, PerkinElmer) with the limits of quantification (LOQ) of  $0.01 \text{ mg L}^{-1}$  and  $0.005 \text{ mg L}^{-1}$  for Fe. Concentrations of  $\text{NH}_4^+$  and  $\text{P}_{\text{tot}}$  were determined spectrophotometrically (PMT; Perkin-Elmer Lambda 25; LOQ of 0.02 and  $0.006 \text{ mg L}^{-1}$ , respectively). Concentrations of  $\text{Cl}^-$ ,  $\text{SO}_4^{2-}$  and  $\text{NO}_3^-$  were determined by ion chromatography (HPLC; Knauer 1000; LOQ of 0.15, 0.5, and  $0.3 \text{ mg L}^{-1}$ , respectively). Concentrations of  $\text{F}^-$  were measured potentiometrically (ION 85 Radiometer Inc.;  $0.02 \text{ mg L}^{-1}$ ). Concentrations of  $\text{HCO}_3^-$  were measured by titration (LOQ of  $0.6 \text{ mg L}^{-1}$ ). Dissolved organic carbon (DOC) and total dissolved nitrogen (TN) were determined on an Apollo 9000 analyzer (Tekmar-Dohrmann; LOQ of 0.1 and  $0.5 \text{ mg L}^{-1}$ ). Measurement of pH was carried out on PHM-62 Radiometer, and conductivity on CDM-83 Radiometer Denmark.

### **Methodology of chemical analysis of solid samples**

Ash content in peat was determined on a 0.5 g aliquot at  $550 \text{ }^\circ\text{C}$ . Concentrations of Na, Mg, K, and Ca were measured by flame atomic absorption spectrometry (FAAS; AAnalyst 100, PerkinElmer) with the limits of quantification (LOQ) of 50 ppm. Phosphorus content was determined spectrophotometrically (P-E Hitachi 200; LOQ of 50 ppm). A 10-mg aliquot of each homogenized peat sample was placed in a tin capsule and combusted in a Fisons 1108 elemental analyzer at  $1040 \text{ }^\circ\text{C}$ . Carbon concentrations in peat were determined with a reproducibility of 1.0 %.