Interactive comment on "Controls on oxygen dynamics in a riverine salt-wedge estuary – a three-dimensional model of the Yarra River estuary, Australia" *by* L. C. Bruce et al.

Supplementary Material

Table 3. Chainage (distance along thalweg from Port Philip Bay) of main sampling stations used for model evaluation.

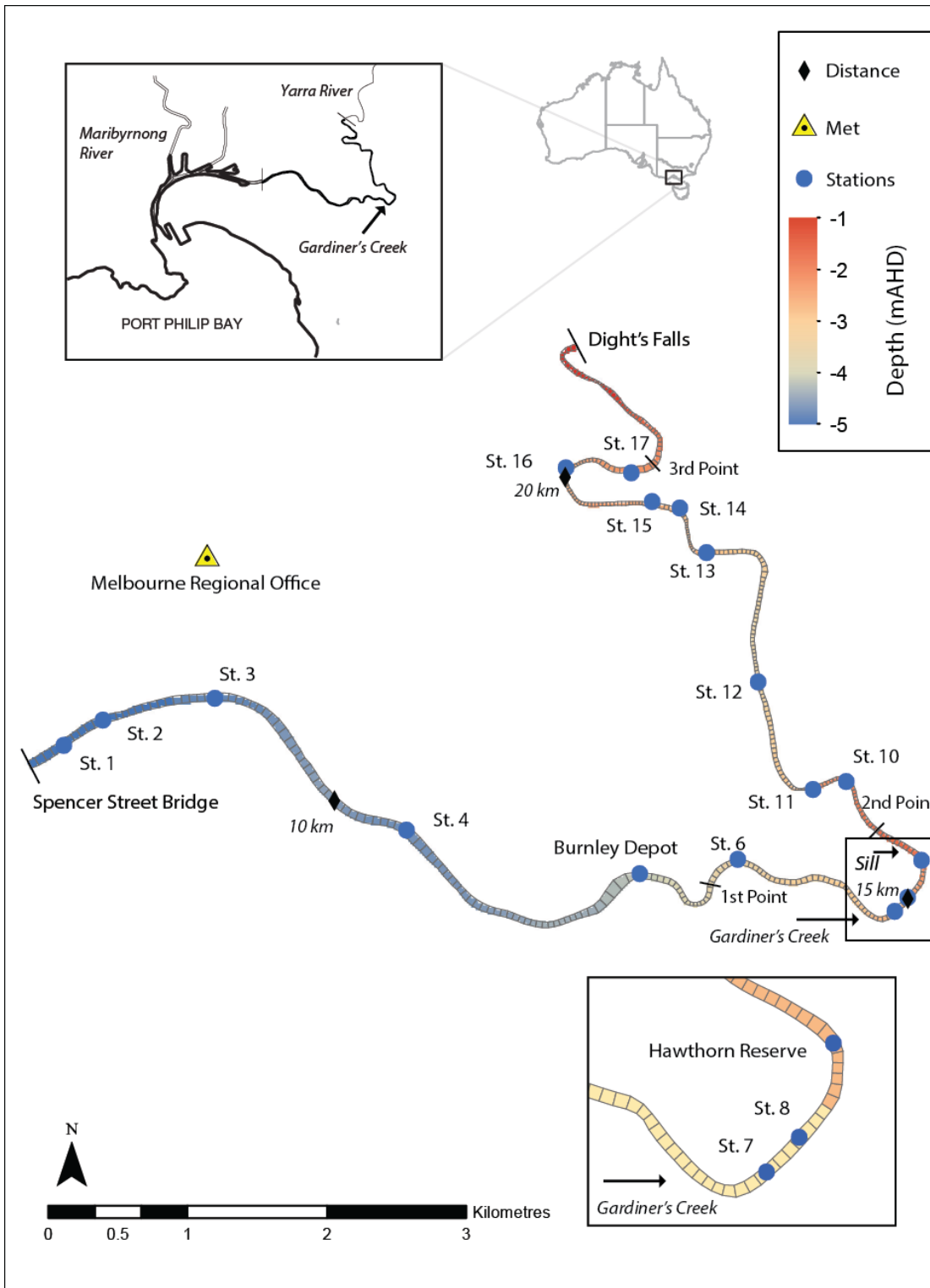| Station Name	No	Chainage
Spencer Street Bridge	0	7.40
Morell Bridge	4	10.57
Burnley Depot	5	12.64
Scotch College	8	14.99
Hawthorn Reserve	9	15.30
Bridge Road	13	16.35
Dight's Falls	19	21.93

Figure 1 - Study site (see inset for location), computational domain and bottom depth elevation relative to Australian Height Datum (m). Sampling stations described in Table 3.
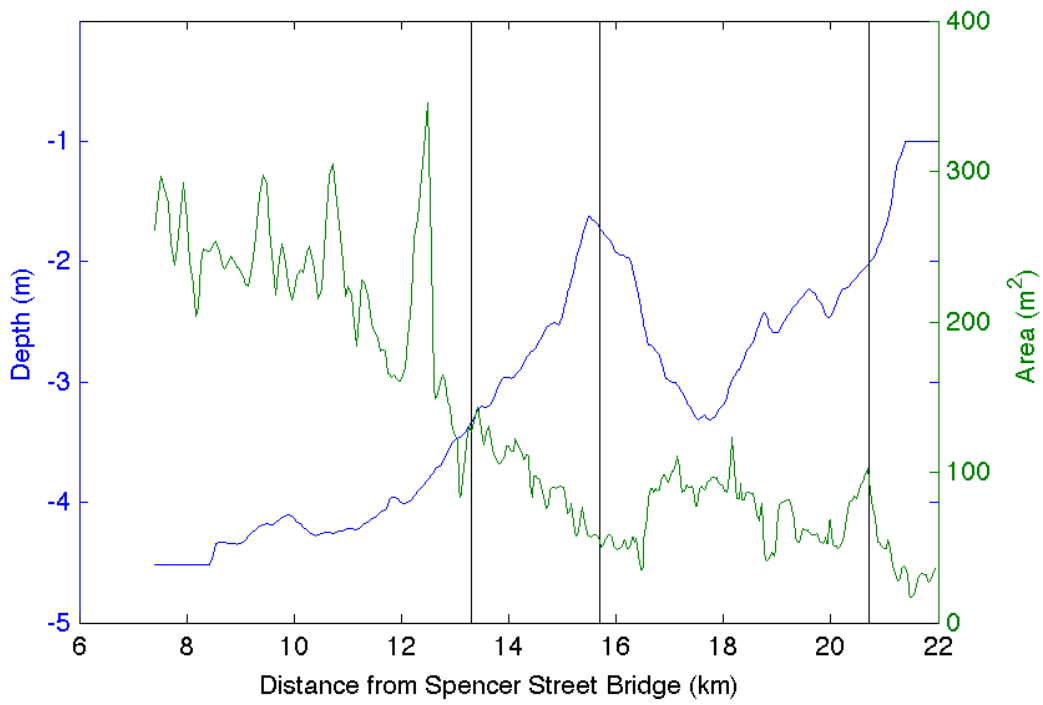
Figure 2 – Depth and cross sectional area of Yarra River estuary as a function of distance from Spencer Street Bridge. Vertical black lines represent the 3 points of inflection described in the results.
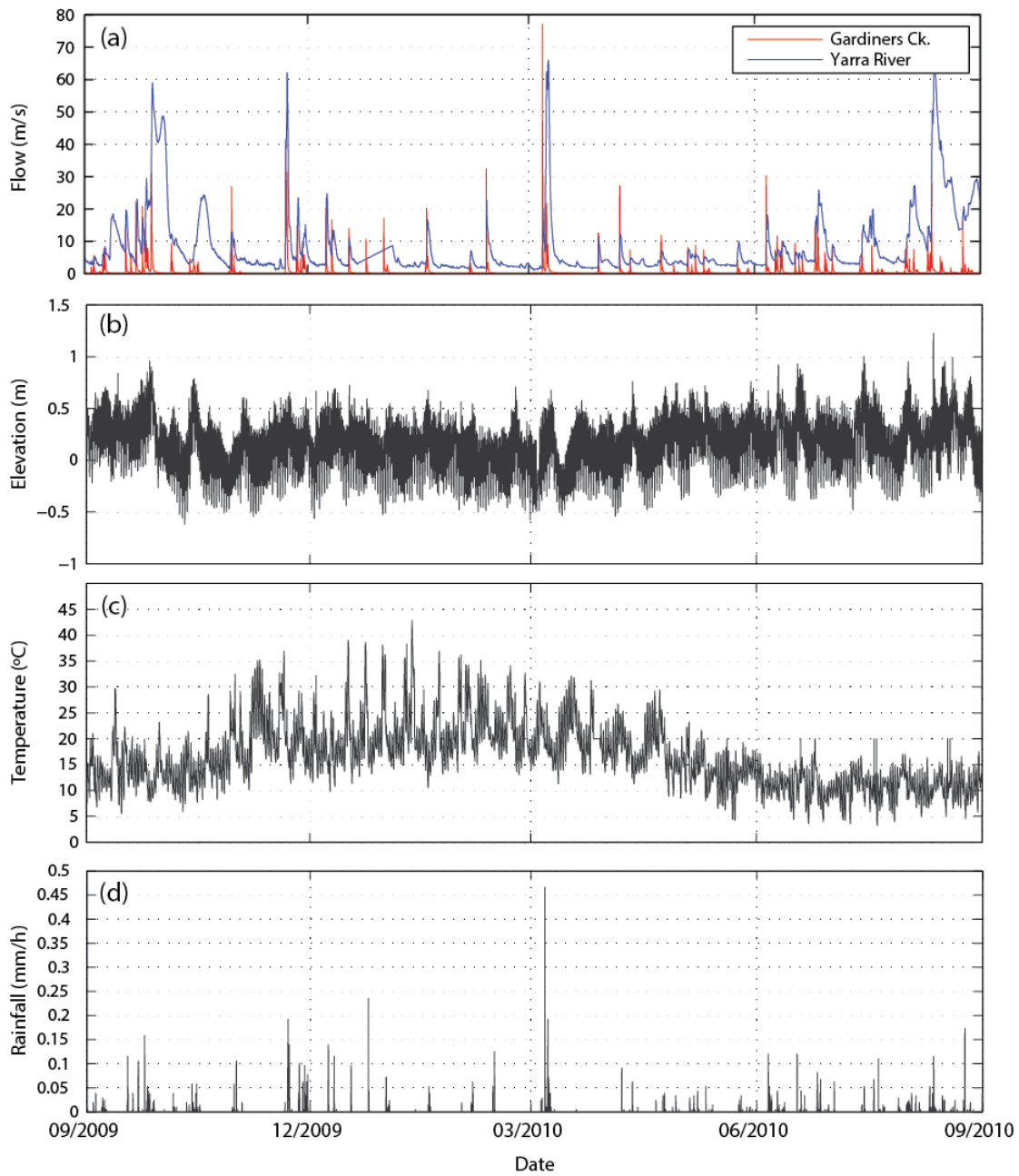
Figure 3 – Yarra River Estuary model boundary condition data: (a) inflows, (b) surface water elevation at Spencer Street Bridge, (c) air temperature, and (d) Rainfall.
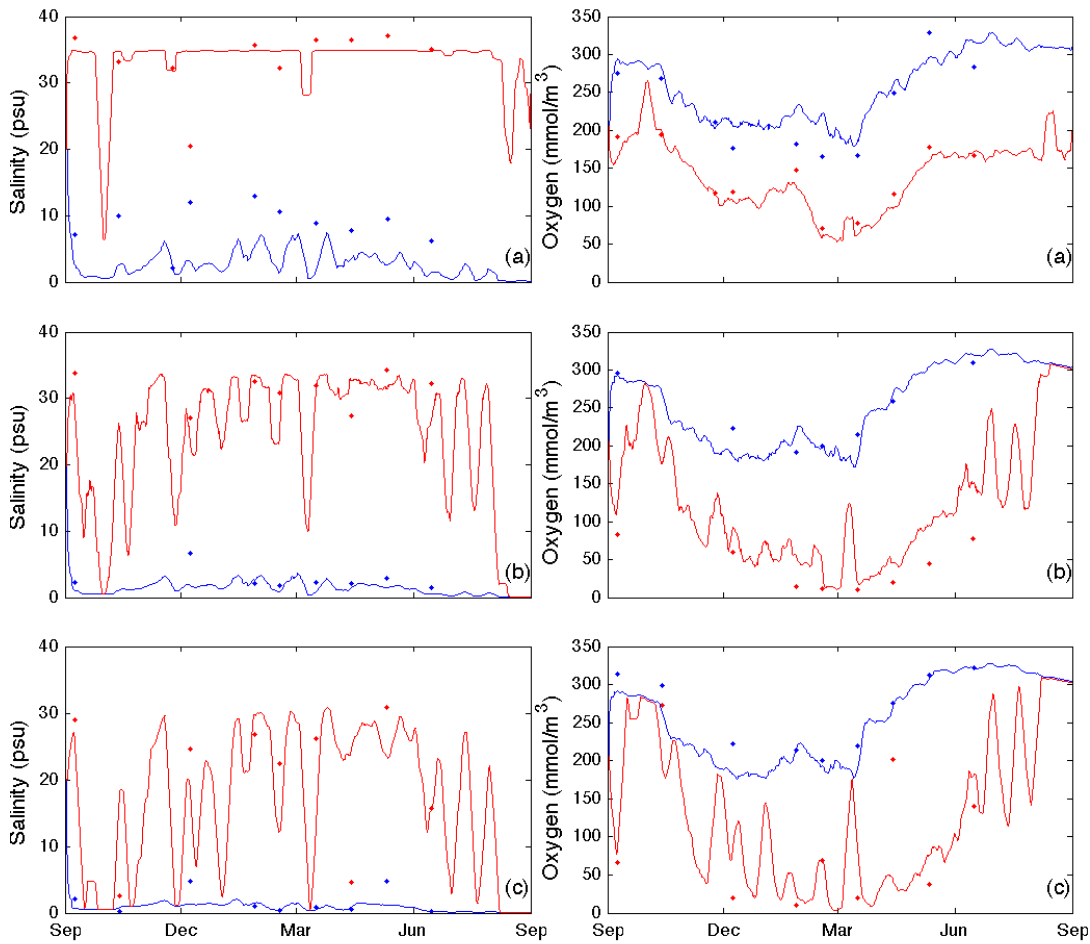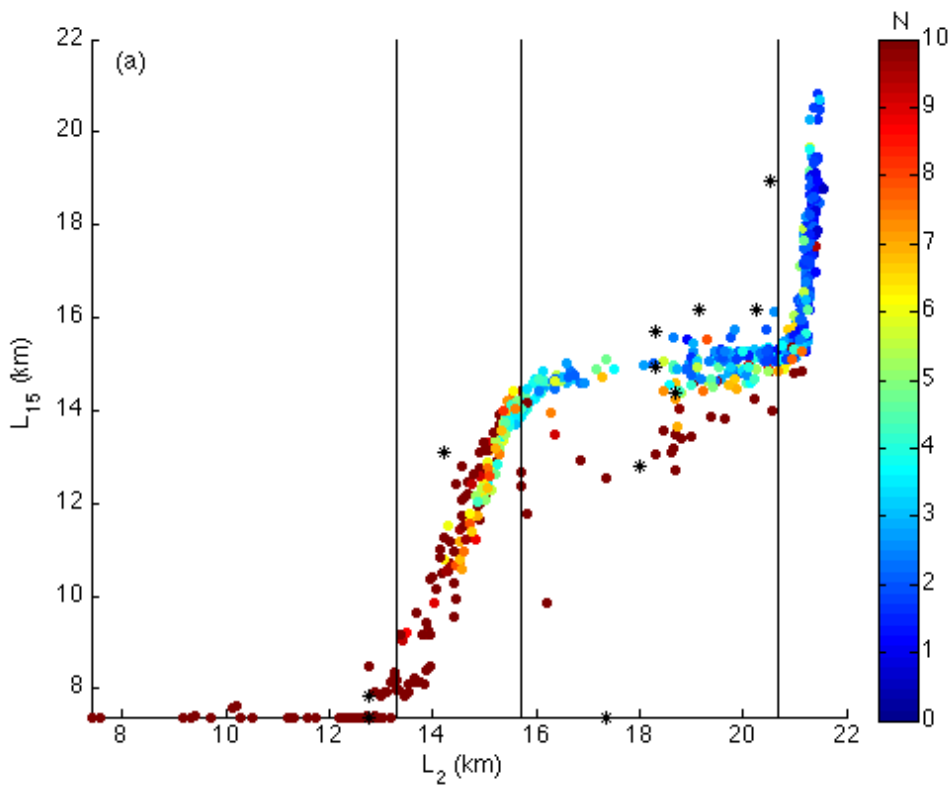
Figure 6 - Time series data for surface (blue) and bottom (red) salinity and oxygen for (a) Morell Bridge (b) Scotch College and (c) Bridge Road. Dots represent observed and solid lines simulated data.
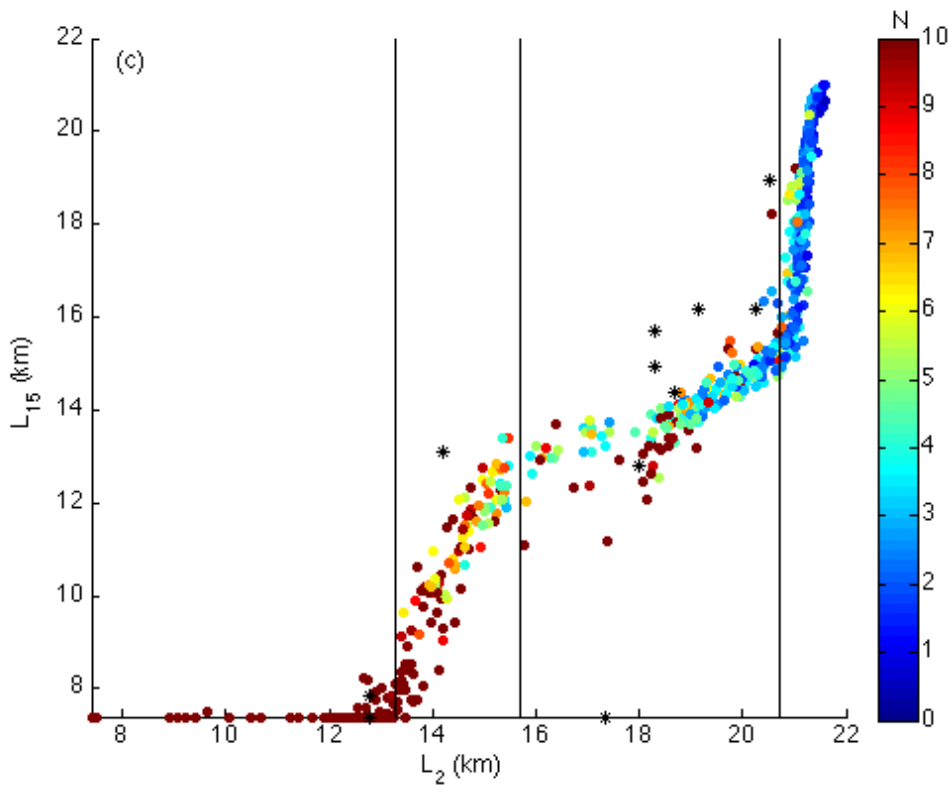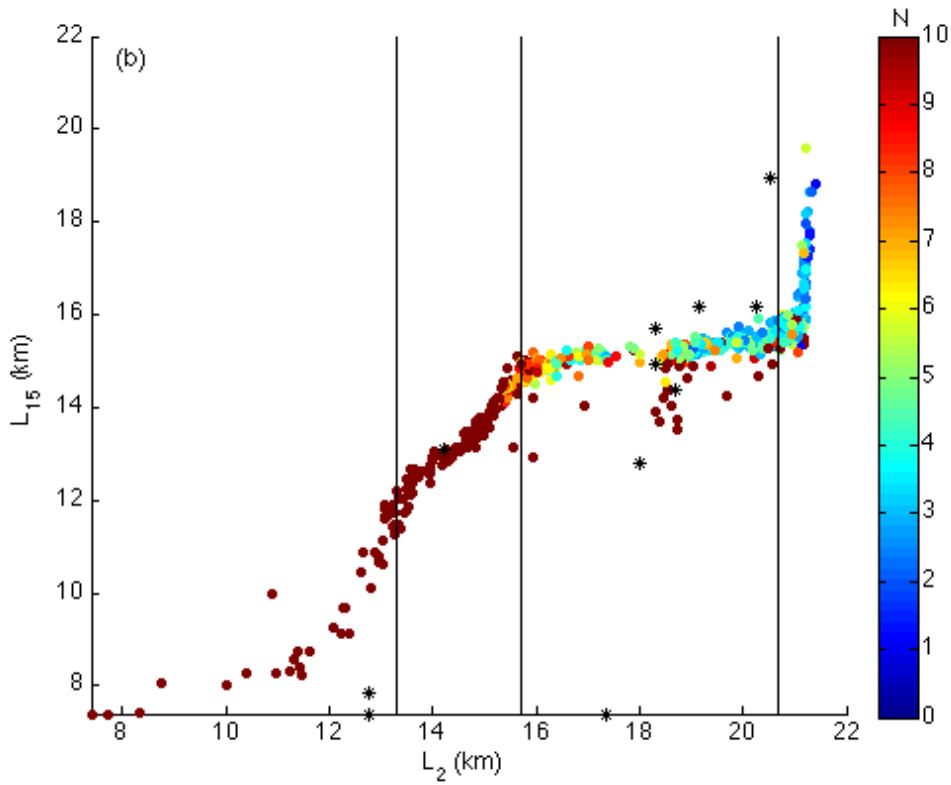
Figure 10 - Length of estuary where the depth-averaged salinity = 15psu (L_{15}) against limit of salinity intrusion (L_2) over the range of river to tidal ratios; * represent interpolated field data. Vertical black lines refer to the position of the three points of inflection. (a) Using the original grid, (b) using a straightened grid, sill included and (c) using the original grid with sill removed.