

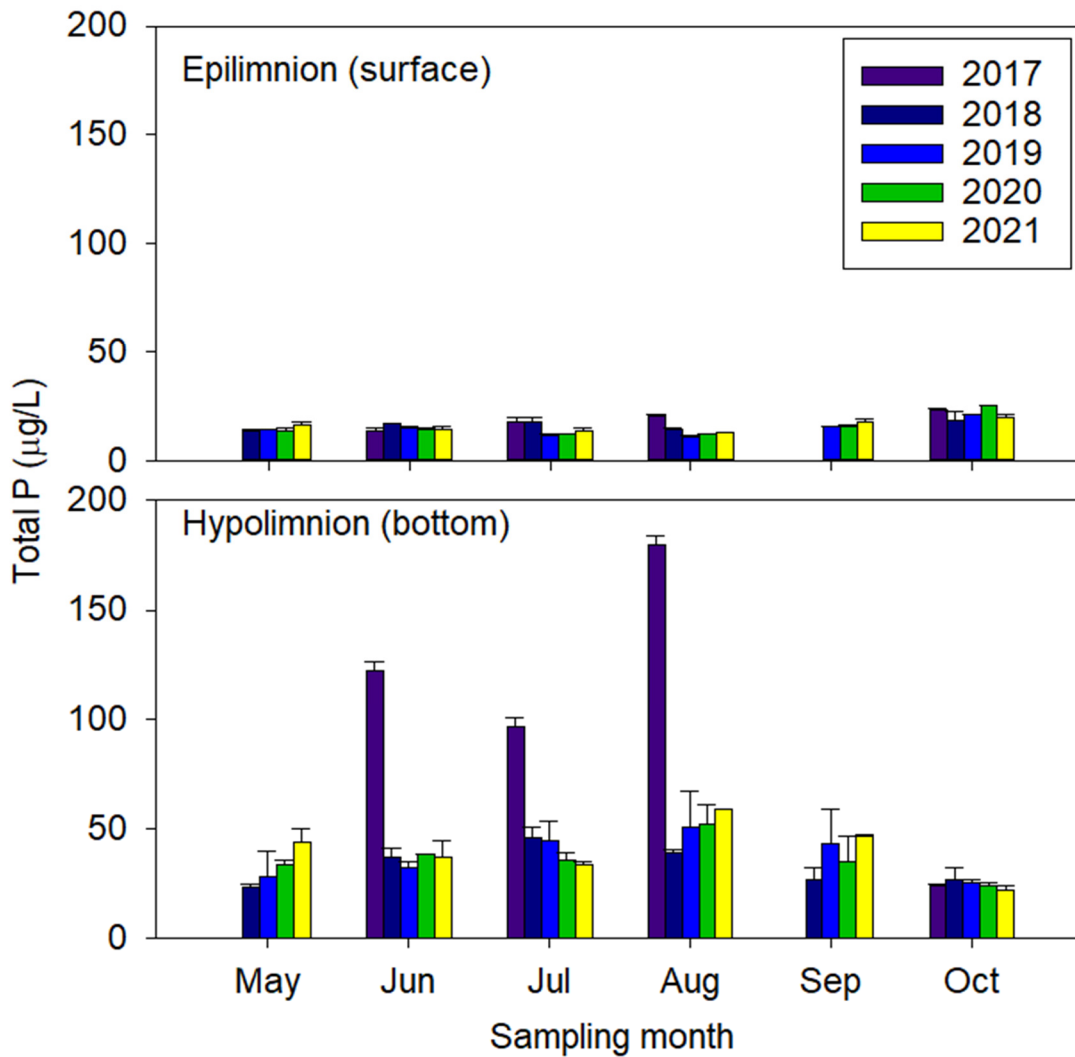
### SUPPORTING INFORMATION

#### **Response of sediment phosphorus partitioning to lanthanum-modified clay amendment and porewater chemistry in a small eutrophic lake.**

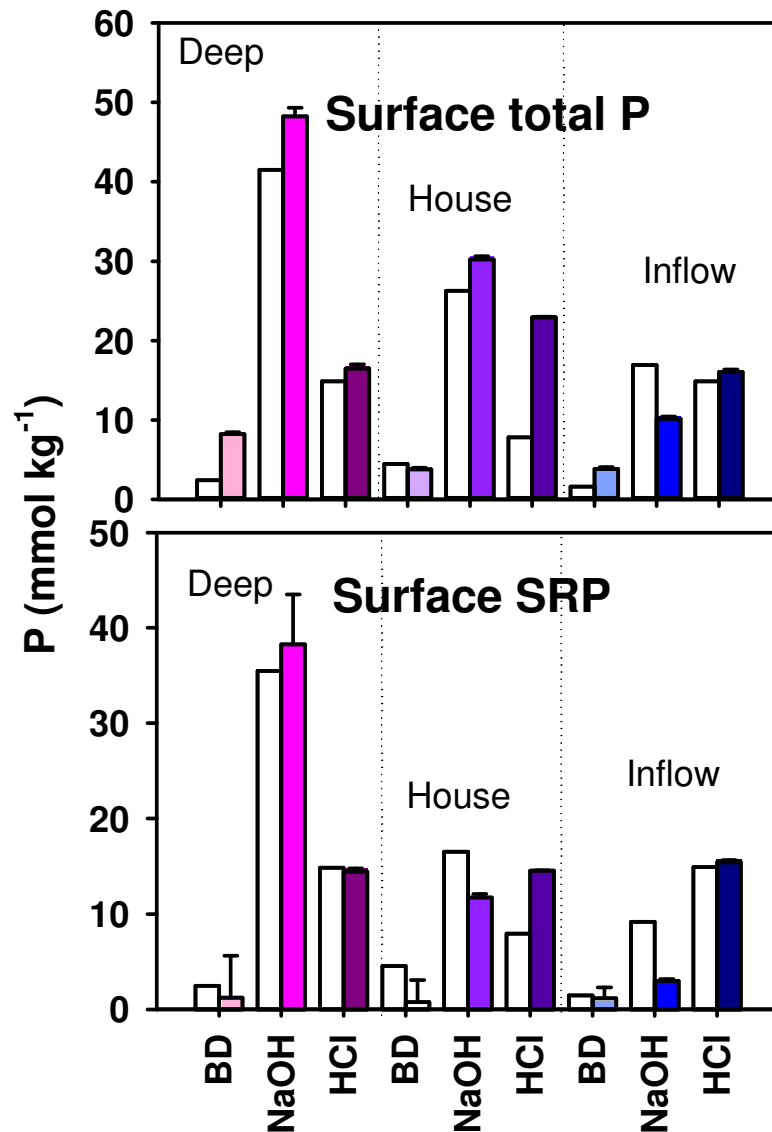
Wessam Neweshy<sup>1</sup>, Dolors Planas<sup>2</sup>, Elisabeth Tellier<sup>3</sup>, Marie Demers<sup>1</sup>, Remi Marsac<sup>4</sup> and Raoul-Marie Couture<sup>1,\*</sup>

- 1- Department of chemistry, Université Laval, Québec Canada and GRIL (Interuniversity Research Group in Limnology)
- 2- Département de Sciences Biologiques, Université de Québec à Montréal, Montréal, Canada and GRIL (Interuniversity Research Group in Limnology)
- 3- Action Conservation du Bassin Versant du Lac Bromont, Bromont, Québec, Canada
- 4- Univ Rennes, CNRS, Géosciences Rennes - UMR 6118, F-35000 Rennes, France

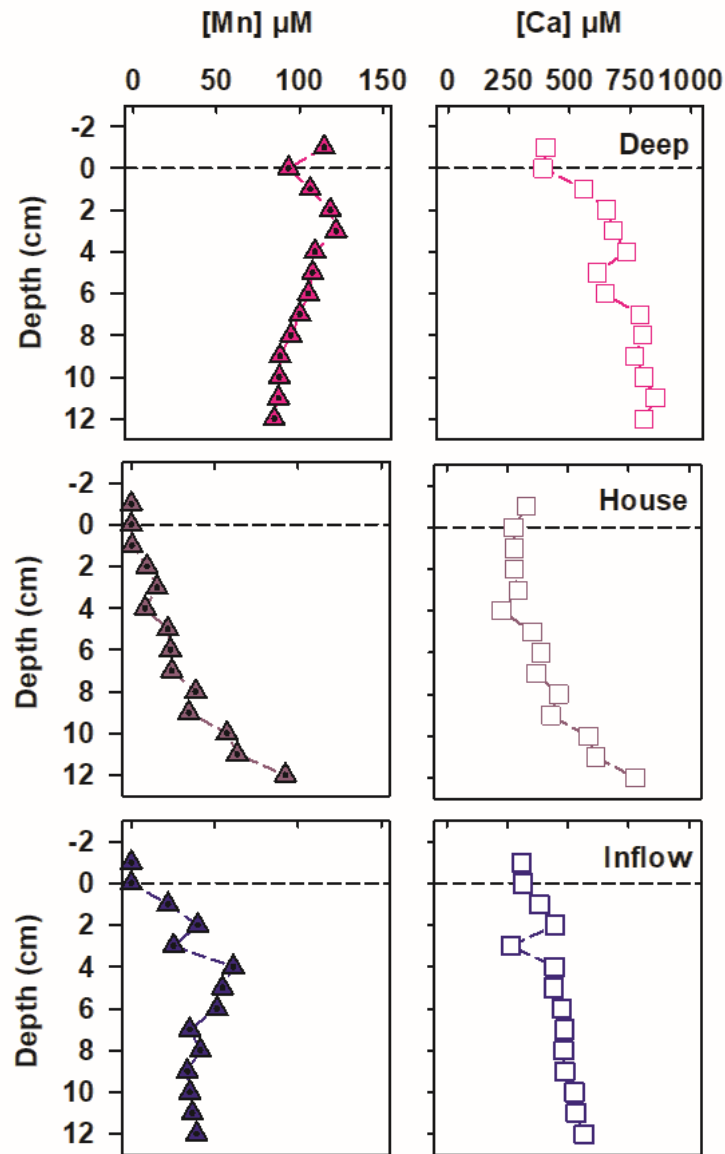
\* Corresponding author: [raoul.couture@chm.ulaval.ca](mailto:raoul.couture@chm.ulaval.ca)



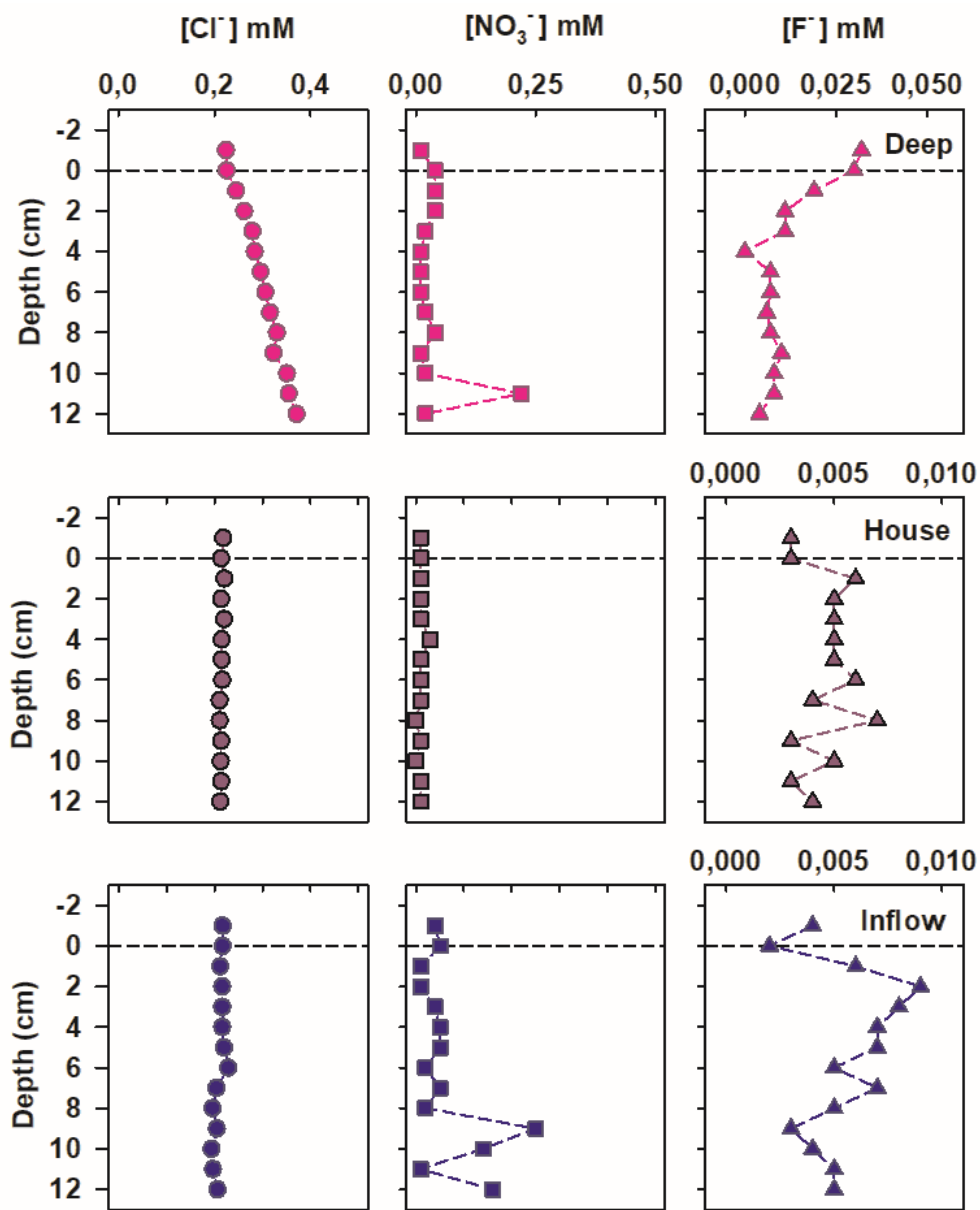
**Figure S1:** Monthly total phosphorus concentrations measured using the persulphate method in the water column in the surface water (epilimnion) and at the bottom water (hypolimnion) of lake Bromont between 2017 and 2021.



**Figure S2:** Phosphorus determined by SEQ in the sediment for the depth interval 5-10 cm at the Deep, House, and Inflow sites before (white) and after (colour) the Phoslock™ treatment. BD, NaOH and HCl extractions are identified by light, medium and dark shades, respectively, as well as on the X-axis. Error bars indicate the outcome of triplicate SEQ.



**Figure S3:** Porewater concentration profiles of the cations Mn (solid dotted triangle) and Ca (open dotted triangle) at the Deep, House, and Inflow sites. The horizontal dashed line indicates the sediment-water interface.



**Figure S4:** Porewater concentration profiles the anions  $\text{Cl}^-$ ,  $\text{NO}_3^-$ ,  $\text{F}^-$  at the Deep, House, and Inflow sites. The horizontal dashed line indicates the sediment-water interface.