

**Supplementary material**

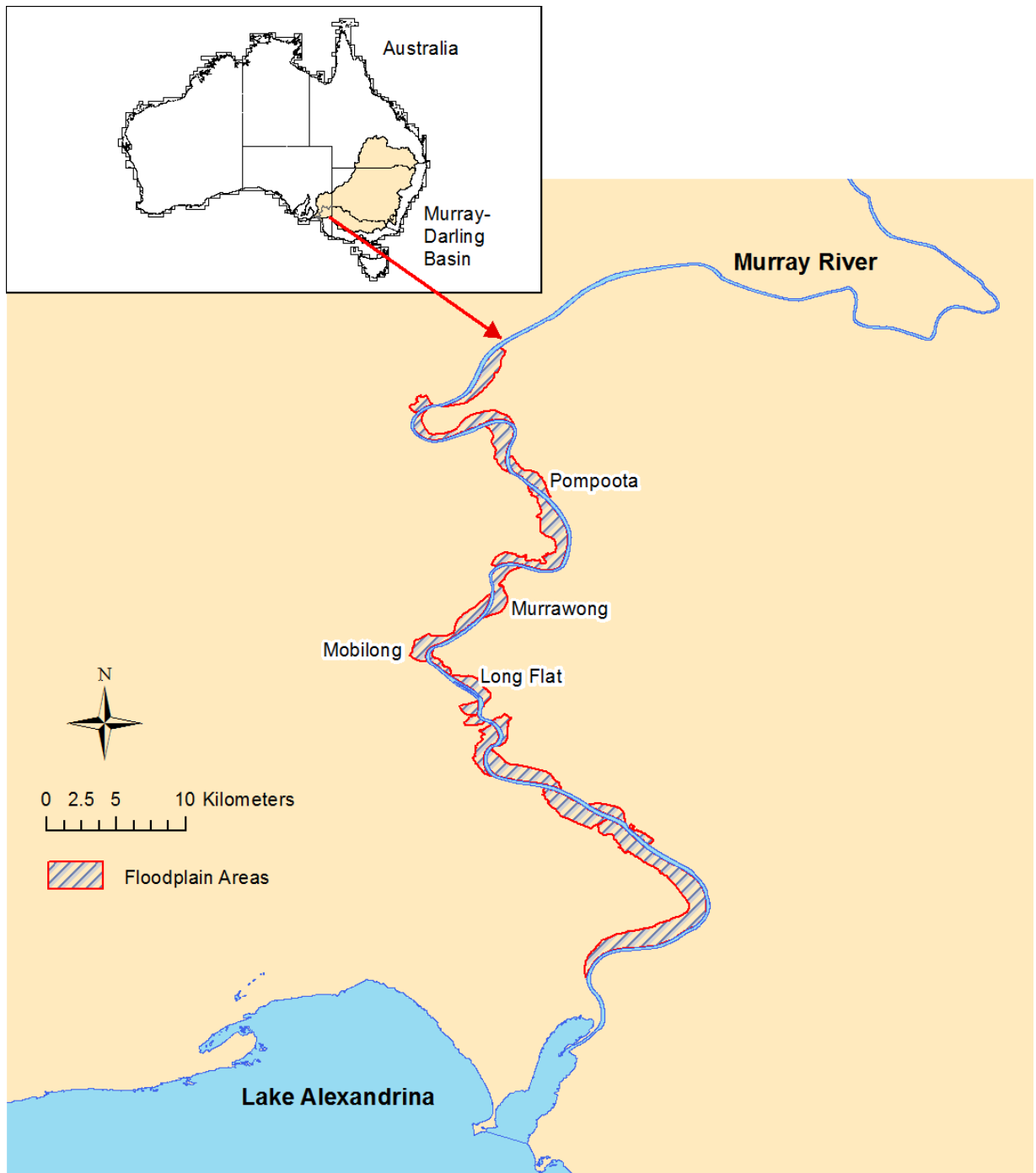
**Phosphorus speciation and dynamics in river sediments, floodplain soils and leaf litter from the Lower Murray River region**

*F. T. Watson<sup>A</sup>, R. J. Smernik<sup>A</sup>, A. L. Doolette<sup>A</sup>, and L. M. Mosley<sup>B,C</sup>*

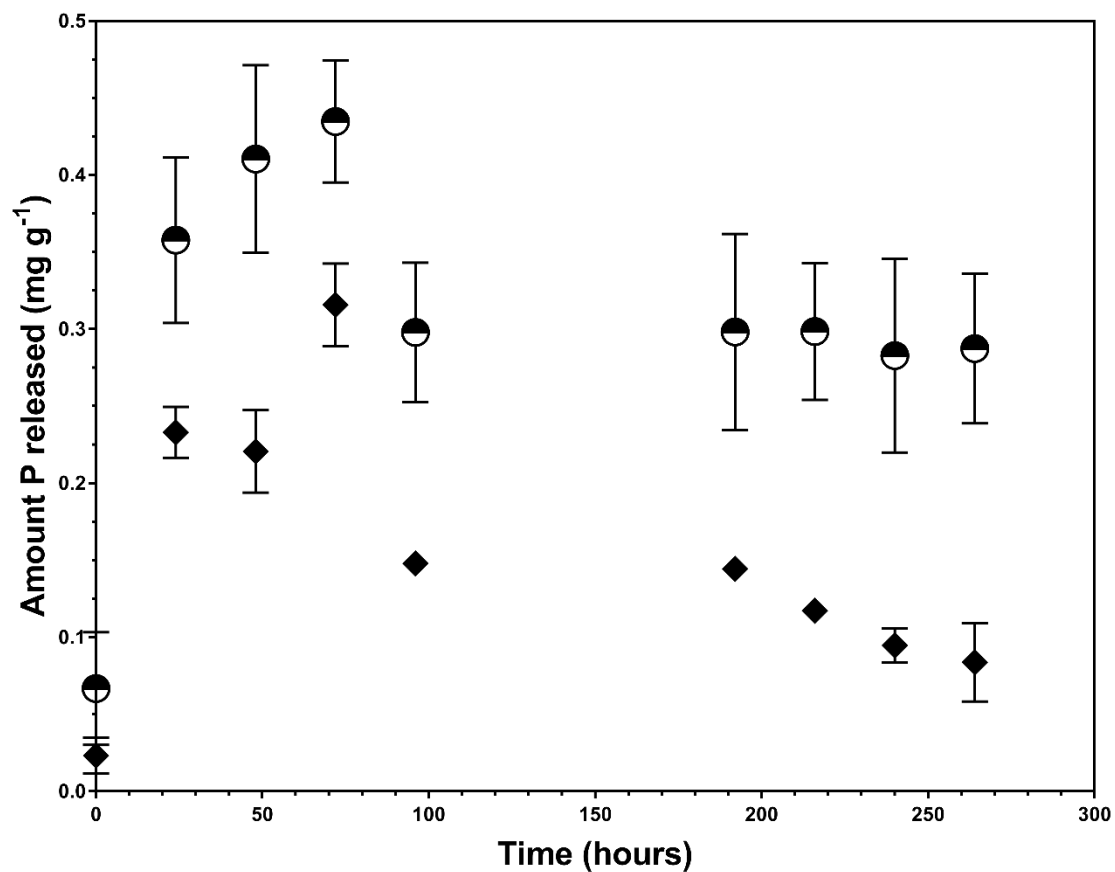
<sup>A</sup>School of Agriculture, Food and Wine, University of Adelaide, PMB1,  
Glen Osmond, SA, 5064, Australia.

<sup>B</sup>School of Biological Sciences, University of Adelaide, PMB1,  
Glen Osmond, SA, 5064, Australia.

<sup>C</sup>Corresponding author. Present address: The Australian Wine Research Institute,  
PO Box 197, Glen Osmond, SA 5064, Australia. Email: [luke.mosley@adelaide.edu.au](mailto:luke.mosley@adelaide.edu.au)



**Fig. S1.** Map of the Lower Murray Region, showing general location of sampling sites. The irrigated floodplains in the region are also highlighted on the map. For more specific information on sampling sites, see Mosley *et al.* (2018).



**Fig. S2.** Release of organic phosphorus ( $P_O$ ; estimated by the difference between the concentrations of total dissolved P and soluble molybdate-reactive P) in river water (circles) and ultrapure water (diamonds).

**Table S1. The measured salinities of floodplain and drain soils**

All soils were measured in triplicate and were corrected against blanks (ultrapure water only). Samples were analysed as per the method of (Rayment *et al.* 2010) at a soil to solution ratio of 1 to 5 (EC<sub>1:5</sub>). Soils are classified according to the scheme presented by Fitzpatrick *et al.* (2017) for floodplain soils in this region

Soil	EC <sub>1:5</sub> (dS m <sup>-1</sup> )	Soil type	Classification
Drain 0–0.1 m	2.16 ± 0.01	Heavy clay	Very saline
Drain 0.1–0.25 m	4.02 ± 0.03	Heavy clay	Highly saline
Paddock 0.05–0.15 m	0.80 ± 0.02	Light clay	Moderately saline
Paddock 0.15–0.25 m	0.52 ± 0.01	Heavy clay	Slightly saline

### References

- Fitzpatrick, R. W., Mosley, L. M., and Cook, F. J. (2017). 'Understanding and Managing Irrigated Acid Sulfate and Salt-Affected Soils: a Handbook for the Lower Murray Reclaimed Irrigation Area.' (The University of Adelaide Press: Adelaide, SA, Australia) [doi:10.1017/10.20851/murray-soils](https://doi.org/10.1017/10.20851/murray-soils)
- Mosley, L. M., Biswas, T. K., Dang, T., Palmer, D., Cummings, C., Daly, R., Simpson, S., and Kirby, J. (2018). Fate and dynamics of metal precipitates arising from acid drainage discharges to a river system. *Chemosphere* **212**, 811–820. [doi:10.1016/j.chemosphere.2018.08.146](https://doi.org/10.1016/j.chemosphere.2018.08.146)
- Rayment, G. E., Lyons, D. J., and Shelley, B. (2010). Electrical conductivity, related attributes and redox potential. In 'Soil Chemical Methods: Australasia'. (Ed. J. Walker) pp. 41–55. (CSIRO Publishing: Melbourne, Vic., Australia.)