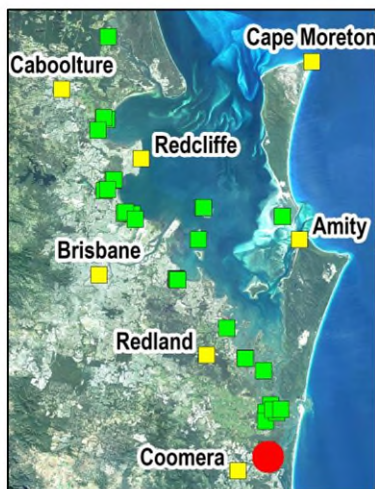
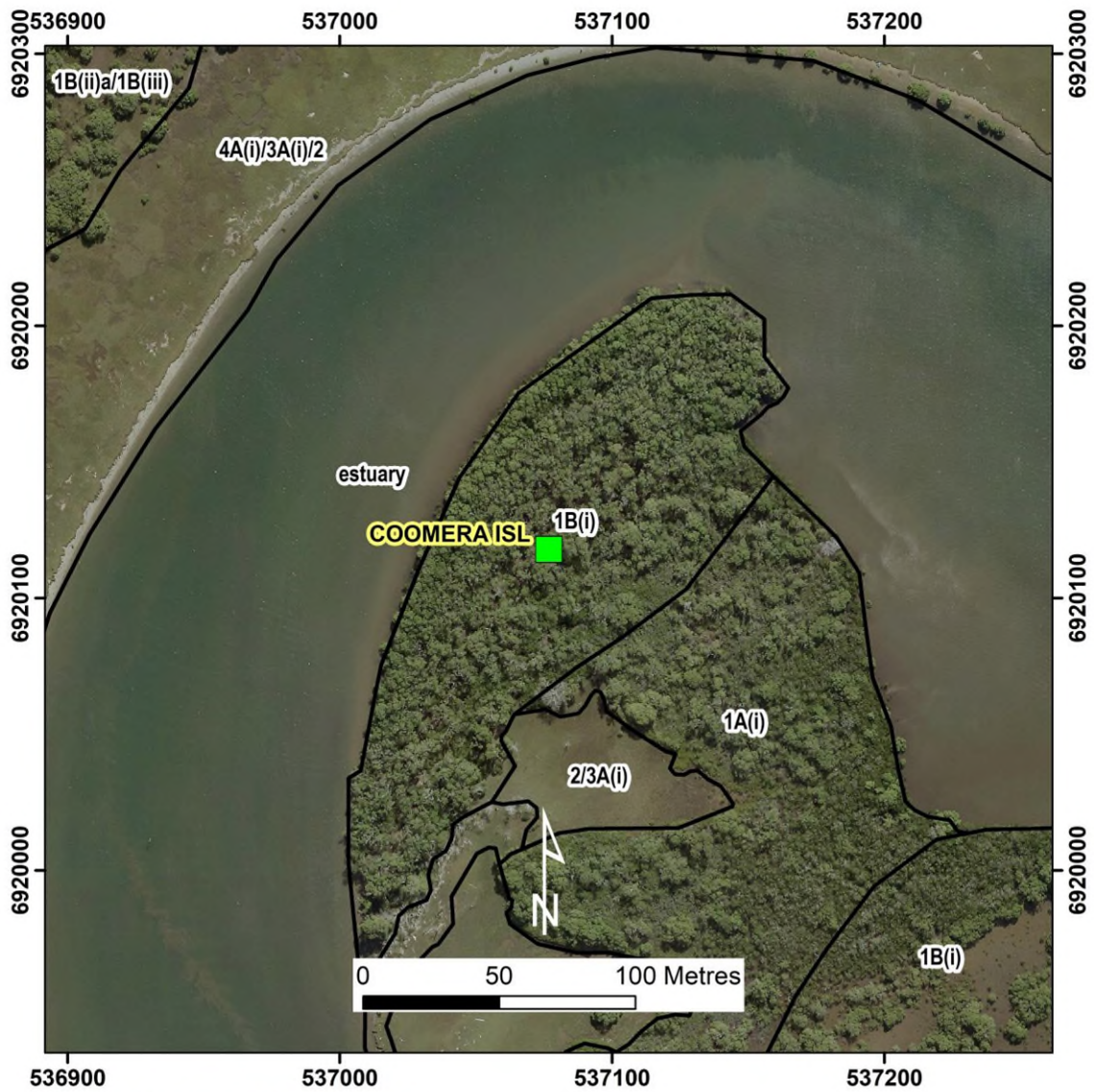


# Coomera Island (site ID = Coomera-Is) Open Forest



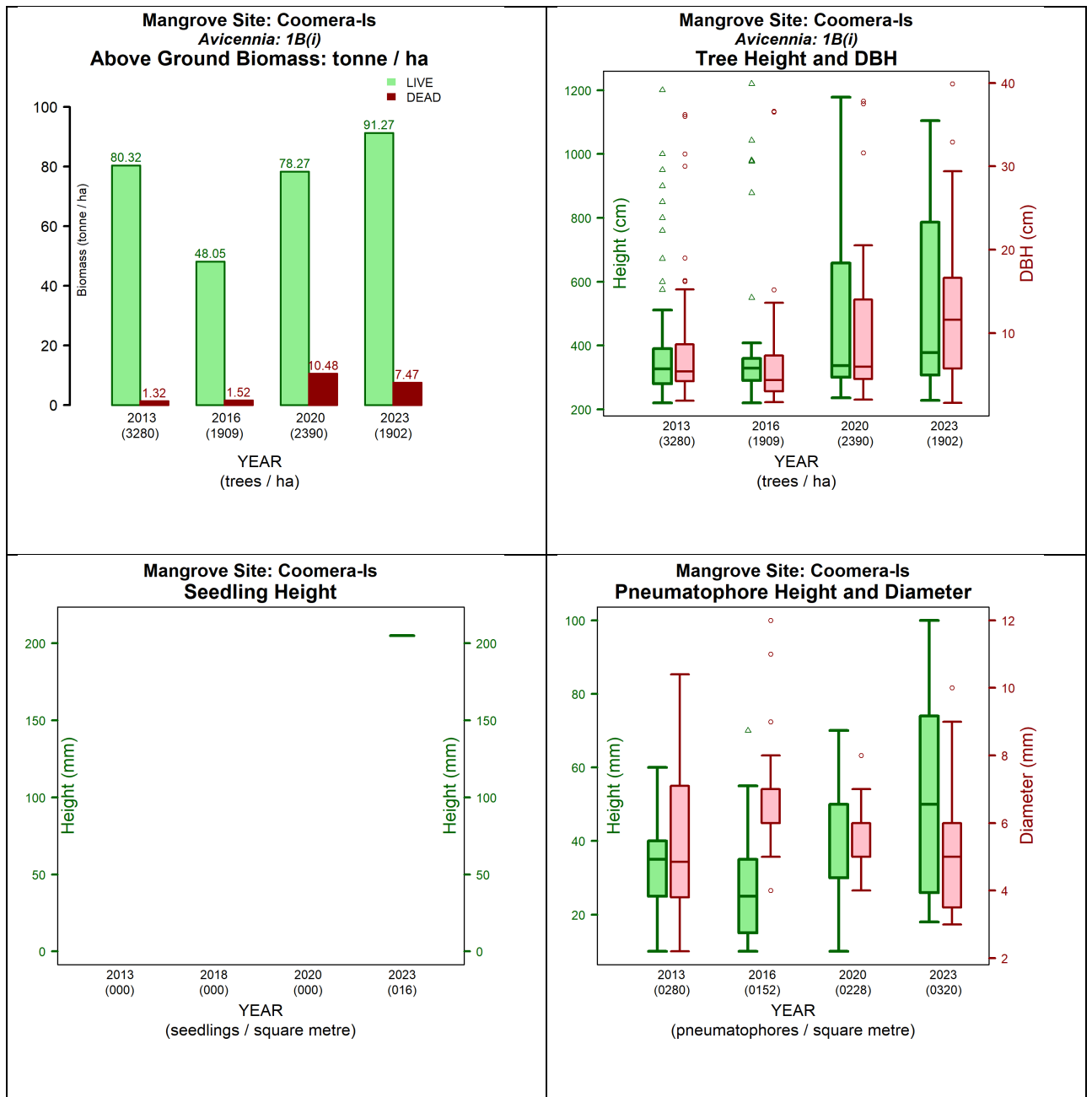
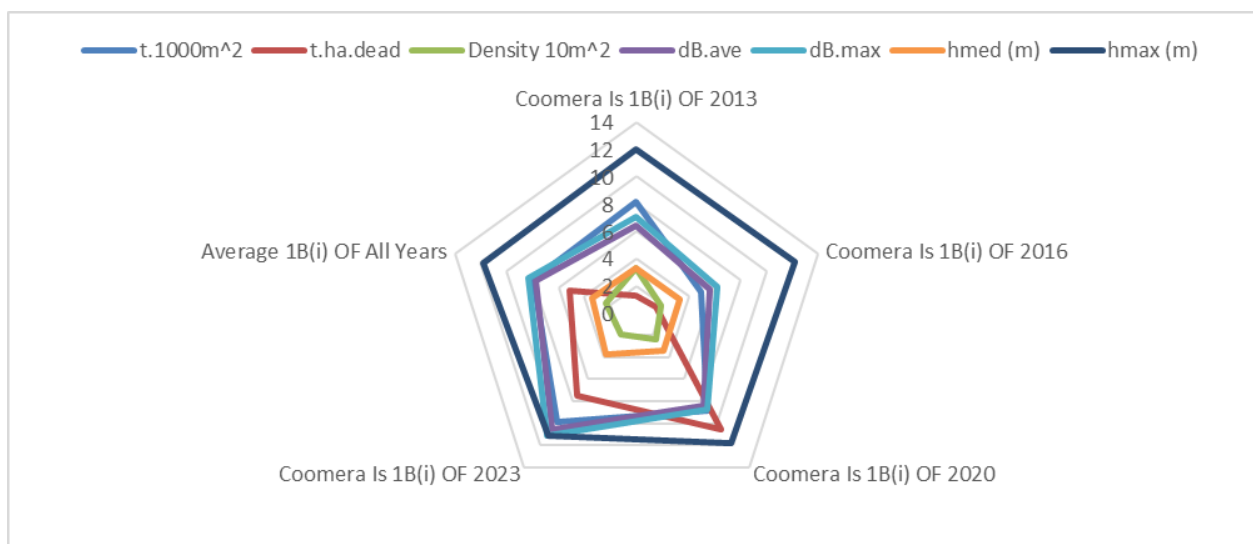


Figure 1. Measurements at site Coomera-Is between 2013 and 2023 (left to right and top to bottom):

- Above ground biomass and density temporal assessment
- Tree height, diameter at breast height (DBH) and stem density temporal assessment
- Pneumatophores height, diameter, and density temporal assessment
- Seedling height and density temporal assessment.

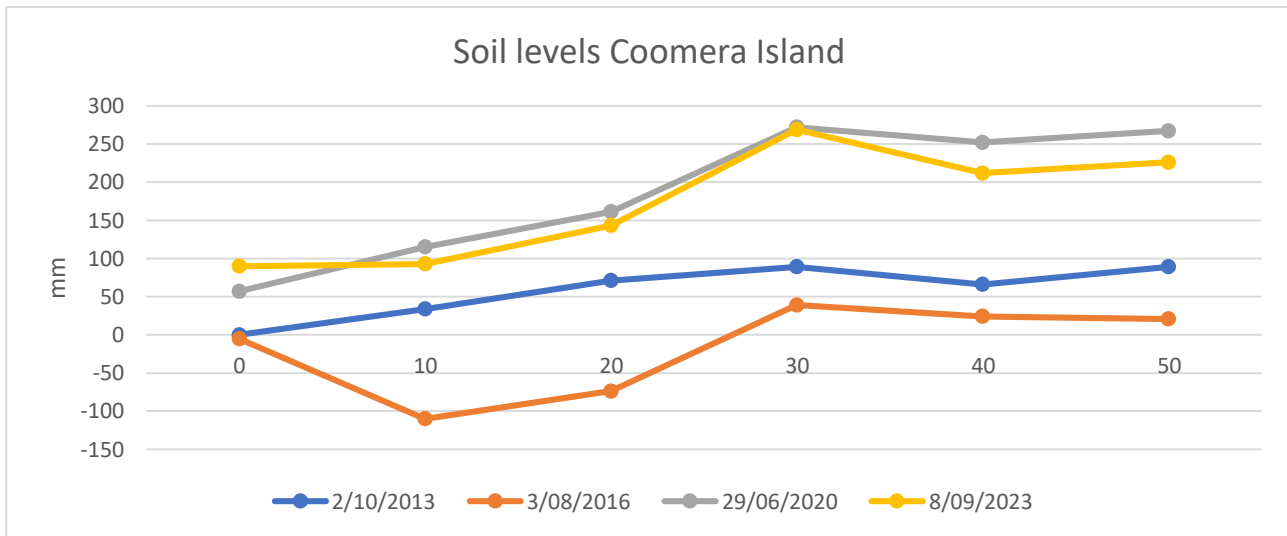


**Figure 2.** Structural changes over the years for Site Coomera Is in comparison to average of all sites of vegetation community type 1B(i) by structural formations. The graph indices: t.1000m<sup>2</sup> is the tonne of live biomass (tonnes) in 1000m square; t.ha.dead is the dead biomass (tonnes) in a hectare; Density 10m<sup>2</sup> is the number of trees in 10m square; dB.ave is the average diameter at breast height in centimetres ; dB.max is the maximum diameter at breast height in centimetres; hmed (m) is the median tree height (meters); hmax (m) is the maximum tree height (meters).

**Table 1.** Queensland Biodiversity Ecological Information System (QBEIS) temporal assessment for site Coomera Is.

Date	2.10.2013	30.08.2016	29.06.2020	8.09.2023
E Spp.				
T1 Spp.	<i>Avicennia marina</i> subsp. <i>australasica</i> ; <i>Dead tree</i>	<i>Avicennia marina</i> subsp. <i>australasica</i> ; <i>Dead tree</i>	<i>Avicennia marina</i> subsp. <i>australasica</i> ; <i>Dead tree</i>	<i>Avicennia marina</i> subsp. <i>australasica</i> ; <i>Dead tree</i>
T1 Med Canopy Height	10	10	10	10
T1 Range low	9	9	9	9
T1 Range High	11	11	11	11
T1 Crown Cover	58	58	67	52
T1 Stem Count	22; 2	19; 2	18; 4	12; 3
T2 Spp.	<i>Avicennia marina</i> subsp. <i>australasica</i> ; <i>Bruguiera gymnorhiza</i> ; <i>Aegiceras corniculatum</i>	<i>Avicennia marina</i> subsp. <i>australasica</i> ; <i>Rhizophora stylosa</i> ; <i>Bruguiera gymnorhiza</i>	<i>Avicennia marina</i> subsp. <i>australasica</i> ; <i>Rhizophora stylosa</i> ; <i>Bruguiera gymnorhiza</i>	<i>Avicennia marina</i> subsp. <i>australasica</i> ; <i>Bruguiera gymnorhiza</i> ; <i>Rhizophora stylosa</i>
T2 Med Canopy Height	5	5.2	5.5	5.5
T2 Range low	4.5	4.5	4.5	4.5
T2 Range high	5.5	5.5	5.5	5.5
T2 Crown Cover	2	10	11	11
T2 stem count	5; 9; 1	5; 2; 3	5; 3; 3	5; 3; 3

S1 Spp.	<i>Aegiceras corniculatum</i> ; <i>Bruguiera gymnorhiza</i> ; Dead tree ( <i>Aegiceras corniculatum</i> )	<i>Aegiceras corniculatum</i> ; <i>Rhizophora stylosa</i>	<i>Aegiceras corniculatum</i> ; <i>Rhizophora stylosa</i>	<i>Aegiceras corniculatum</i> <i>Rhizophora stylosa</i>
S1 Med Canopy Height	2	1	3	3.5
S1 Range low	1.5	0.5	2.5	2.5
S1 Range high	2.5	1.5	4	4
S1 Crown Cover	15	<1	20	10
S1 stem count	140; 2; 6	110; 1	104; 1	56, 1
S2 Spp.			<i>Ceriops australis</i>	<i>Ceriops australis</i>
S2 Med Canopy Height			1	1.8
S2 Range low			1	1.8
S2 Range high			1	1.8
S2 Crown Cover			+	+
S2 stem count			+	1
G Spp.	<i>Avicennia marina</i> subsp. <i>australasica</i> ; <i>Rhizophora stylosa</i> ; <i>Aegiceras corniculatum</i>	<i>Avicennia marina</i> subsp. <i>australasica</i> ; <i>Ceriops australis</i>	<i>Avicennia marina</i> subsp. <i>australasica</i> ; <i>Rhizophora stylosa</i> ; <i>Bruguiera gymnorhiza</i>	<i>Rhizophora stylosa</i> <i>Avicennia marina</i> subsp. <i>australasica</i> <i>Aegiceras corniculatum</i>
G Med Canopy Height	0.2	0.1	0.5	0.5
G Range low	0.1	0.1	0.5	0.5
G Range high	0.3	0.1	0.5	0.5
G Cover	<1	<1	+	+
Individual Covers	++; +	+; +	++; +	+; ++



**Figure 3. Soil surface elevation measurements (mm) are taken across the QBEIS sites using dumpy level.**

### Summary

1. Stable species composition in T1, T2 while S1 with an increased number of shrubs. Fluctuation in ground layer species composition.
2. T1, T2 and S1 tree/shrub heights stable to slight increase with slight increase in cover but reduction in stem count. Ground cover and height has slightly increased.
3. Mean tree heights and mean DBH have slightly increased with densities reduced by 37%, leading to an increase of 8.5% in above ground biomass in the site.
4. Large increase (from 1.6% in 2013 to 11.8% in 2020) of the proportion of dead to live biomass within the site.
5. Pneumatophore mean height and girth has increased over the years.
6. No seedlings have been recorder during the first the three periods in the quadrats but are present during these years across the site.
7. Soil max range level across the plot have fluctuated over the years, initially eroded and has largely increased, rising 60mm to 149mm with accretion of up to 57mm recorded.
8. Soil levels have accreted over the period.



Figure 4. Photograph of Site Coomera Island *Avicennia marina* subsp. *australasica* community type 1B(i) Open Forest.