

Modified parameters	Unit	This study	Reference range
Biological dynamics			
Maximum specific photosynthetic rate	s ⁻¹	5.58 x 10 ⁻⁵	0.107 – 18.2 x 10 ⁻⁵ (a)
Photosynthetic efficiency	m ² s (μ mol photons s) ⁻¹	4.11 x 10 ⁻⁷	1.67 – 6.94 x 10 ⁻⁷ (a)
Phytoplankton mortality rate constant	s ⁻¹	37 x 10 ⁻⁸	23 – 350 x 10 ⁻⁸ (a)
Phytoplankton growth constant	-	0.3	0.1 – 0.5 ^(a)
Aerobic degradation rate constant	μmolC L ⁻¹ s ⁻¹	1.44 x 10 ⁻⁴	0.8 – 9.26 x 10 ⁻⁴ (a)
Denitrification rate constant	μmolC L ⁻¹ s ⁻¹	5.00 x 10 ⁻⁴	0.26 – 522 x 10 ⁻⁴ (a)
Nitrification rate constant	μmolN L ⁻¹ s ⁻¹	4.62 x 10 ⁻⁴	0.106 – 21.7 x 10 ⁻⁴ (a)
Particle dynamics			
Critical shear stress for erosion and deposition: km 0 – km 140; km 140 – estuary mouth	Newtons m ⁻²	0.25; 0.6	0.17 – 0.6 ^(b)
Erosion coefficient: from km 0 – km 140; km 140 – estuary mouth	kgTSS m ⁻² s ⁻¹	6.0 x 10 ⁻⁶ 1.0 x 10 ⁻⁶	1.0 – 5.0 x 10 ⁻⁶ (b)
Settling velocity	m s ⁻¹	1.0 x 10 ⁻⁴	0.1 - 10 x 10 ⁻⁴ (b, c)
(a): Volta et al., (2016) ; (b): Letrung et al., (2016) ; (c): Le et al., (2020)			