

Ecology of Coastal Wetlands



UNFCCC: Workshop on High Carbon Ecosystems

October 2013

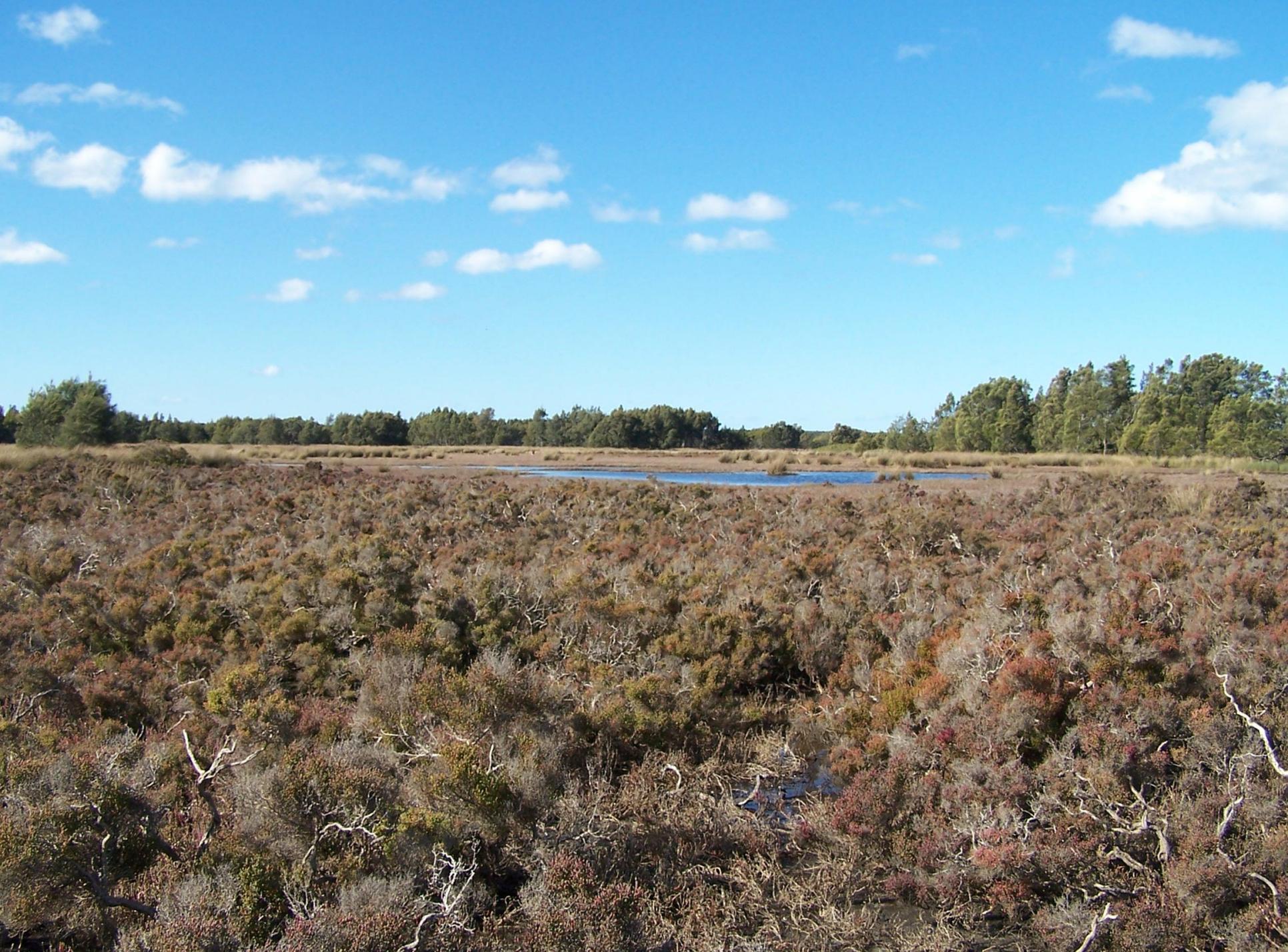
Neil Saintilan

Principal Research Scientist

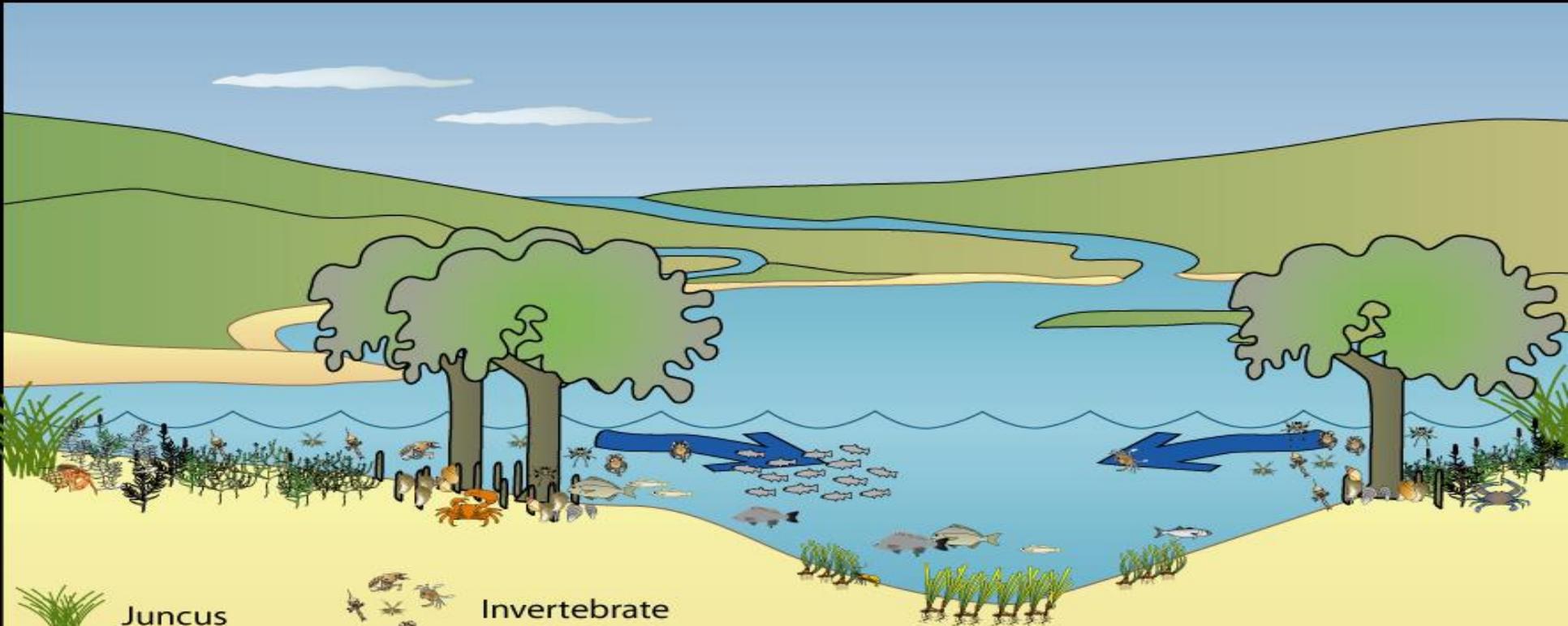
Office of Environment and Heritage NSW









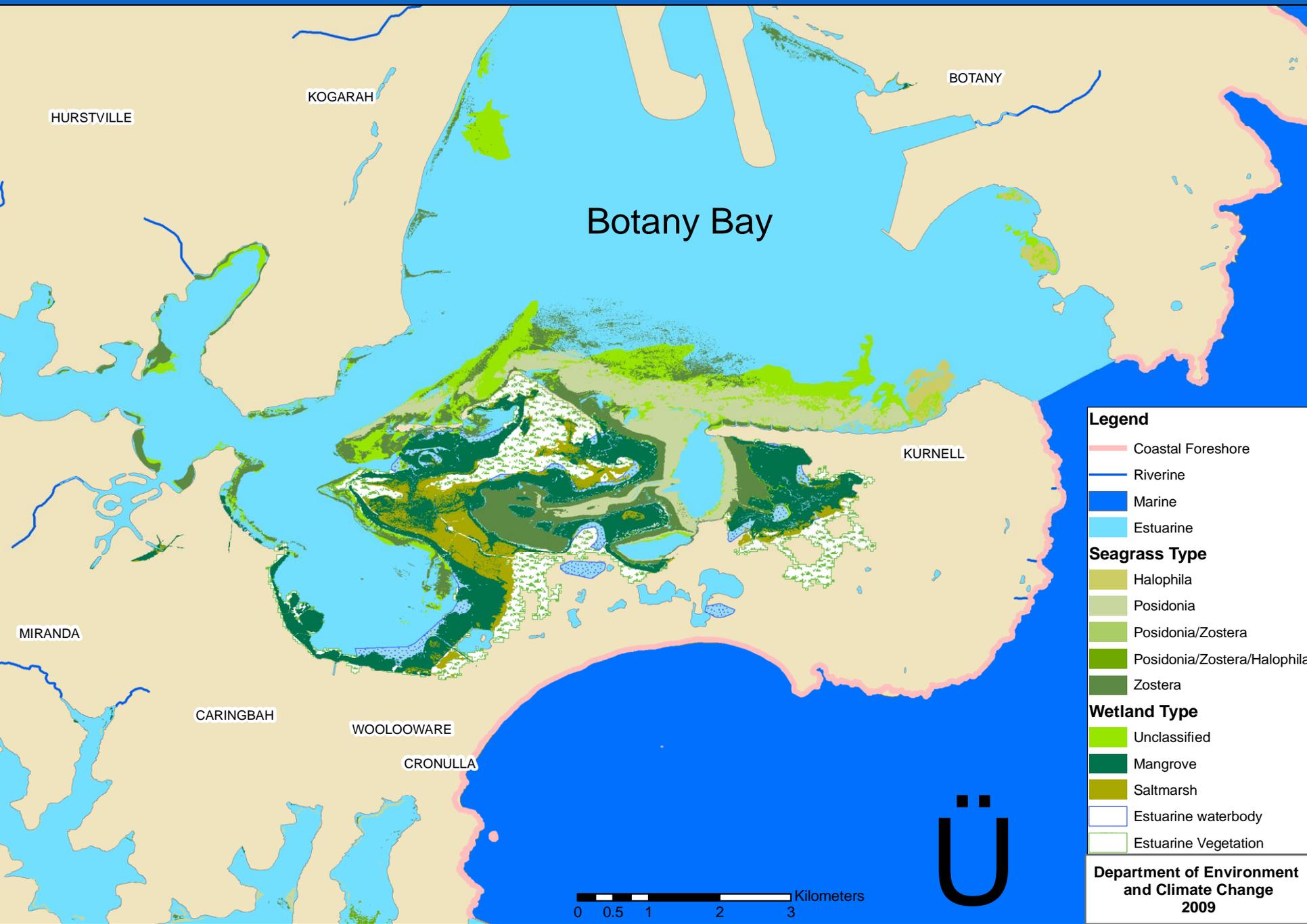


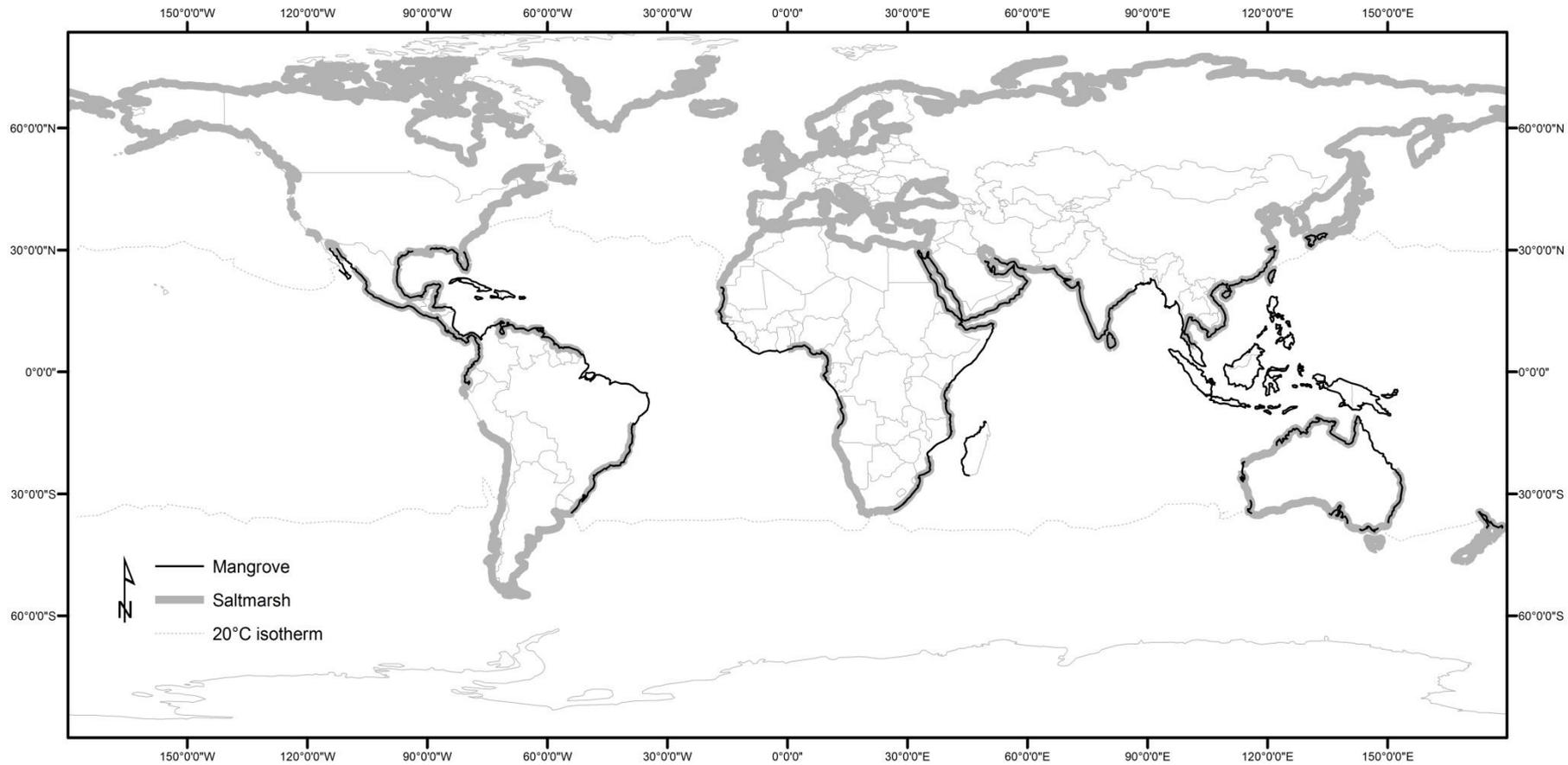
-  Juncus
-  Sporobolus
-  Samphire
-  Zostera
-  Posidonia
-  Avicennia
-  Invertebrate larva
-  Larval dispersal
-  Invertebrates
-  Fishes

Evaluating trophic linkages using stable isotope techniques- schematic ebb tide diagram

Diagram: Peter Freewater (Gosford City Council)







Endangered species





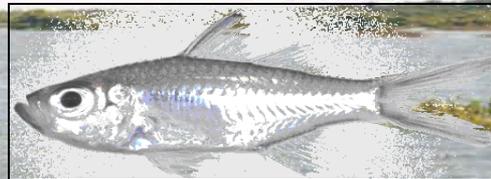
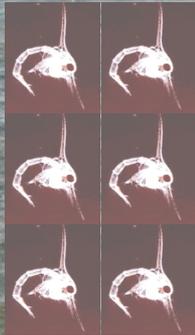
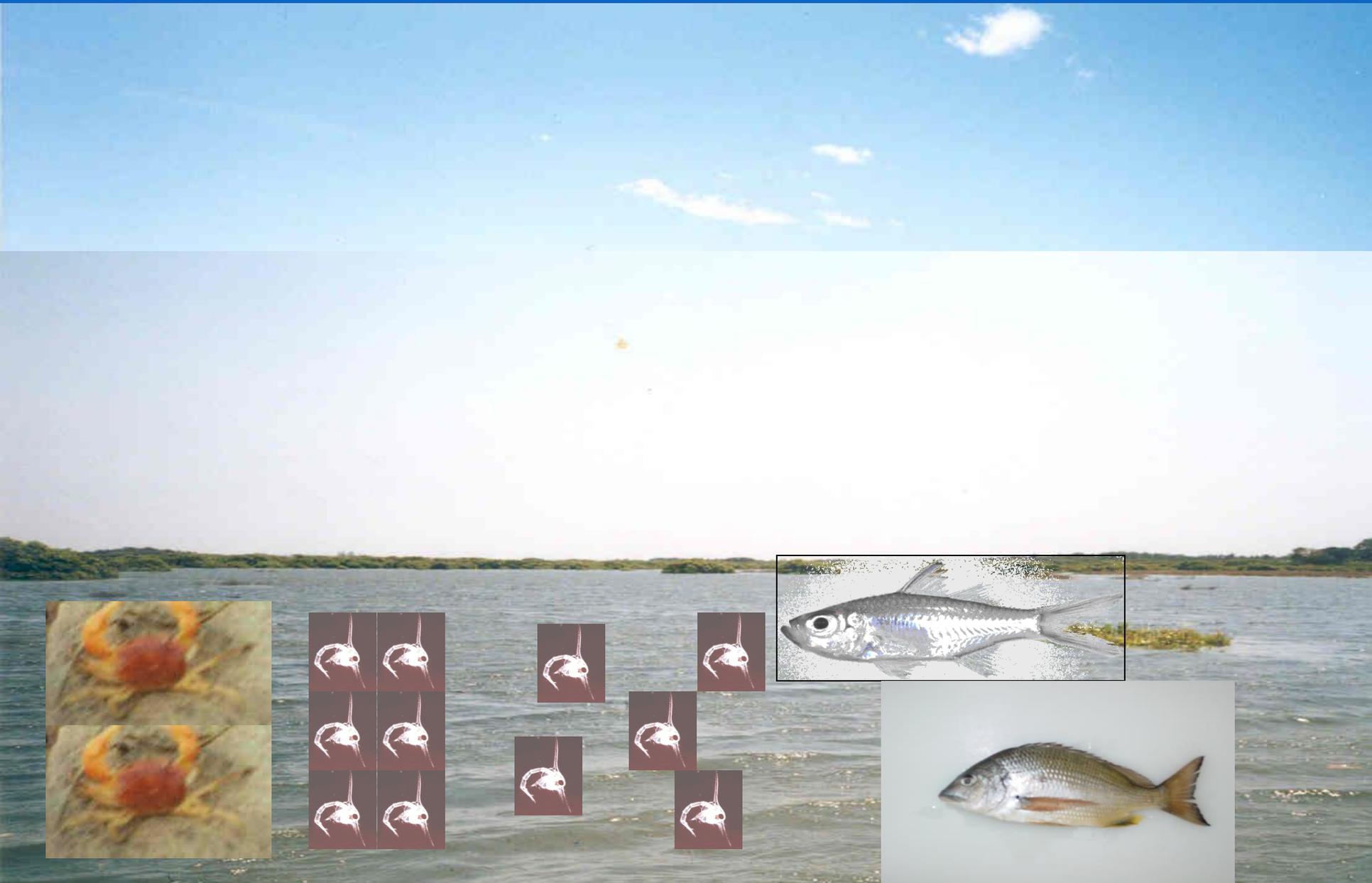


1. Moroshechnaya Estuary
2. Yatsu tidal flats
3. Yoshino Estuary
4. Shuangtaizi Estuary
5. Yellow River Delta
6. Mai Po - Inner Deep Bay
7. Olango Island
8. Wasur National Park
9. Kakadu National Park
10. Parry Lagoons
11. Thomsons Lake
12. Moreton Bay
13. Kooragang Nature Res.
14. Corner Inlet
15. The Coorong
16. Orielton Lagoon
17. Logan Lagoon
18. Firth of Thames
19. Farewell Spit
20. Tonda Wildlife Area
21. Tonggin Estuary
22. Manko
23. Chongming Dongtan
24. Yalu Jiang
25. Yancheng
26. Tokyo Port Wild Bird Park
27. Western Port
28. Port Phillip Bay
29. Dalihu
30. Kashima Shingomori
31. Sungei Buloh

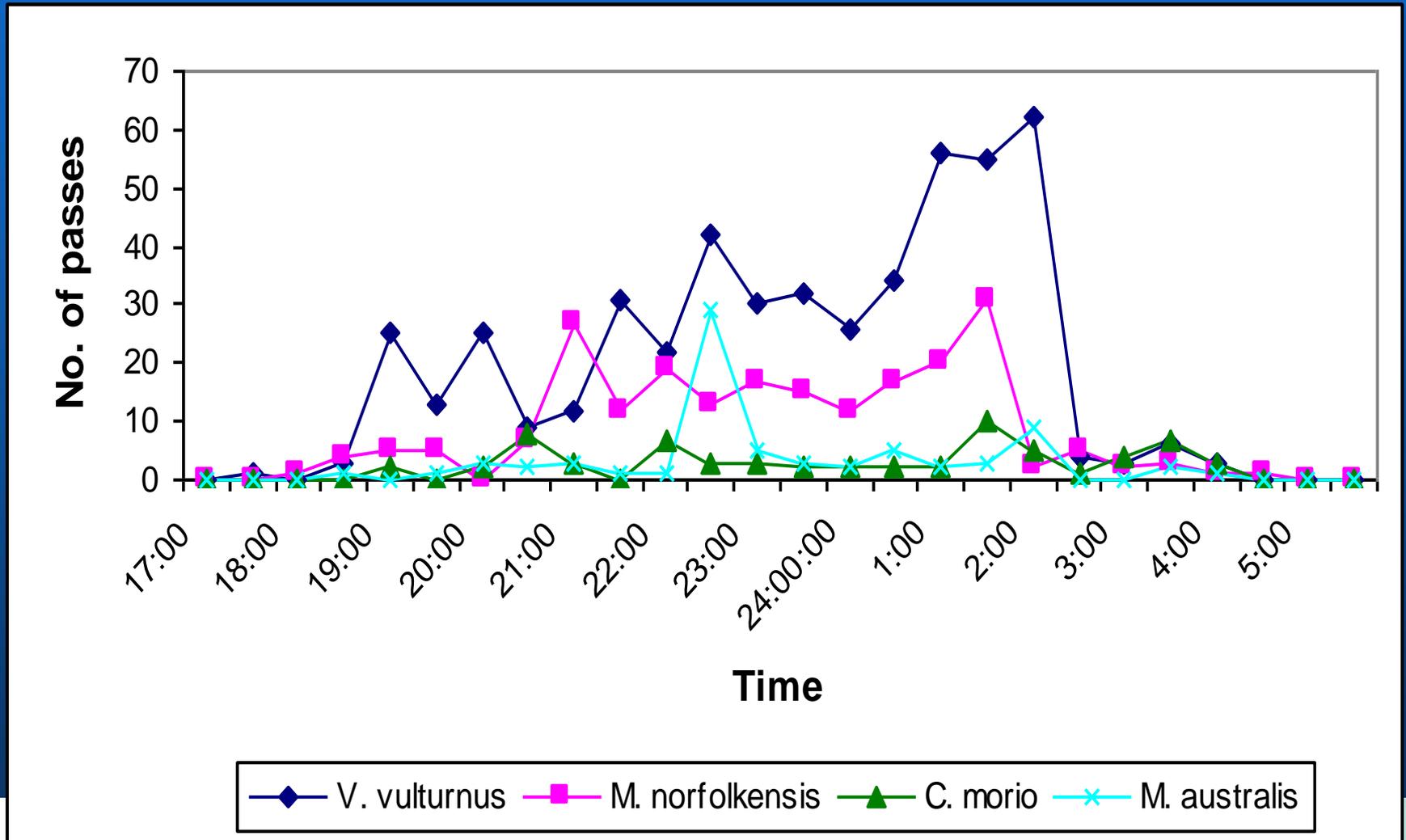


Spencer J., Saintilan N., and Kingsford R (in press). Utilisation of saltmarsh by migratory shorebirds in the Hunter River estuary. *Wildlife Research*

Larval export through mangrove to estuary

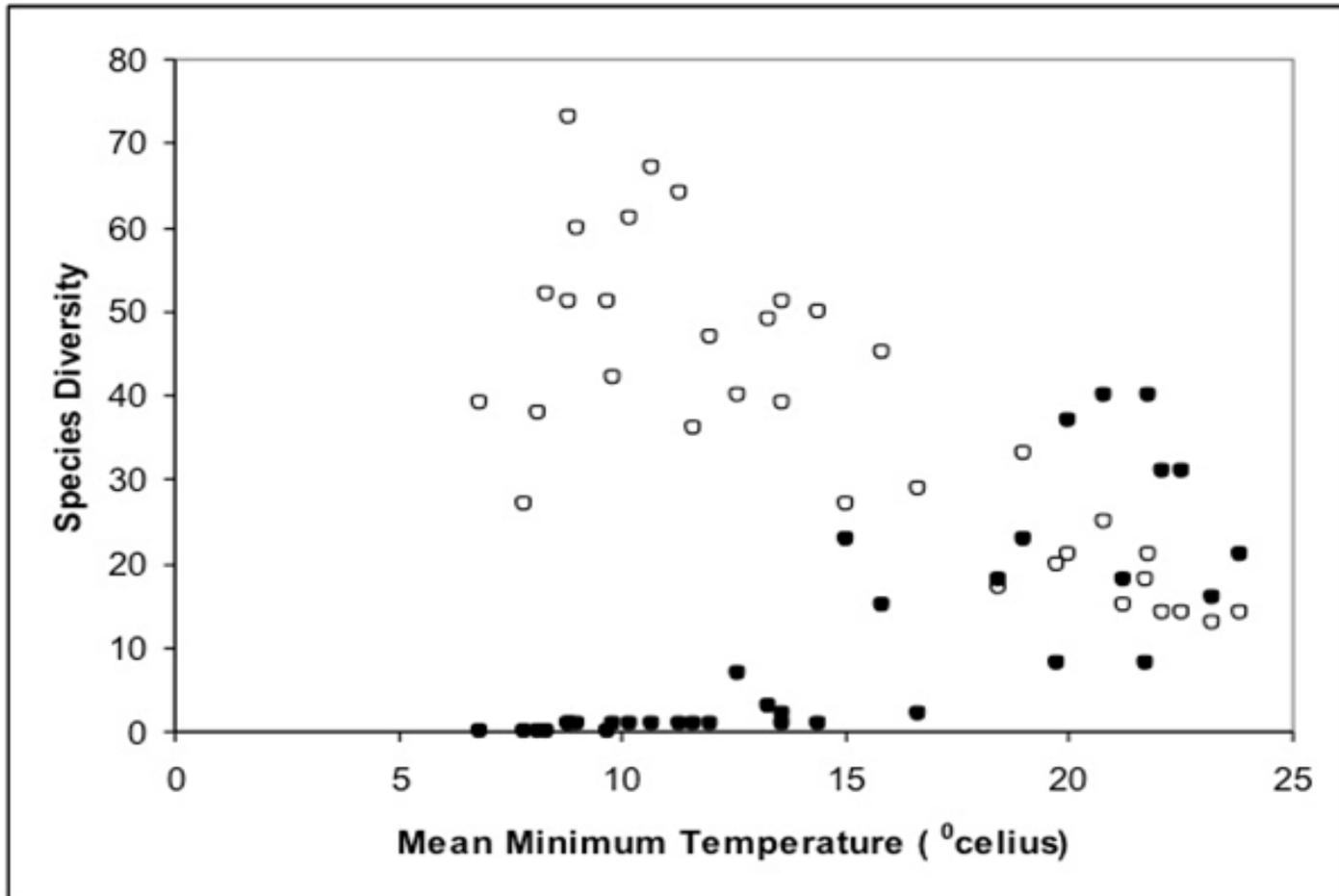


Nightly activity of bats



Mangrove and Saltmarsh diversity and minimum temperature

● mangrove ○ saltmarsh

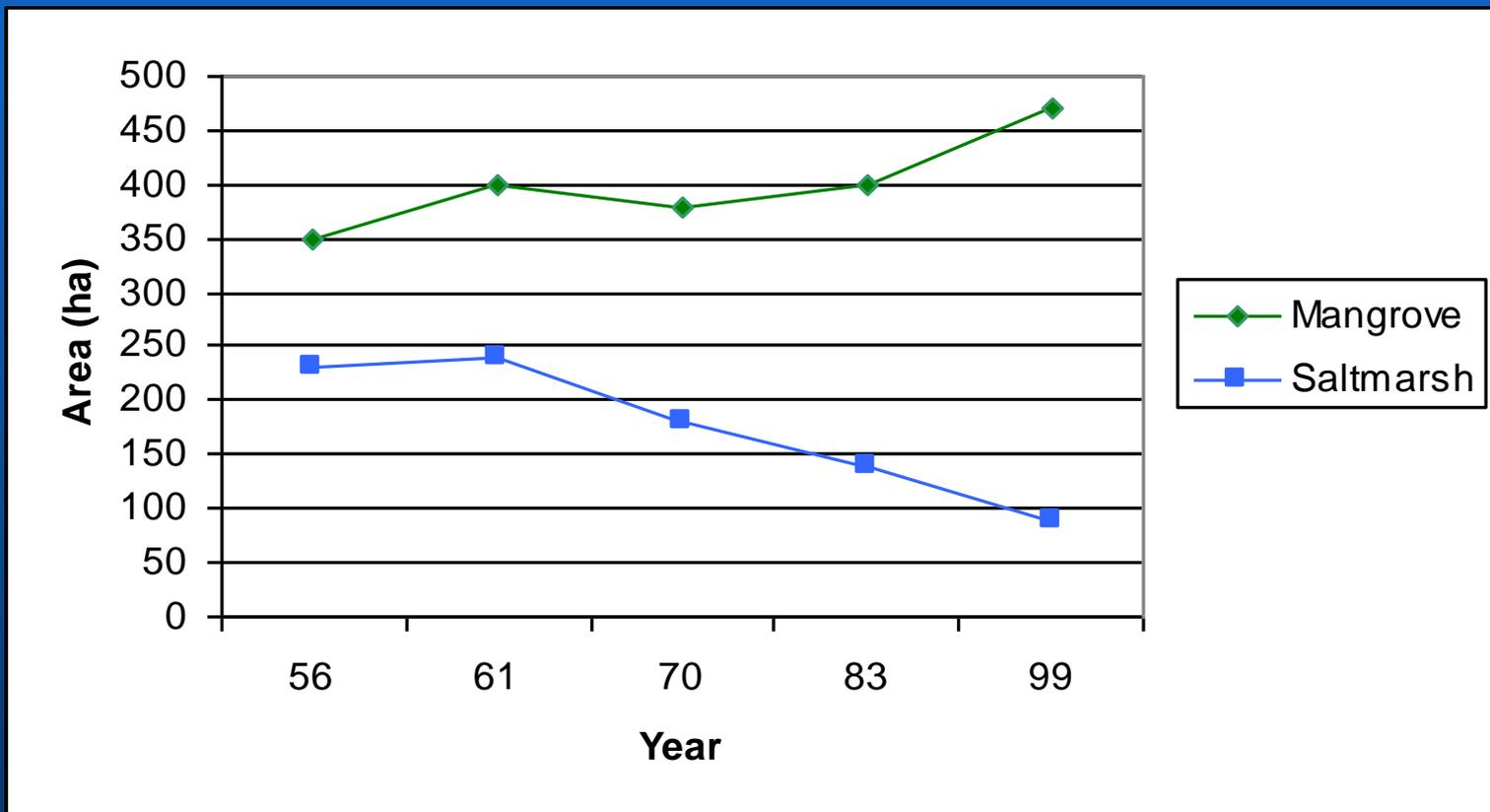


Mangrove Encroachment



Saintilan N. and Williams R. 1999. Mangrove transgression into saltmarsh environments in New South Wales, Australia. *Global Ecology and Biogeography* 8 117-124.

Habitat trends: Towra Point



Gulf of Mexico: Southern Florida, Louisiana, Texas



Vichayal, Peru

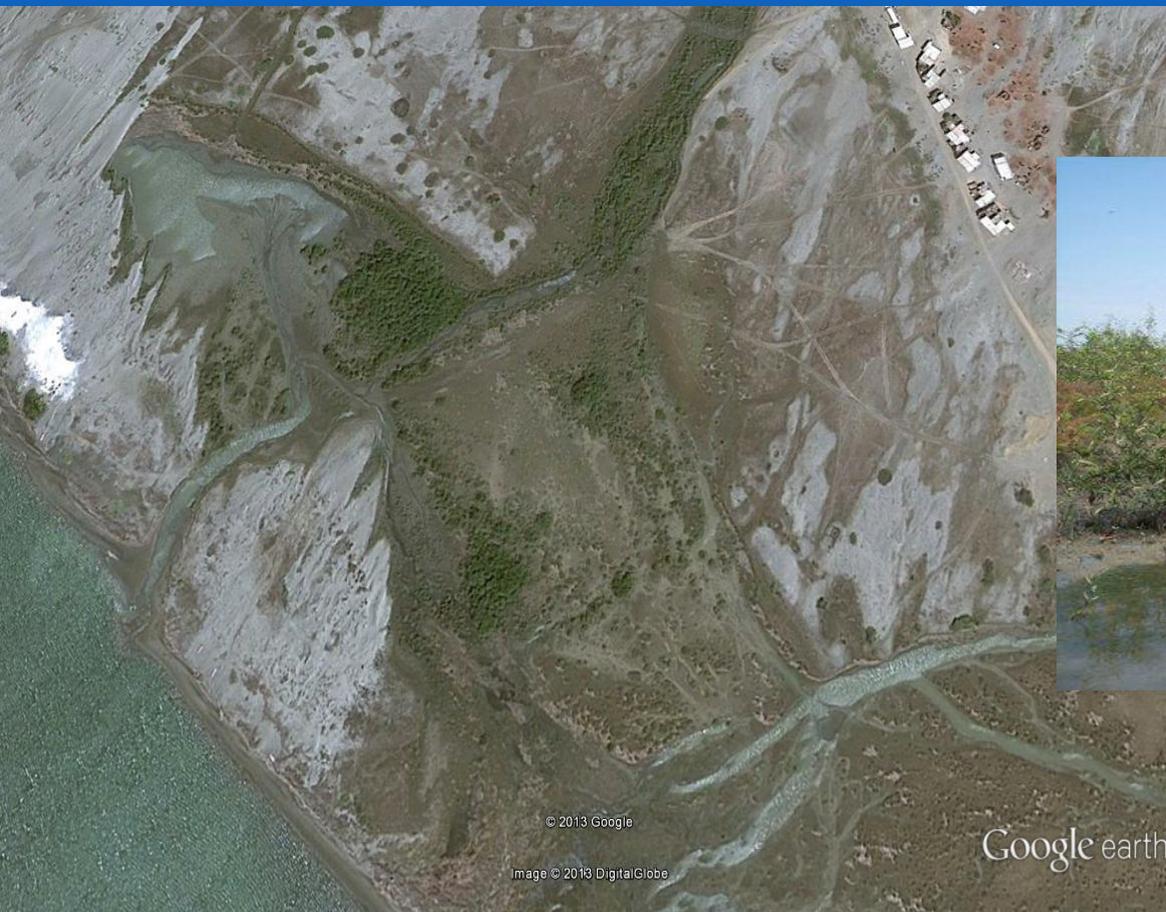


Photo by Manuel Ravelo



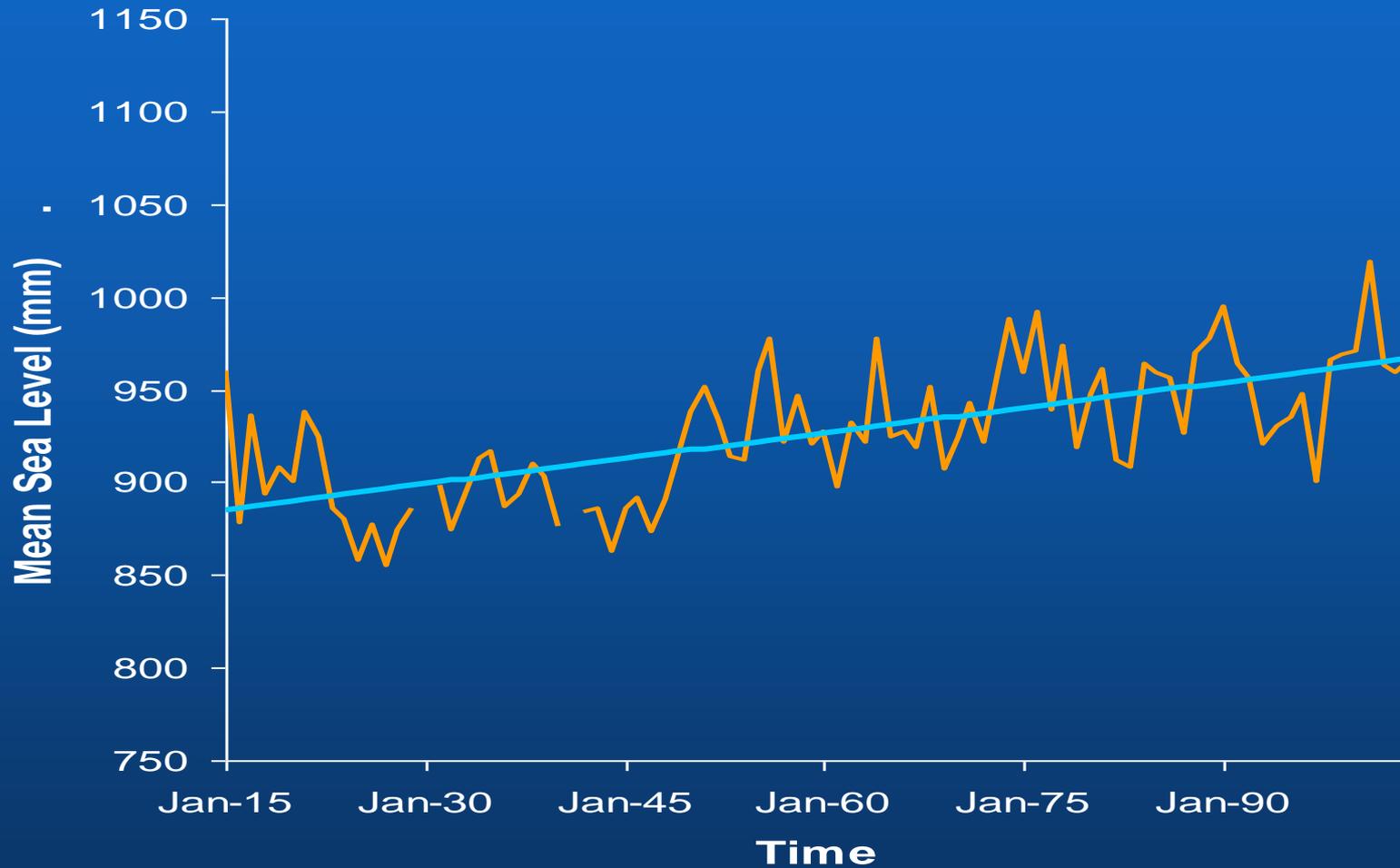


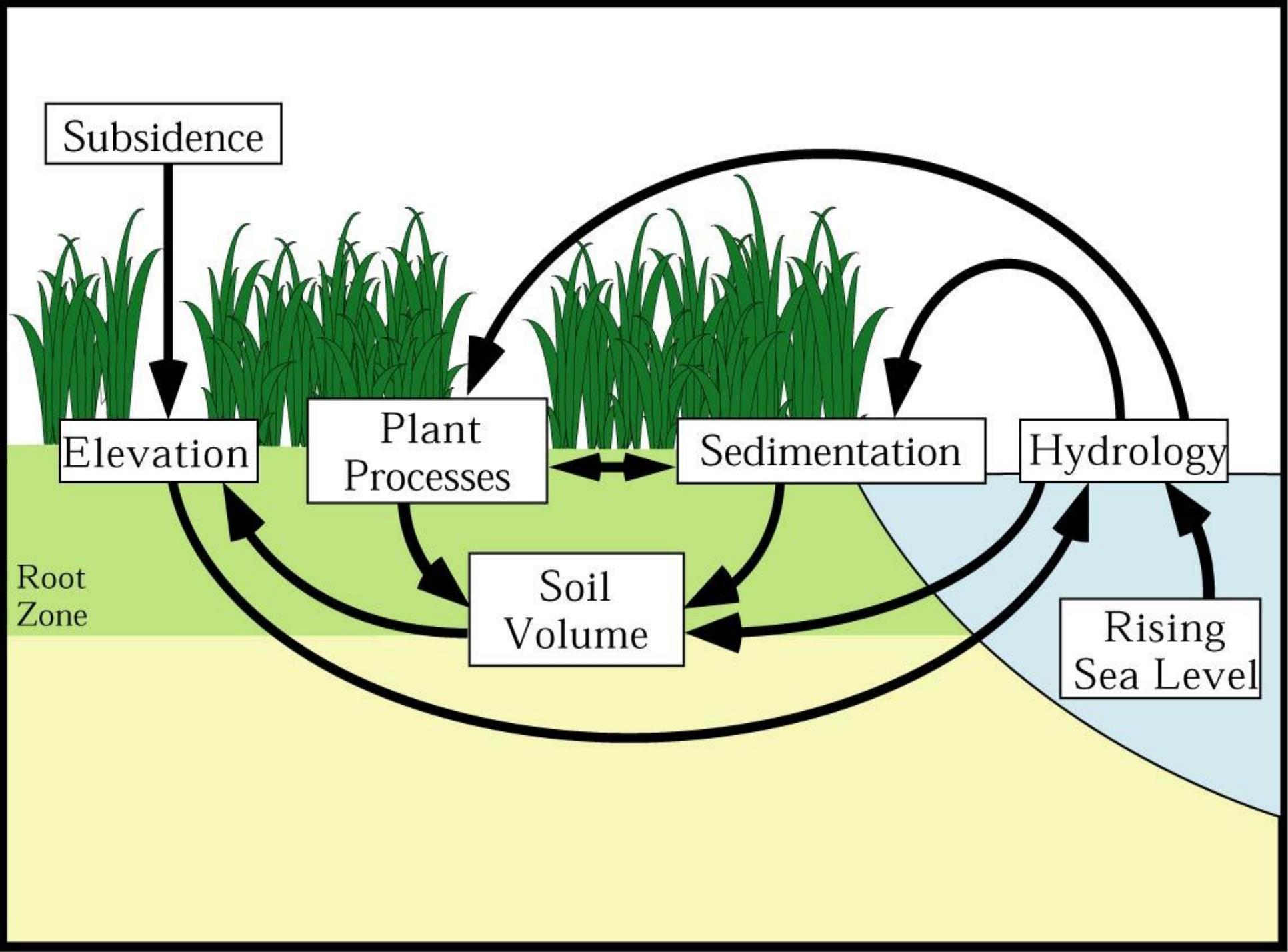
Kei River, South Africa



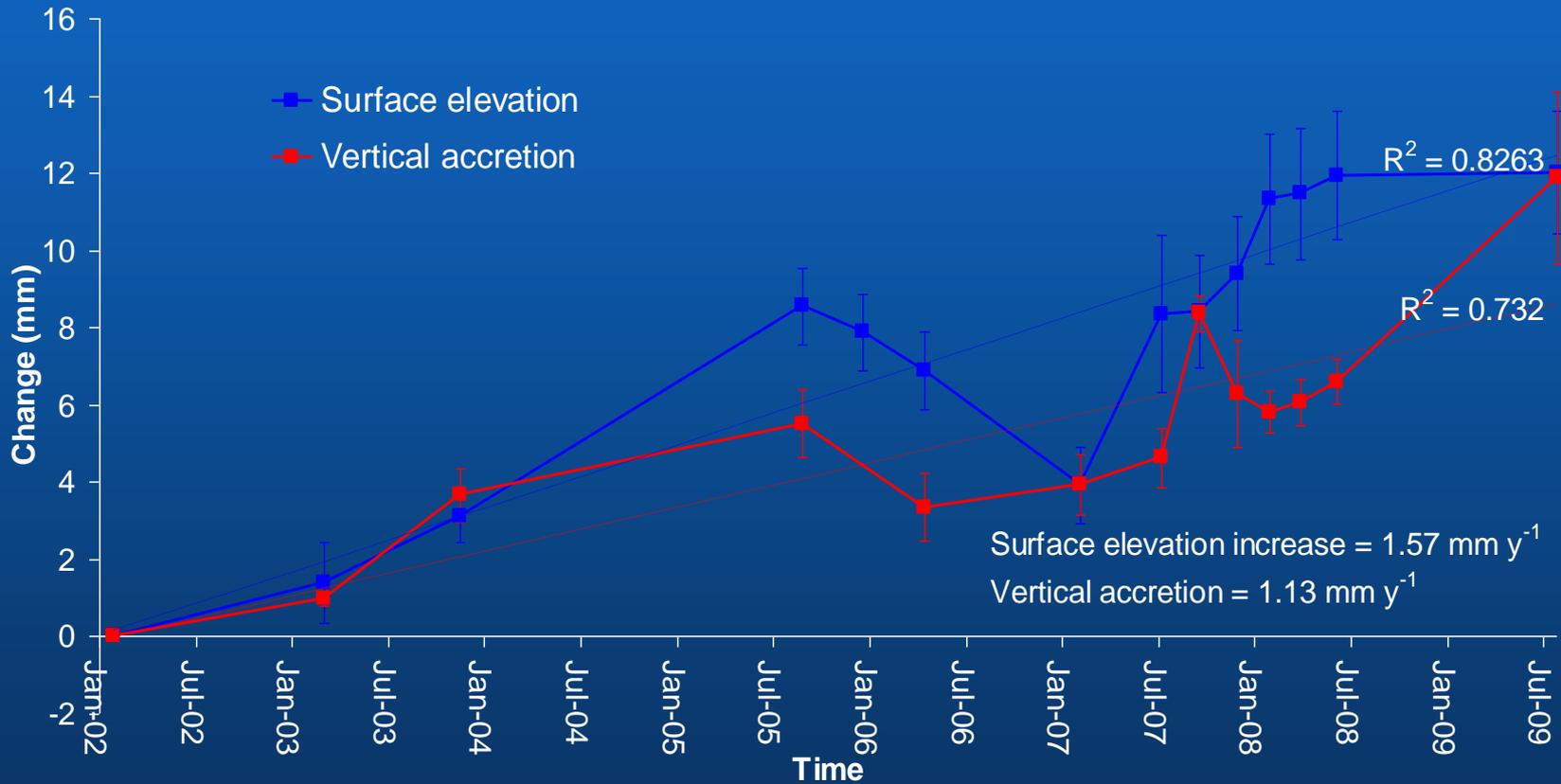


Sea-level trend: Fort Denison



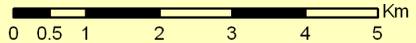
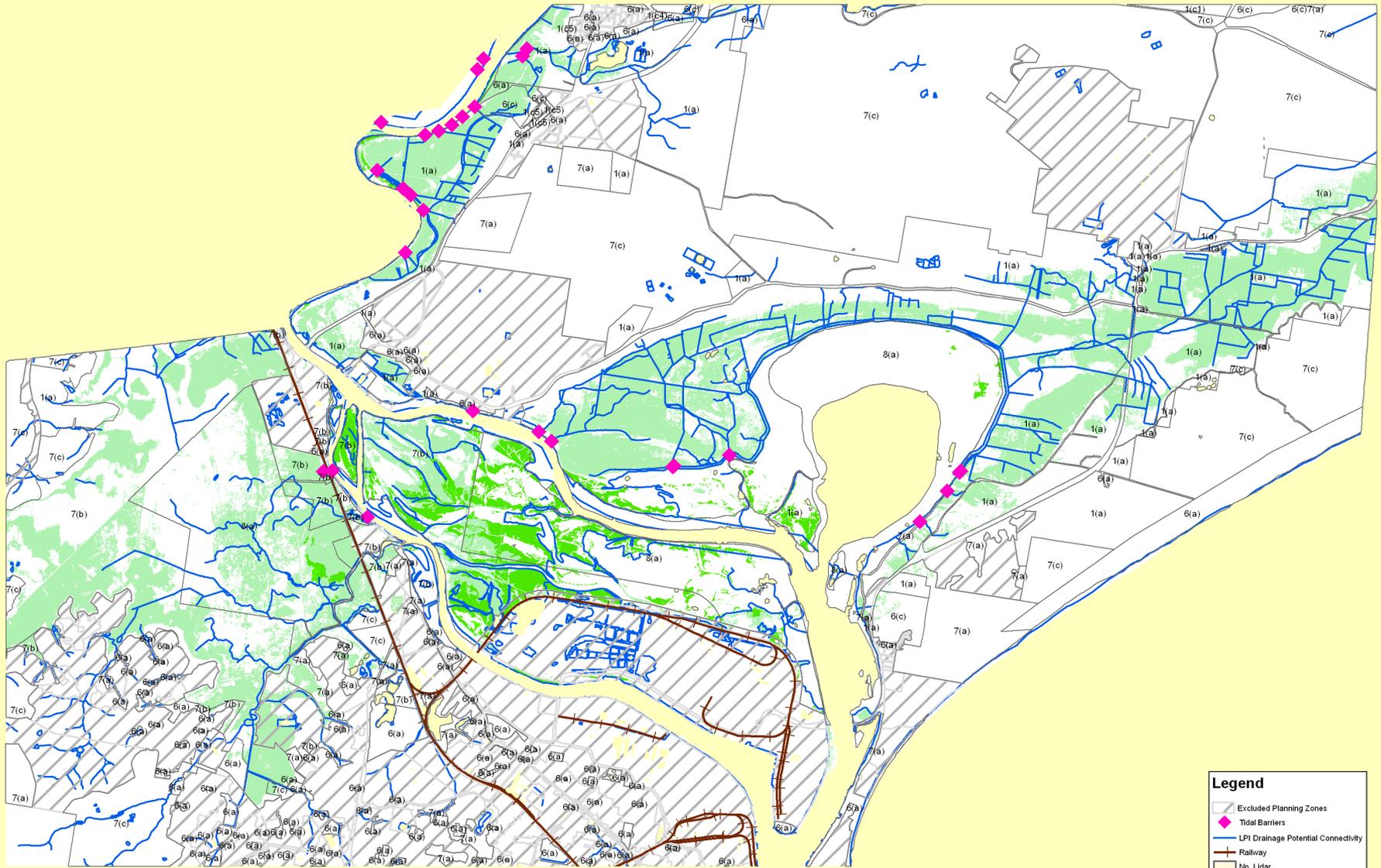


Kooragang Island marsh elevation dynamics





Existing saltmarsh and supporting range



Source: Copeland *et al.* (2009) in prep

Legend

- Excluded Planning Zones
- Tidal Barriers
- LPI Drainage Potential Connectivity
- Railway
- No Lidar
- Saltmarsh**
 - Potential
 - Existing / Retained

