

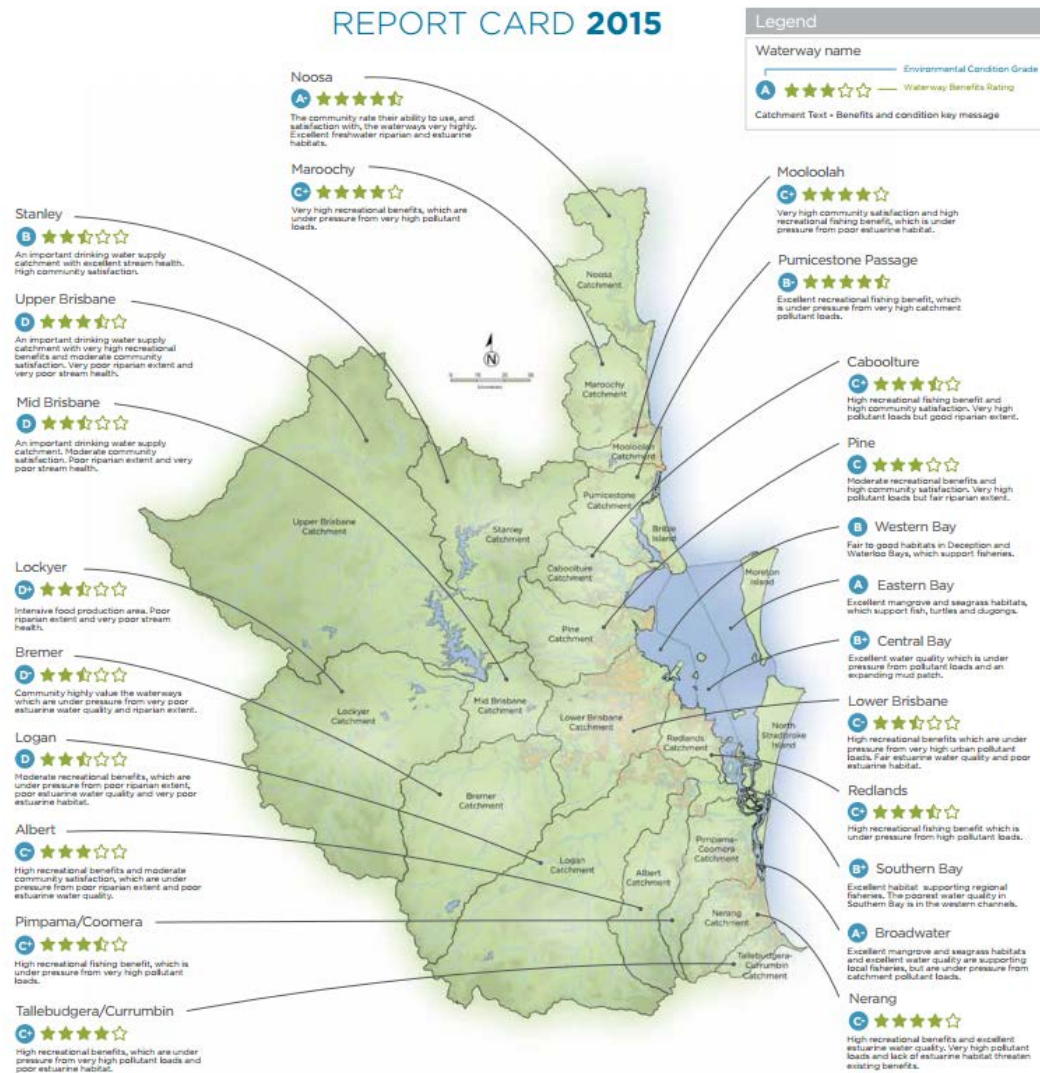


Estuarine values of the Maroochy River

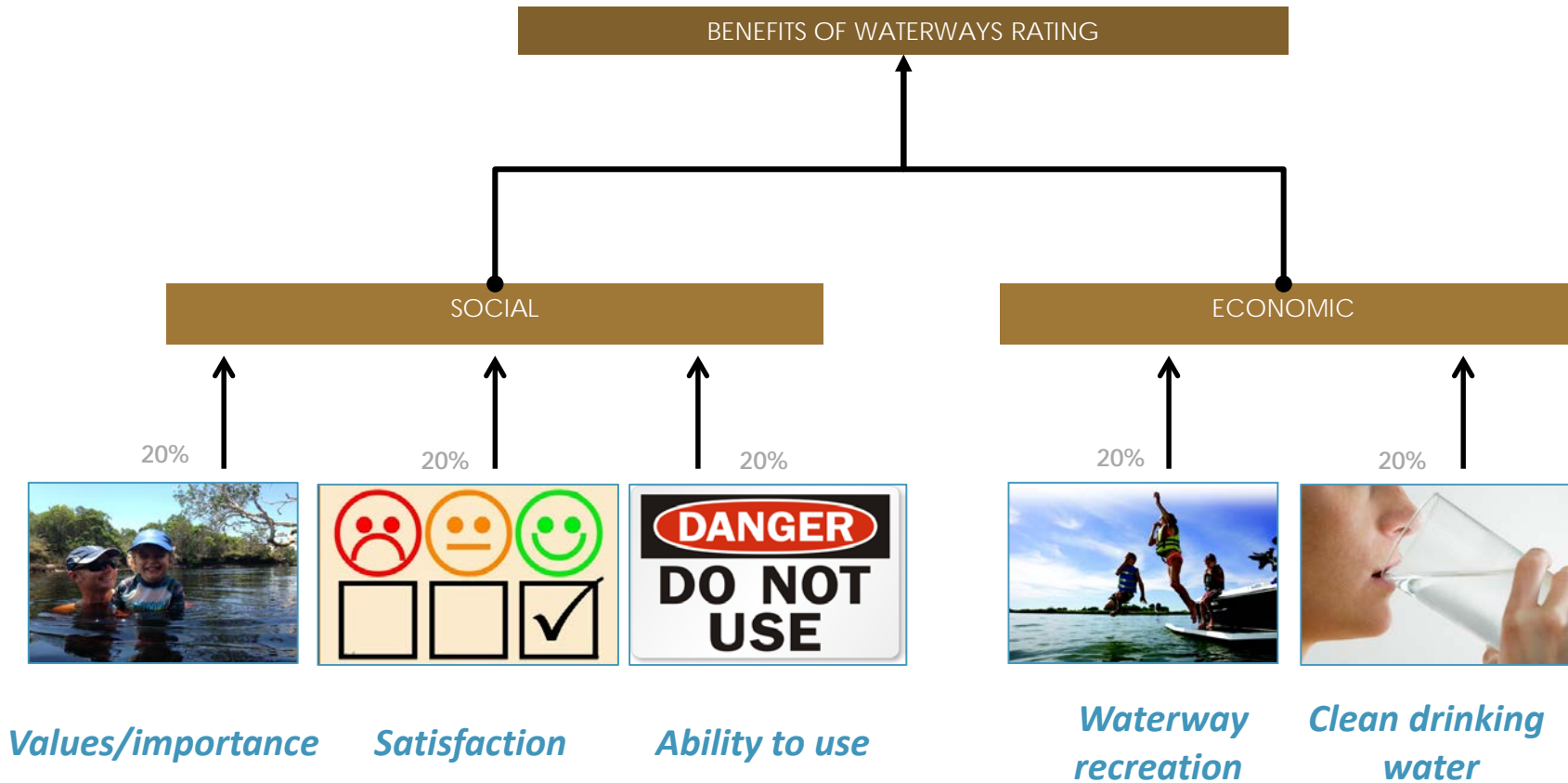
Specks of Sand 13th May 2017



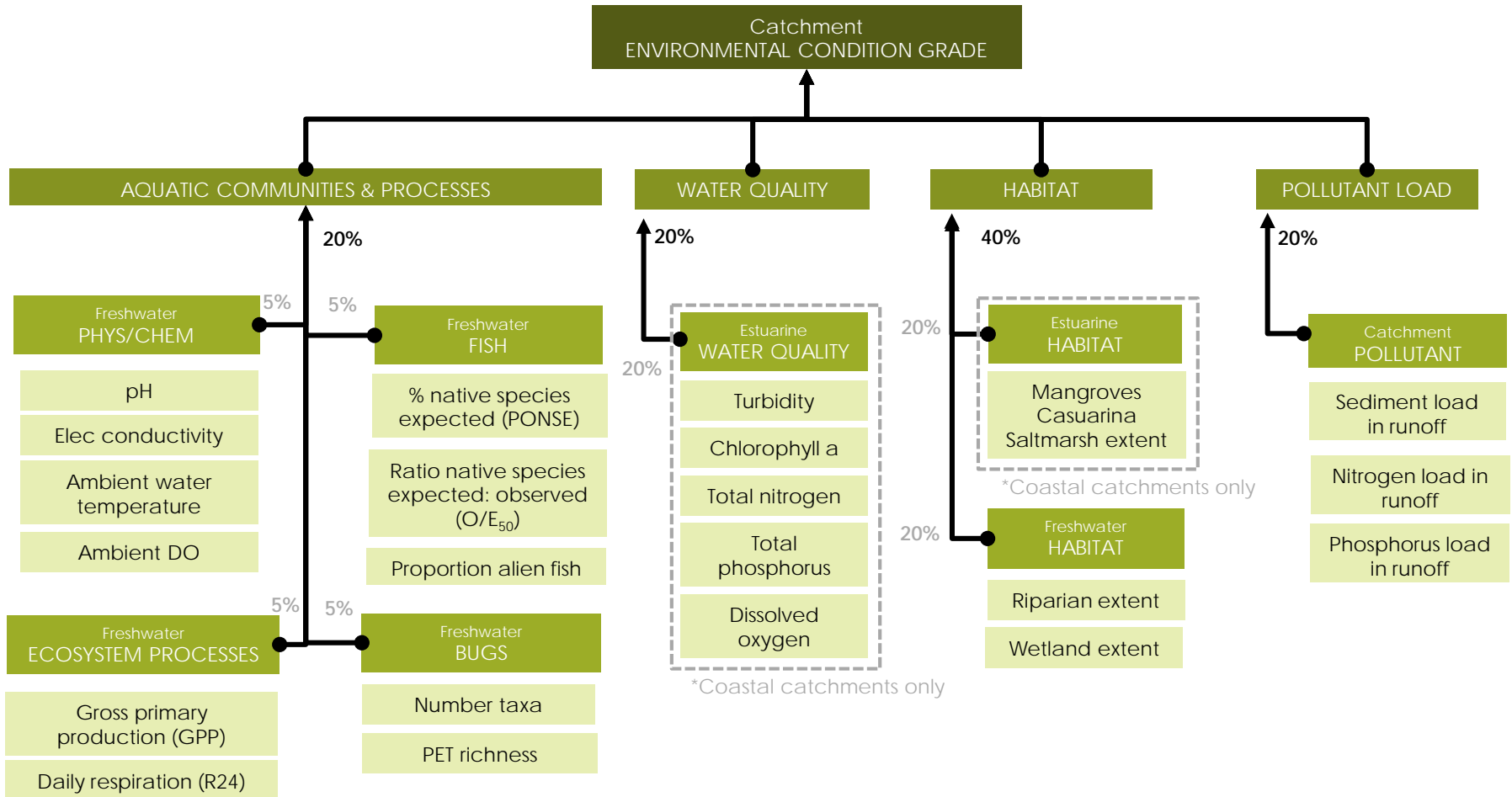
SEQ Waterways Report Card



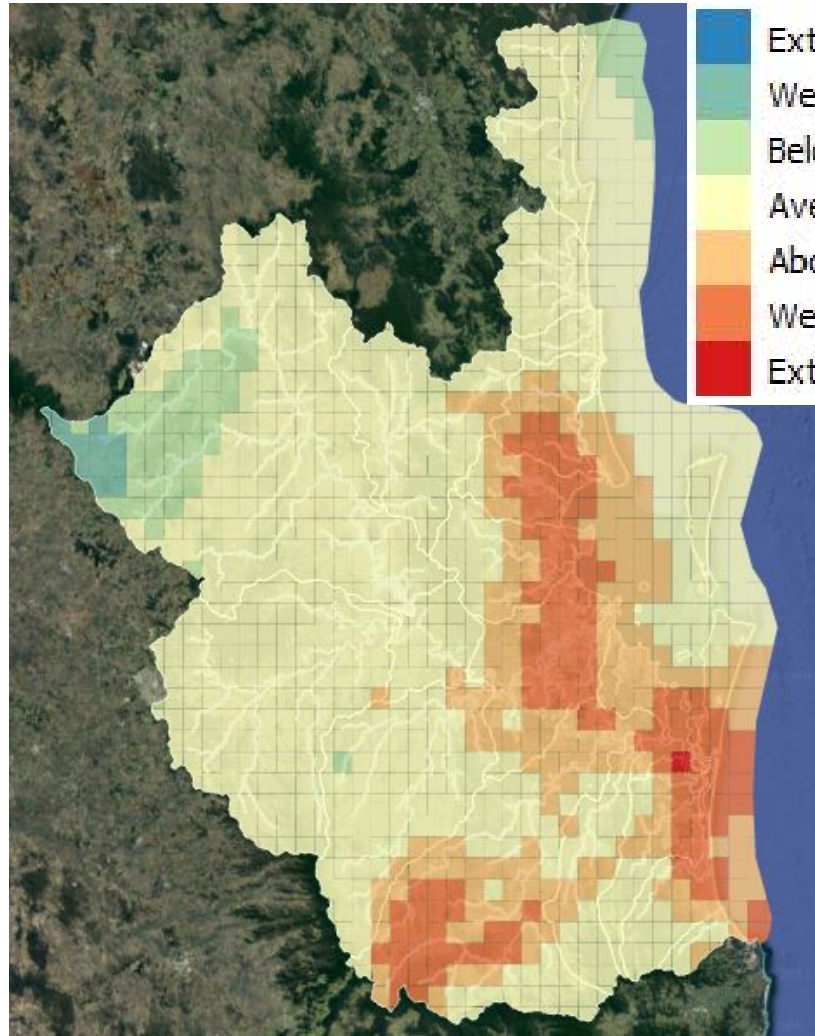
Benefits Ratings



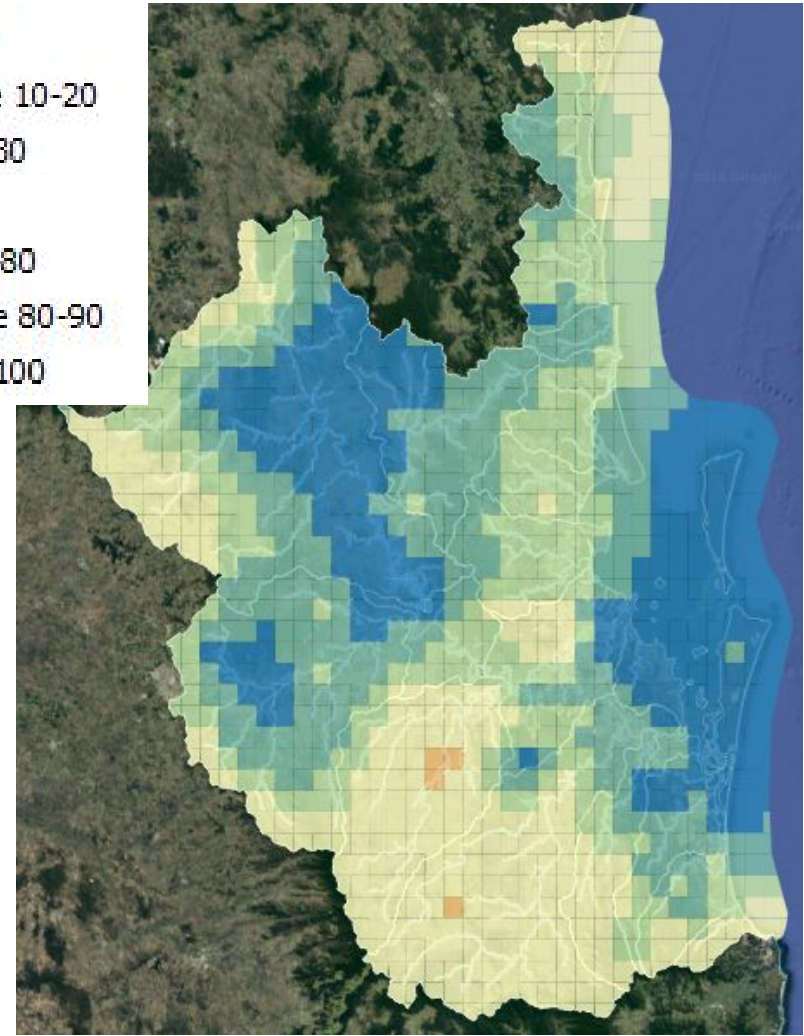
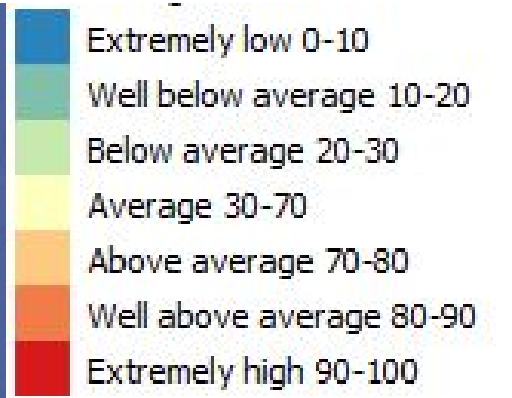
Environmental condition grade



Pressures - rainfall

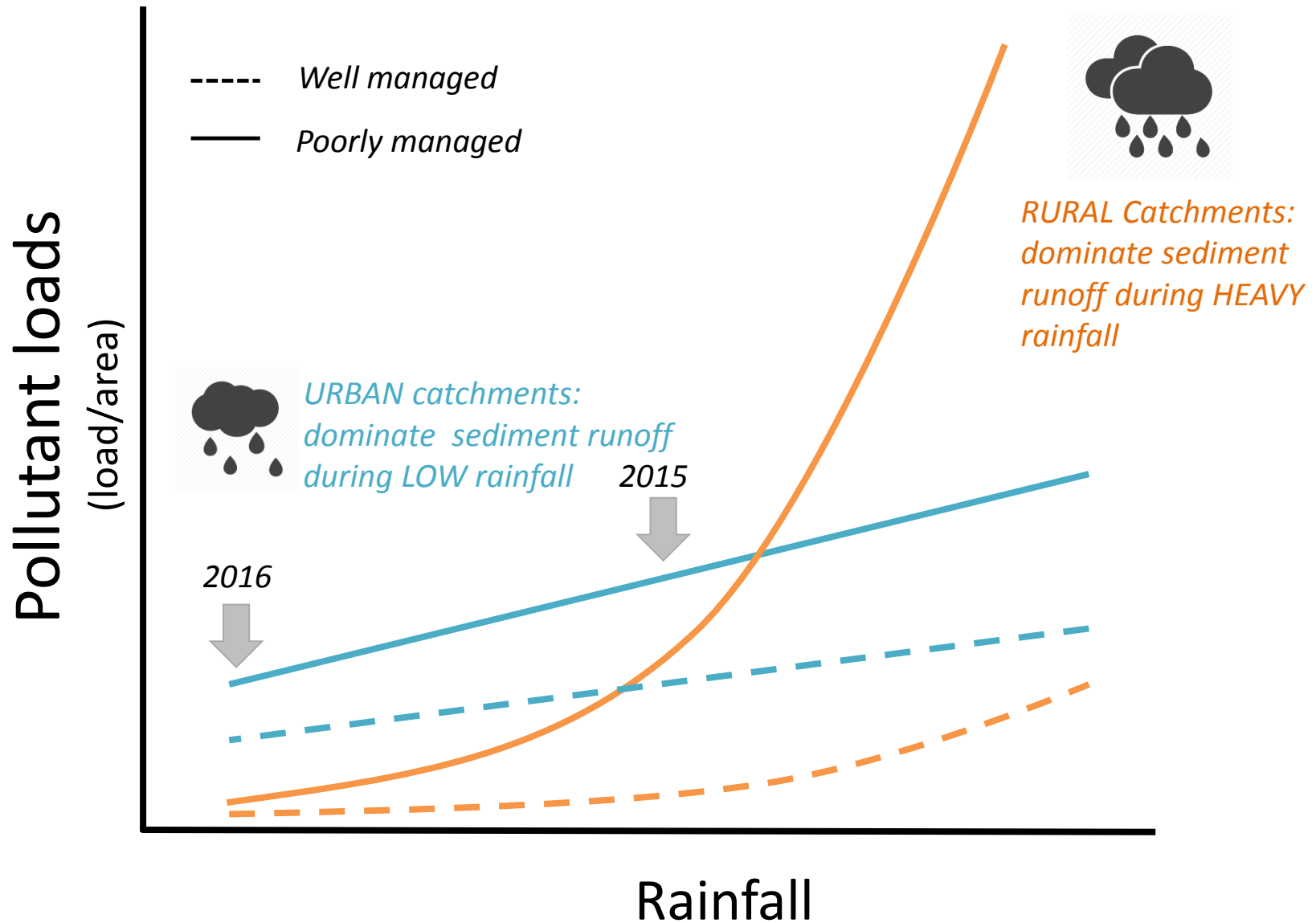


2015 Annual rainfall



2016 Annual rainfall

Condition, management & rainfall affect pollutant loads



Maroochy estuary 2002-2014

year	Report Card rating
2002	C
2003	D+
2004	D
2005	C
2006	D+
2007	C-
2009	D
2010	C
2011	D+
2012	C-
2013	C
2014	B-

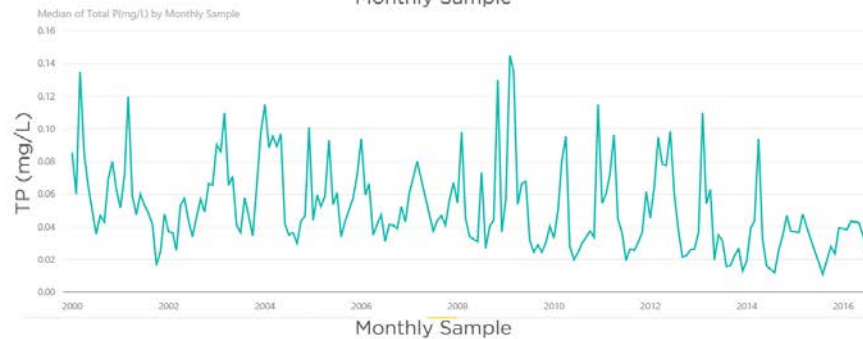
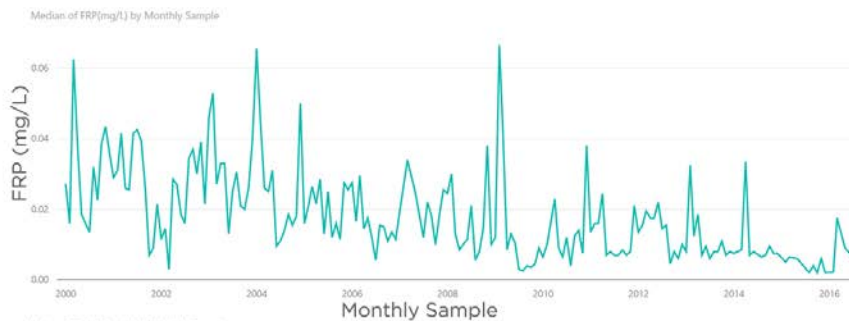
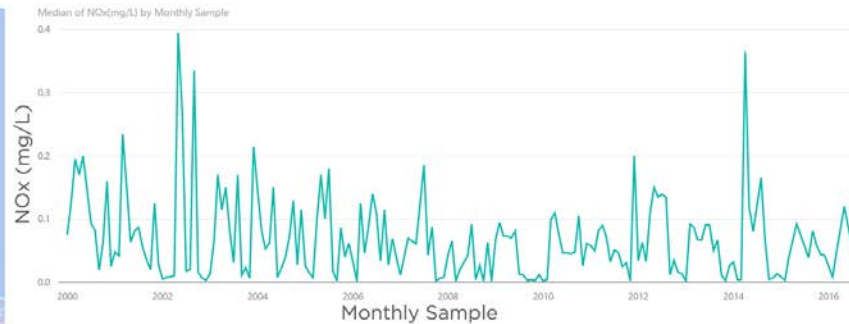
Algae, Biological Health Rating,
TN, TP, Turbidity

D – poor – conditions are unlikely to meet ecosystem health and values in most of the reporting region, many key processes are not functional and many critical habitats are impacted.

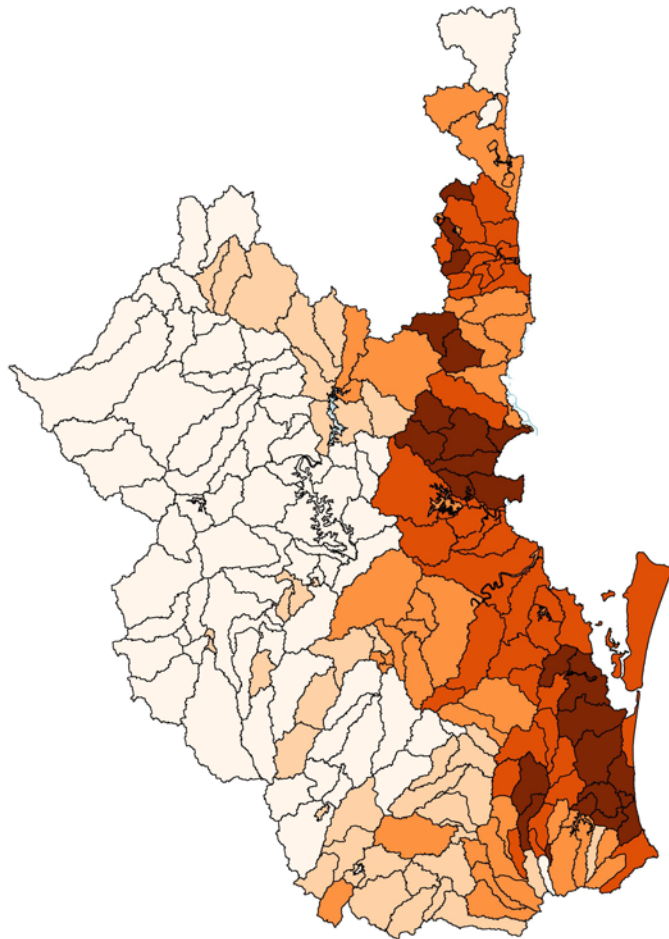
C- Fair – conditions meet some ecosystem health values in most of the reporting region; some key processes are functional and some critical habitats are impacted.

B – good – conditions meet all Ecosystem Health values in most of the reporting region; most key processes are functional and most habitats are intact.

Maroochy – N & P since 2000

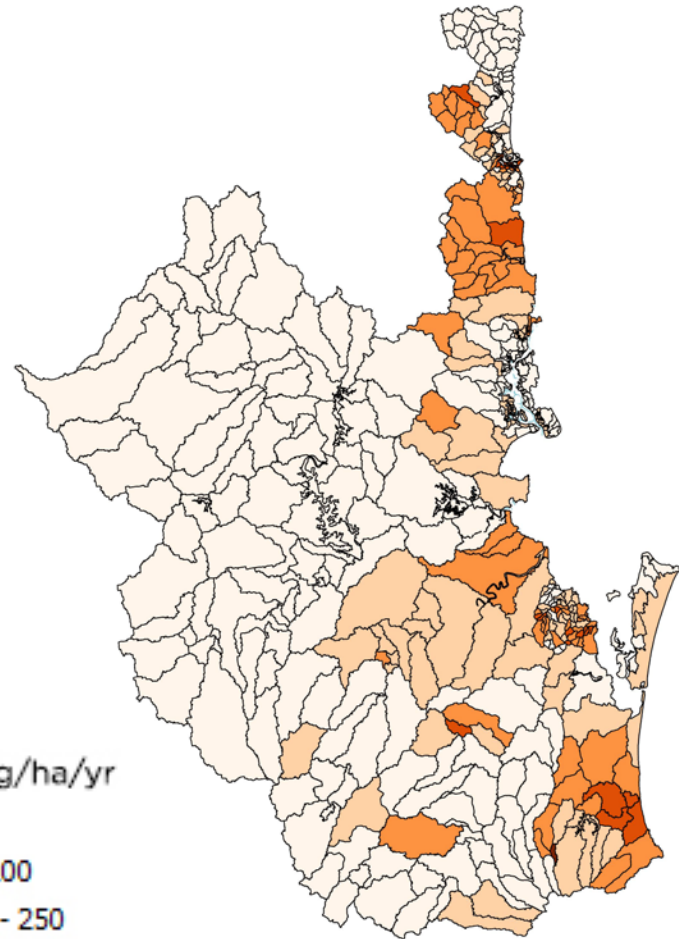
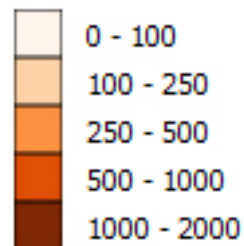


Lower pollutant loads in 2016



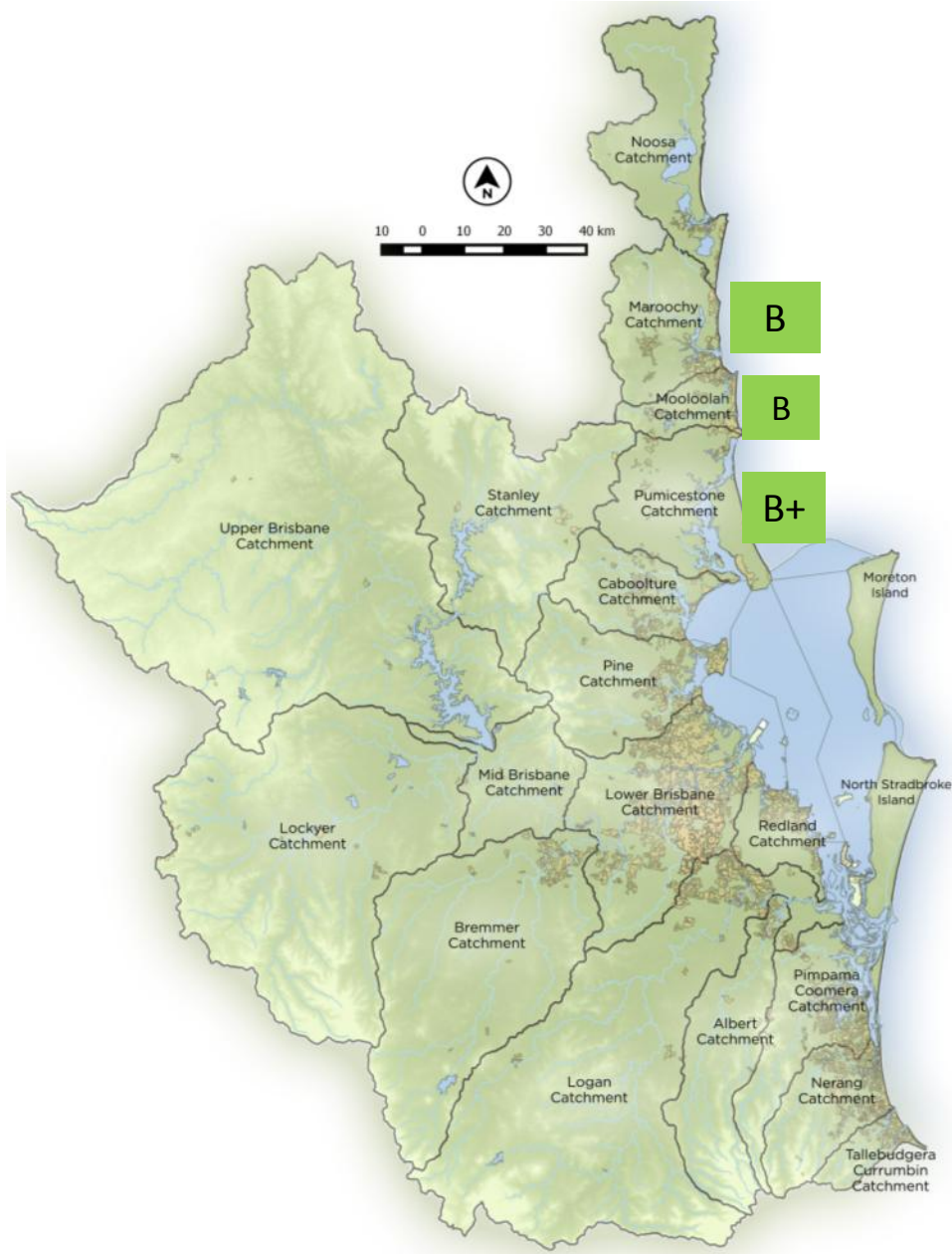
2015 TSS Loads (kg/ha/yr)

TSS Kg/ha/yr



2016 TSS Loads (kg/ha/yr)

Catchment Environmental Condition 2016



Maroochy Catchment (C+ to B)

- Much lower pollutant loads
- Better water quality in the estuary
- Good habitat

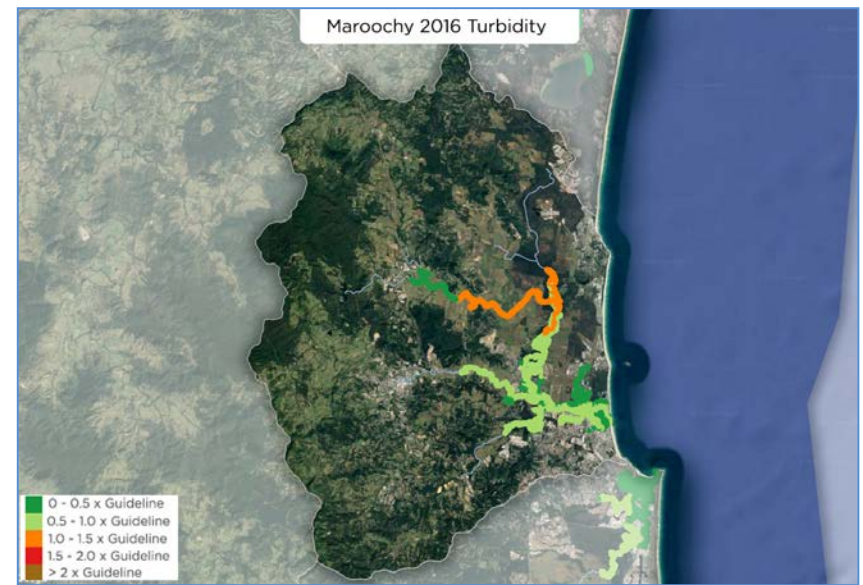
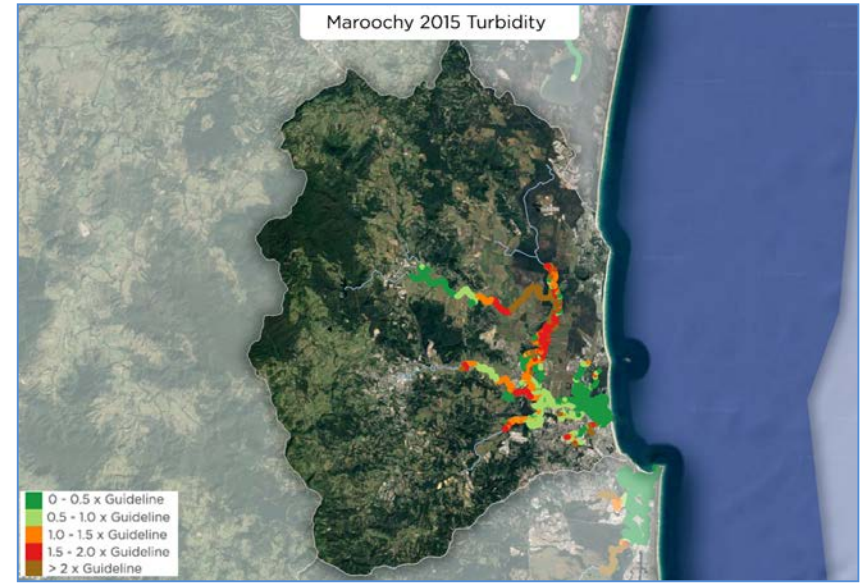
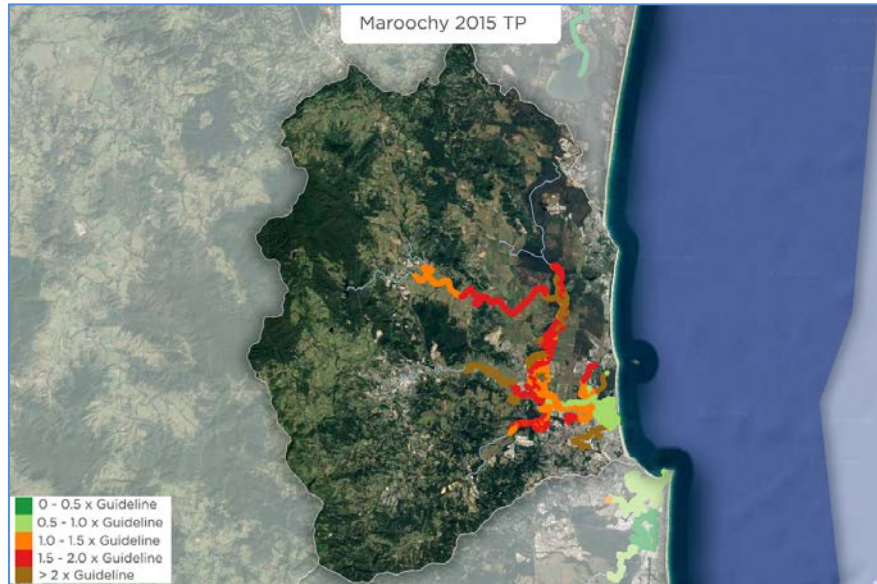
Mooloolah Catchment (C+ to B)

- Much lower pollutant loads
- Better water quality in the estuary

Pumicestone Passage (B- to B+)

- Much lower pollutant loads
- Better water quality in the Passage

Maroochy – 2015 & 2016 TP & turbidity



Significant pressures – Wetland loss



Cultural heritage significance

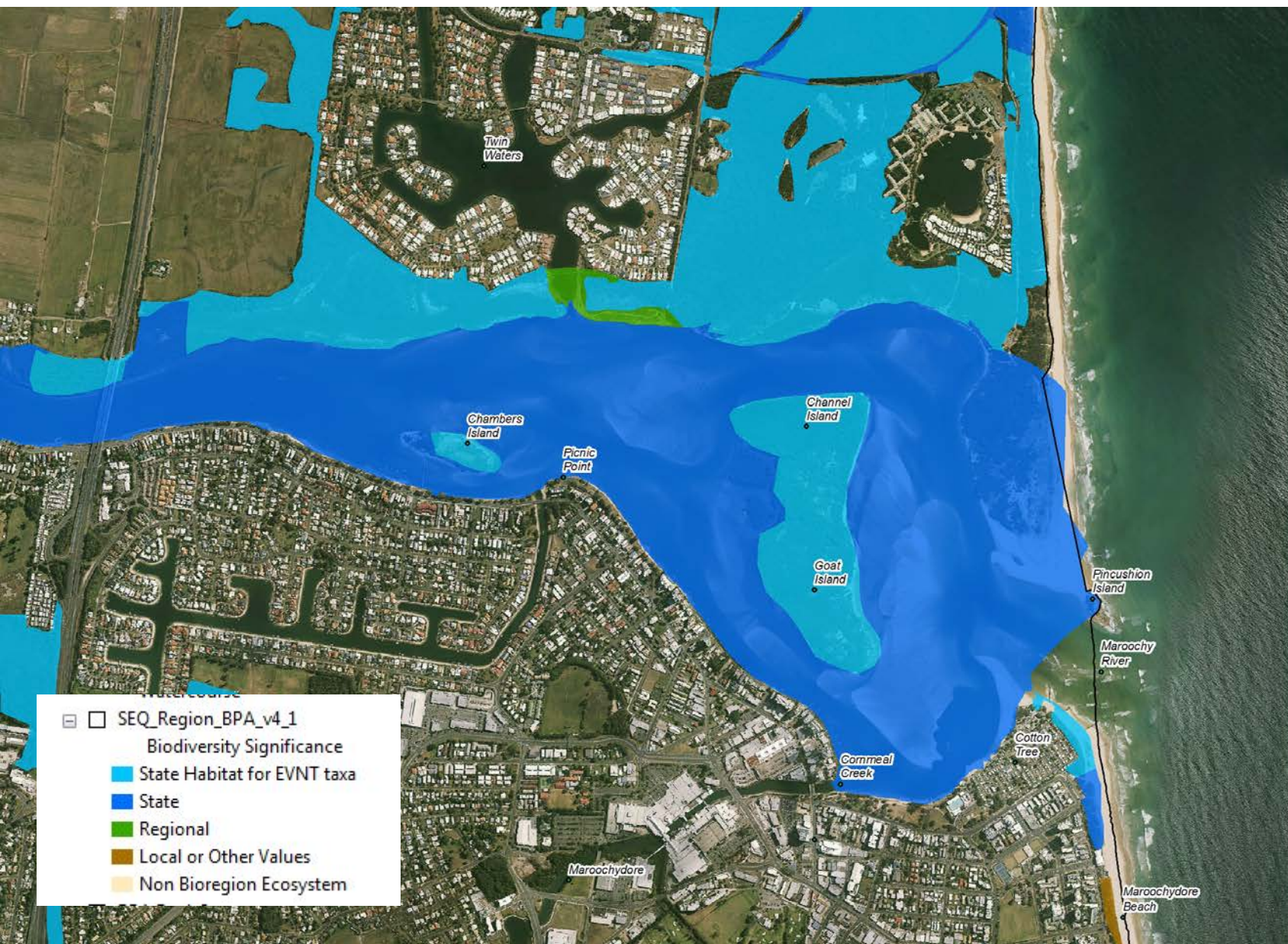


Registered sites north shore and river mouth

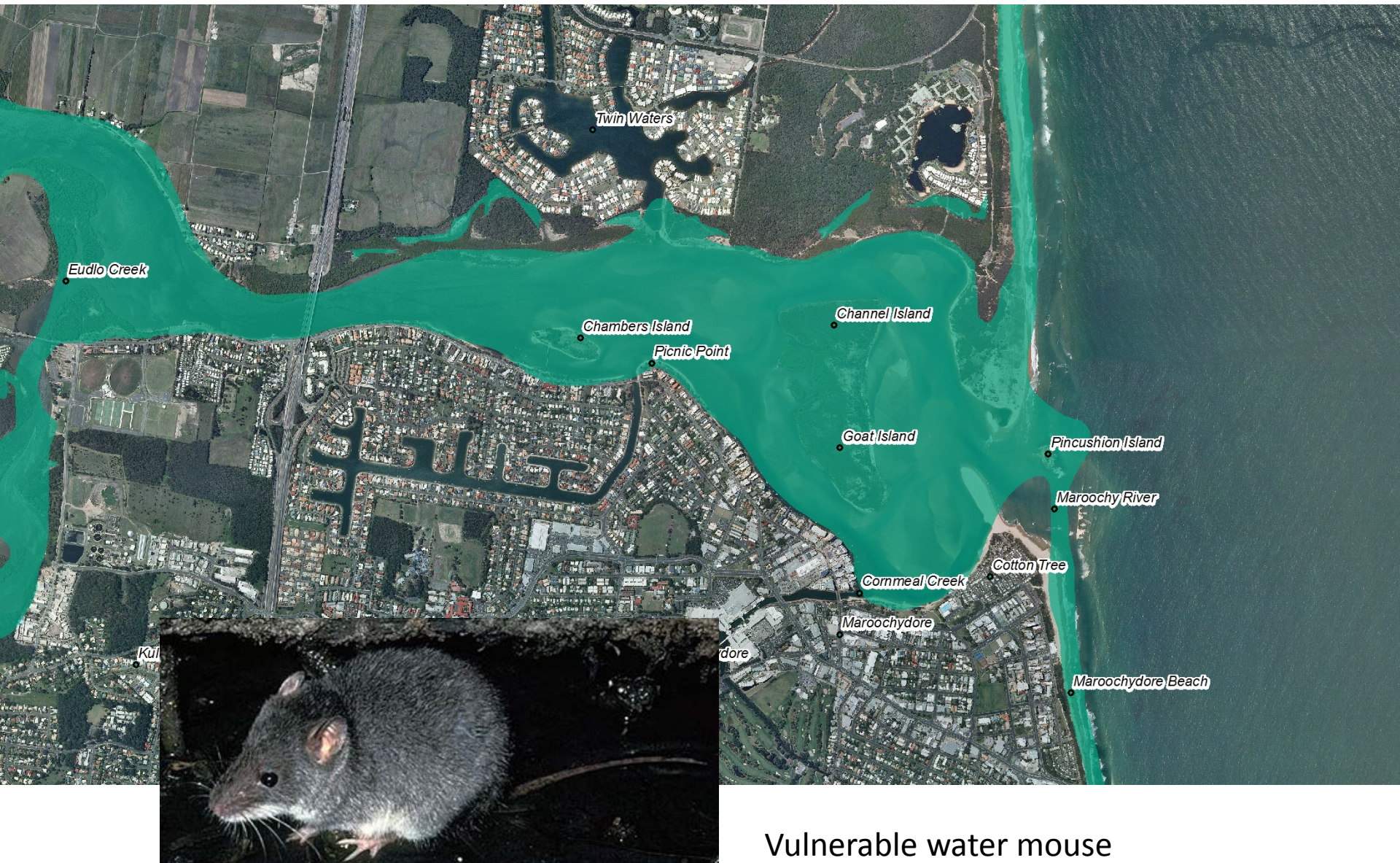


Matters of State Environmental Significance





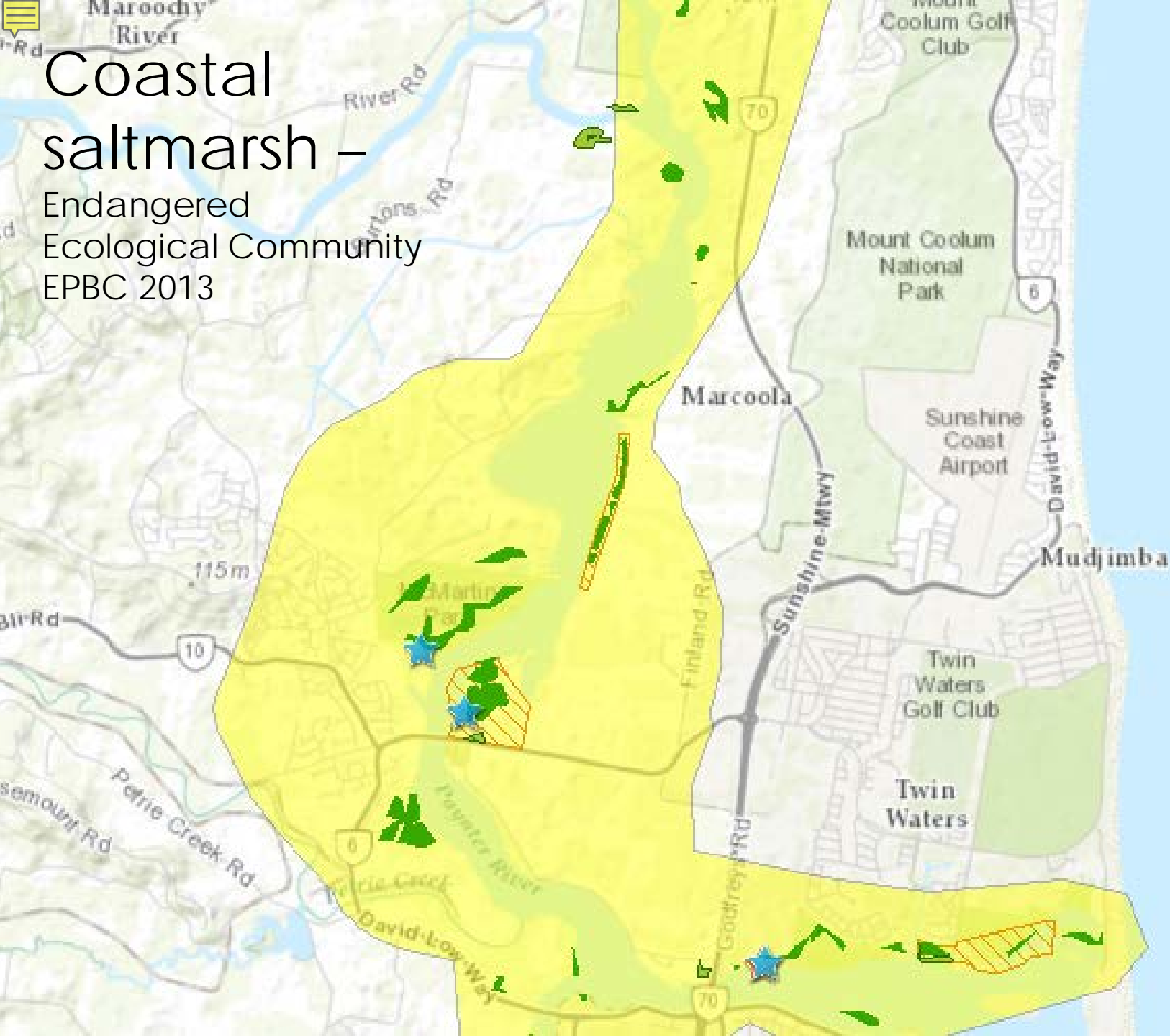
Matters of National Environmental Significance



Vulnerable water mouse
Xeromys myoides

Coastal saltmarsh –

Endangered
Ecological Community
EPBC 2013



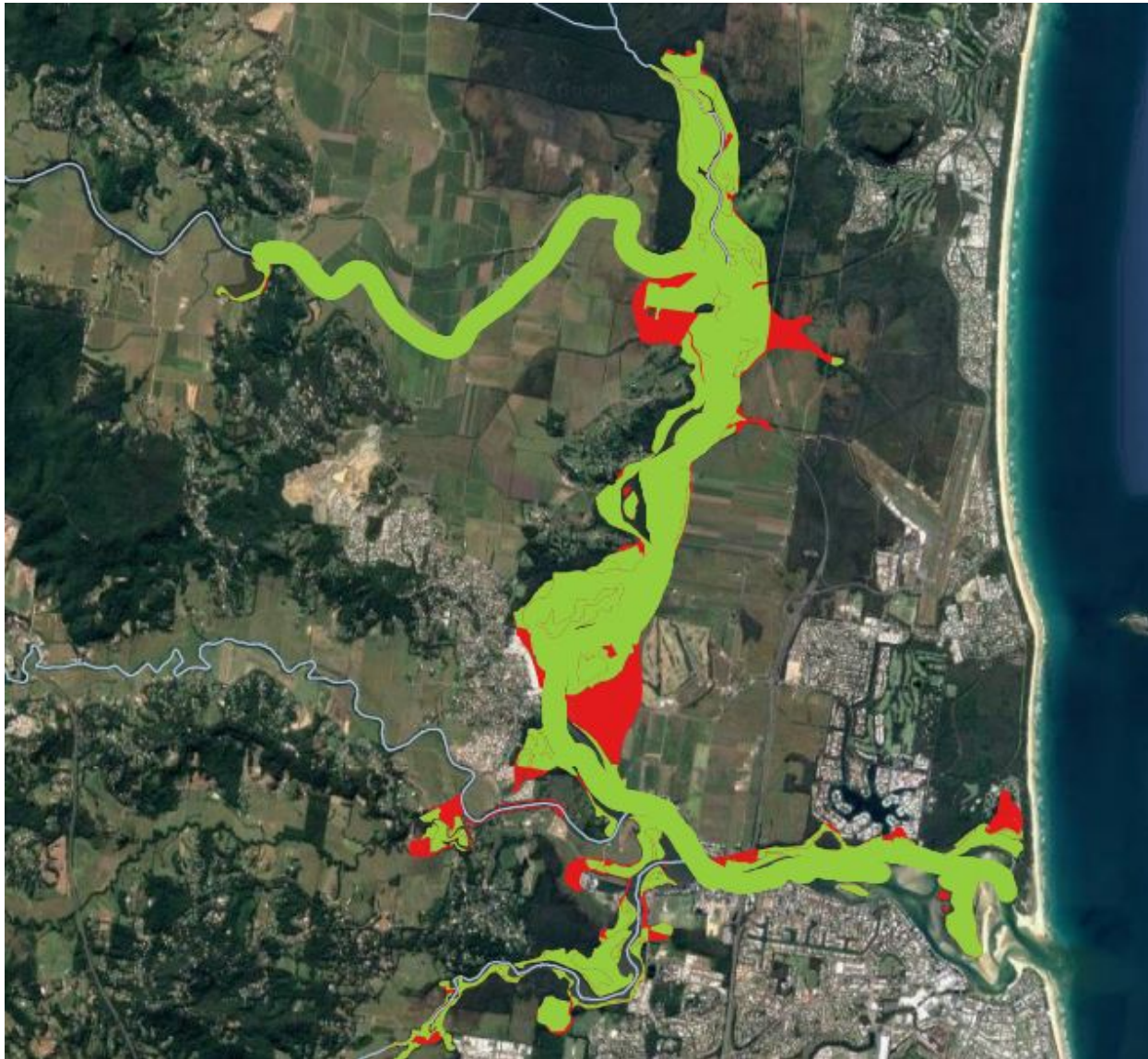
waders and shorebirds

Critical wader habitat, low feed & international high roost

- **Wader species:** Bar-tailed Godwit, Whimbrel, Eastern Curlew, Terek Sandpiper, Grey-tailed Tattler, Curlew Sandpiper, Great Knot, Red-necked Stint, Beach Stone-curlew, Pied Oystercatcher, Pacific Golden Plover, Red-capped Plover, Double-banded Plover (March – August), Lesser Sand Plover and Greater Sand Plover.
- **Other species:** Caspian Tern, Lesser Crested Tern, Crested Tern, Common Tern and Little Tern.



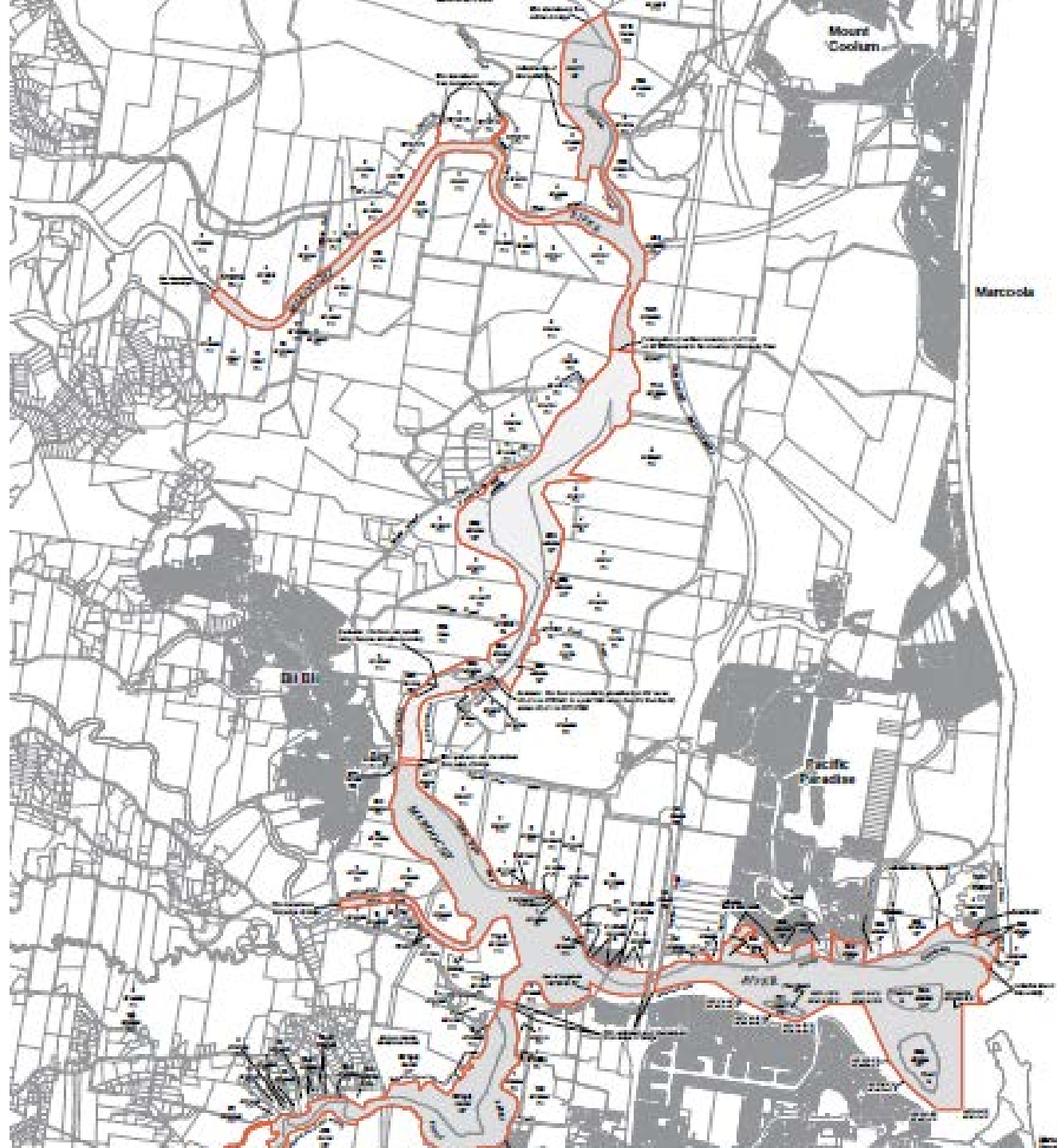
estuarine habitat - change



Mangroves, saltmarshes

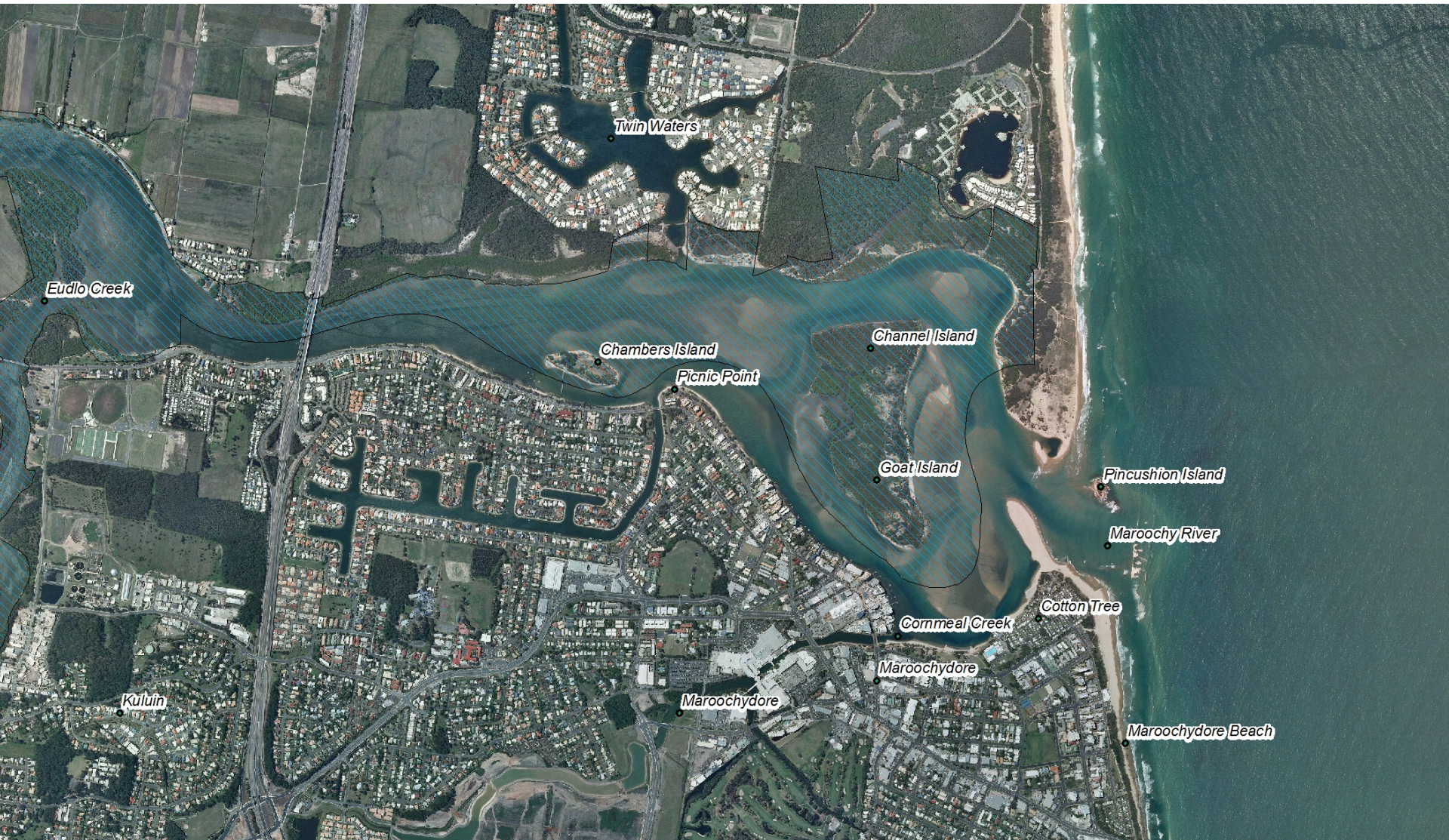


Fish Habitat Areas Maroochy





Fish Habitat Area B



Linking habitat, land use and water quality to optimise fish conservation in degraded estuaries

Report to Healthy Waterways

*Dr Ben Gilby
Prof Thomas Schlacher
Dr Andrew Olds
Mr Nicholas Yabsley
Prof Rod Connolly
Dr Paul Maxwell*

*School of Science & Engineering
University of the Sunshine Coast
2016*

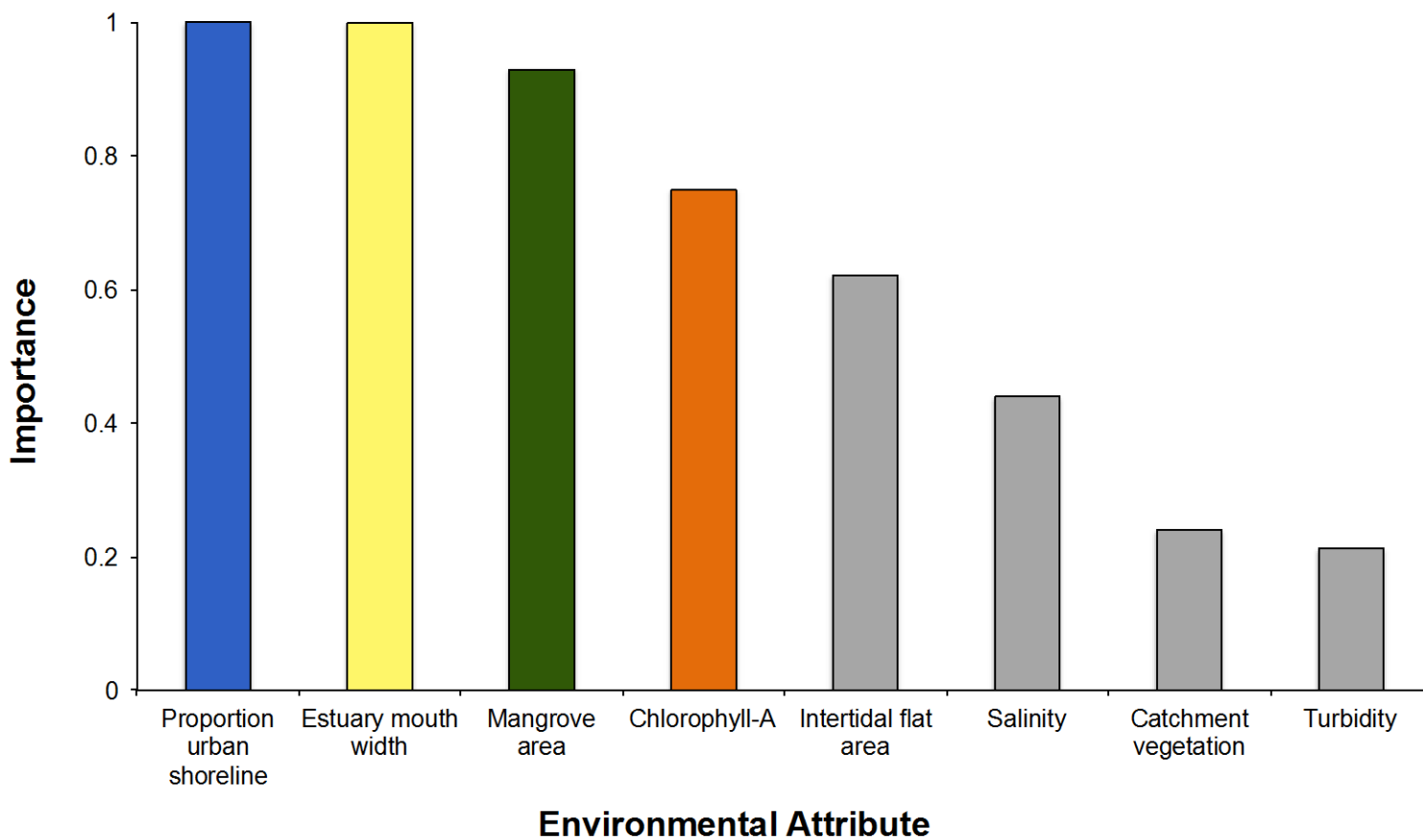


- https://www.youtube.com/watch?v=uFy6g_mRQI4

Seascape characteristics & WQ

Estuary	Latitude	Longitude	Mangrove area (m ²)	Urban shore (%)	Mouth width (m)	Length (m)	Salinity (ppt)	Turbidity (NTU)	Chlorophyll-a (mg/L)
Noosa	26°22'S	153° 04'E	751961.08	10.07	210	3785	35.52	1.02	0.33
Maroochy	26°38'S	153° 06'E	961348.07	9.67	191	6667	35.63	1.74	0.95
Mooloolah	26°40'S	153° 08'E	324824.46	51.05	102	7790	34.48	1.47	1.54
Westaways	26°53'S	153° 05'E	308650.76	0	40	1230	31.33	14.72	0.25
Coochin	26°54'S	153° 04'E	1467191.96	0.14	161	2690	31.48	9.46	0.60
Tripcony	26°58'S	153° 04'E	4300326.87	0	560	2480	34.52	5.21	1.83
Bells	26°50'S	153° 06'E	383463.80	4.15	160	6345	29.01	6.13	0.70
Caboolture	27° 09'S	153° 02'E	3641018.65	0.50	312	5440	33.47	3.82	0.64
Saltwater	27°14'S	153° 03'E	4179478.36	4.64	627	4034	35.38	6.93	1.21
Pine	27°16'S	153° 02'E	6546111.30	10.89	609	10378	31.31	6.36	1.86
Cabbage Tree	27°20'S	153° 04'E	346504.27	21.07	81	2769	34.88	4.51	0.87
Nundah	27°20'S	153° 04'E	1681091.07	0.37	130	2695	35.15	5.59	1.08
Brisbane	27°24'S	153° 09'E	2694404.45	86.21	608	15567	33.13	11.51	1.66
Tingalpa	27°28'S	153°11'E	1111557.67	0.43	215	3154	32.87	5.33	0.86
Logan	27°41'S	153°19'E	5428257.79	0.53	276	6651	31.84	15.12	1.87
McCoy's	27°49'S	153°22'E	795802.54	0	89	3268	35.86	6.18	0.96
Pimpama	27°48'S	153°22'E	5015268.00	21.30	152	8052	35.57	5.79	1.25
Coomera	27°52'S	153°23E	3417344.73	61.11	373	14158	34.04	3.68	1.24
Coombah	27°53'S	153°22E	2174872.40	0	345	1040	32.17	5.58	1.35
Nerang	27°58'S	153°25'E	0	98.26	214	10357	33.94	1.74	0.70

Environmental attributes



Total rates of carrion consumption

by fish and decapods (g h⁻¹) in 22 estuaries of SE Queensland (Australia) sampled in this study.

Estuary	Total consumption (g h ⁻¹)	Report card grade in 2015
Maroochy	190.1	C+
Noosa	170.8	A-
Mooloolah	151.9	C+
Curumbin	124.9	C+
Tingalpa	107.1	C+
Pimpama	106.1	C+
Tallebudgera	87.2	C+
Coomera	87.2	C+
Saltwater	84.9	C
Nerang	81.1	C-
Coombabah	80.8	C+
McCoy's	78.4	C+
Pine	66.2	C
Caboolture	52.1	C+
Cabbage Tree	41.7	C-
Nundah	35.4	C-
Logan	33.5	D
Bells	29.7	B-
Coochin	25.3	B-
Brisbane	9.8	C-
Tripcony	4.4	B-
Westaways	3.0	B-

1 Report card grades collected from Healthy Waterways (EHMP 2015).

2 Total carrion consumption is the mean rate (g h⁻¹) of carrion consumption by all species combined for each estuary.

1st M
1958





MAROOCHY

RUN 1
2598-2614



30.11.73.



H: 5,200' ASL
F: 151-57 MM

© The State of Queensland 1973
Natural Resources and Mines

2614

Q2725

1st Nov
1973



13th May
1980



BEACH PROTECTION AUTHORITY
MAROOCHY RIVER



RUN 1
342-350



1:12000 approx
1-6-90



1830m ASL
MSL DATUM



© The State of Queensland 2013
Natural Resources and Mines

1st June 1990



BL
4949

344

0000000000
0000000000

11920

23rd July 1999

