Appendix I

Individual Catchment Assessment of Mangrove trajectory of recovery post dieback in the Gulf of Carpentaria, Queensland

Queensland Herbarium and Biodiversity Science

Dec. 2025

Queensland Government

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Cover artwork by Navada Currie, Mununjali and Kabi Kabi woman at Gilimbaa.

2025

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Citation

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Acknowledgements

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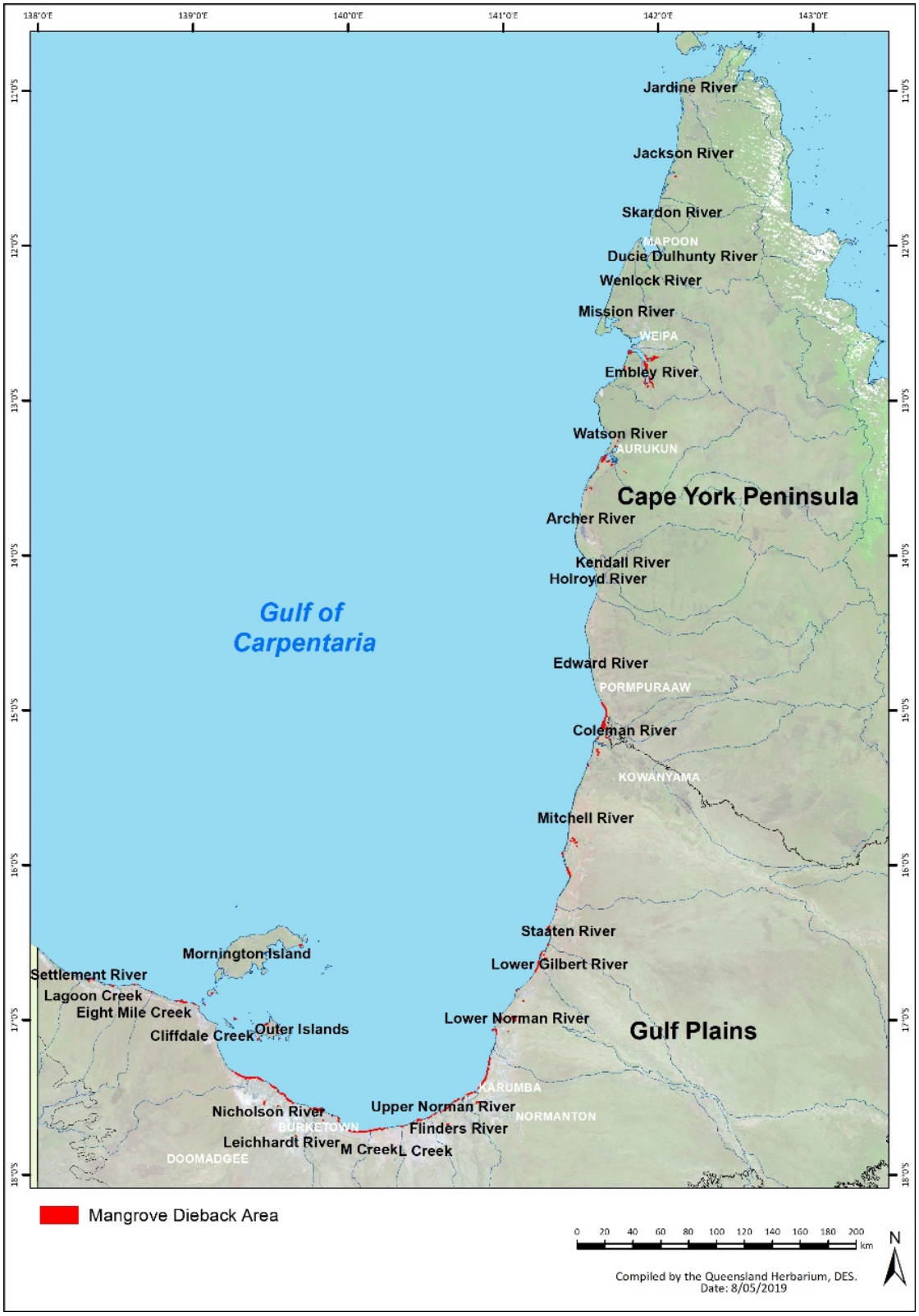

Figure 1. Mangrove dieback across the Gulf of Carpentaria

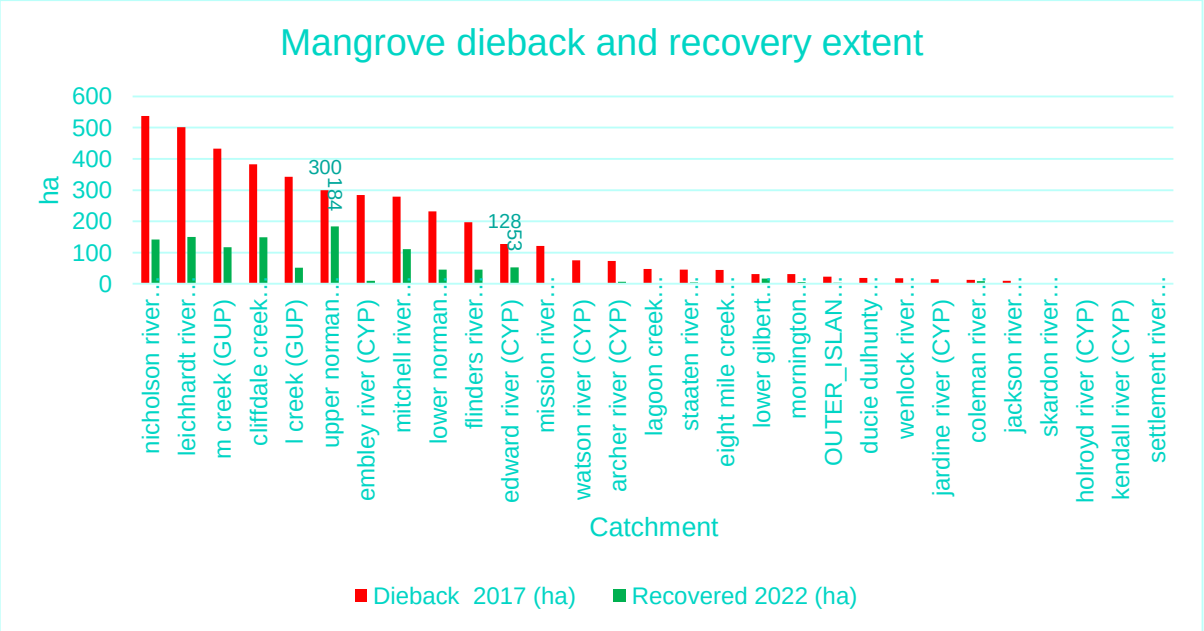

Figure 2. Area of Mangrove dieback and recovery

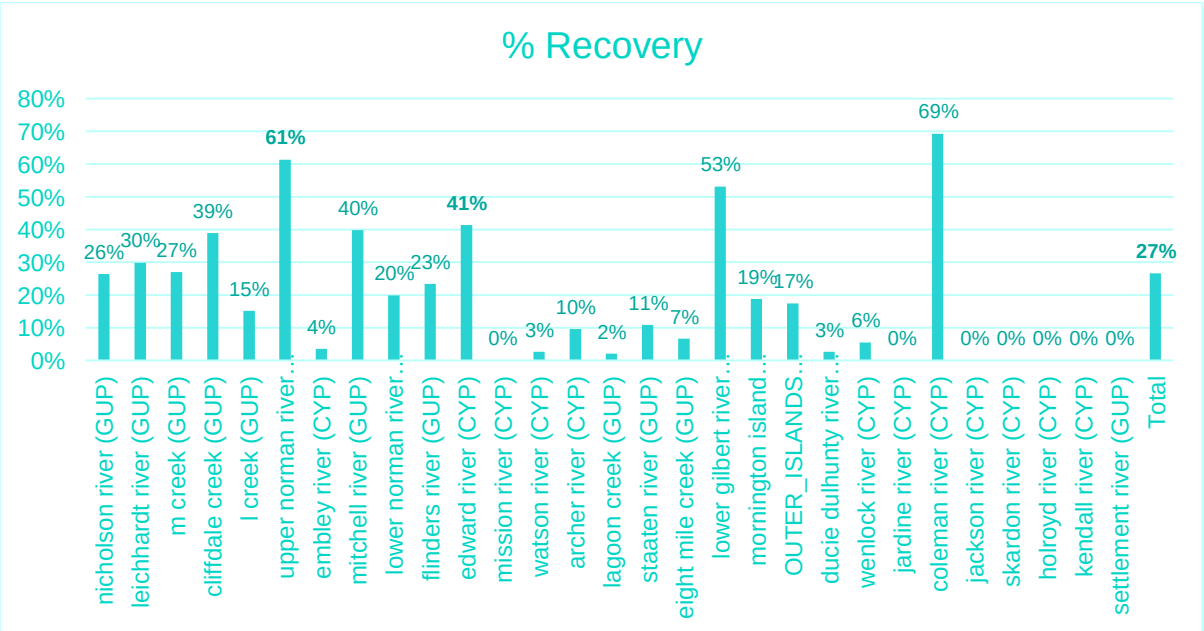

Figure 3. Percent Mangrove recovery across the Catchments

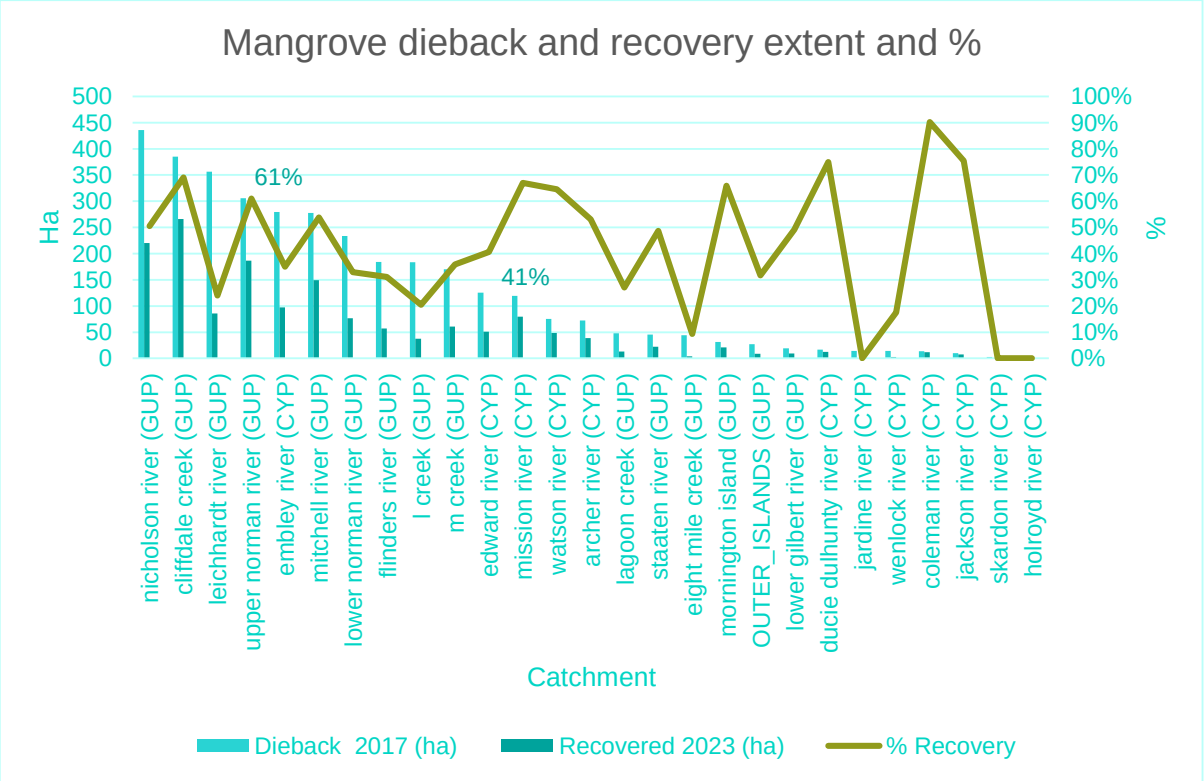

Figure 4. Mangrove Area of dieback and recovery and Percent of recovery across all Catchments.

Table 1. Mangrove Area of Dieback and Recovery by Catchment in hectares. Table 2. Mangrove Area of Dieback and Recovery by Catchment in hectares.

Catchment (ha)	Bioregion	Mangrove Extent Before Dieback	Mangrove Dieback 2015-2018	Mangrove Recovered between 2018-2023	Percent of Live mangrove in Catchment	Percent of Total Dieback	% Dieback Recovered	% Total Recovered
nicholson river	Gulf Plains	19752	436	220	2.2%	12.5%	50.5%	14.0%
cliffdale creek	Gulf Plains	3434	385	266	11.2%	11.0%	69.1%	17.0%
leichhardt river	Gulf Plains	6426	356	86	5.5%	10.2%	24.0%	5.5%
upper norman river	Gulf Plains	8315	306	187	3.7%	8.8%	61.1%	11.9%
embley river	Cape York Peninsula	10268	279	98	2.7%	8.0%	35.0%	6.2%
mitchell river	Gulf Plains	11169	278	149	2.5%	8.0%	53.8%	9.5%
lower norman river	Gulf Plains	6843	233	77	3.4%	6.7%	32.9%	4.9%
flinders river	Gulf Plains	5366	184	57	3.4%	5.3%	31.1%	3.6%
l creek	Gulf Plains	979	183	38	18.7%	5.2%	20.5%	2.4%
m creek	Gulf Plains	1374	170	61	12.4%	4.9%	35.9%	3.9%
edward river	Cape York Peninsula	2128	126	51	5.9%	3.6%	40.6%	3.3%
mission river	Cape York Peninsula	18400	119	80	0.6%	3.4%	67.0%	5.1%
watson river	Cape York Peninsula	3977	75	49	1.9%	2.2%	64.6%	3.1%
archer river	Cape York Peninsula	4213	73	38	1.7%	2.1%	53.1%	2.5%
lagoon creek	Gulf Plains	742	48	13	6.5%	1.4%	27.0%	0.8%
staaten river	Gulf Plains	2875	46	22	1.6%	1.3%	48.6%	1.4%
eight mile creek	Gulf Plains	242	44	4	18.3%	1.3%	9.4%	0.3%
mornington island	Gulf Plains	4051	32	21	0.8%	0.9%	65.9%	1.3%
OUTER_ISLANDS	Gulf Plains	1610	27	9	1.7%	0.8%	31.6%	0.5%
lower gilbert river	Gulf Plains	802	19	9	2.4%	0.5%	49.1%	0.6%
ducie dulhunty river	Cape York Peninsula	10786	17	13	0.2%	0.5%	75.0%	0.8%
jardine river	Cape York Peninsula	978	15	0	1.5%	0.4%	0.0%	0.0%
wenlock river	Cape York Peninsula	10174	14	3	0.1%	0.4%	17.5%	0.2%
coleman river	Cape York Peninsula	910	13	12	1.5%	0.4%	90.2%	0.8%
jackson river	Cape York Peninsula	8083	10	8	0.1%	0.3%	75.4%	0.5%
skardon river	Cape York Peninsula	3208	2.1	0.0	0.1%	0.1%	0.0%	0.0%
holroyd river	Cape York Peninsula	1673	0.2	0.0	0.0%	0.0%	0.0%	0.0%
kendall river	Cape York Peninsula	671	0.0	0.0	0.0%	0.0%	0.0%	0.0%
settlement river	Gulf Plains	345	0.0	0.0	0.0%	0.0%	0.0%	0.0%

Individual Catchment Assessment

Jardine River Catchment

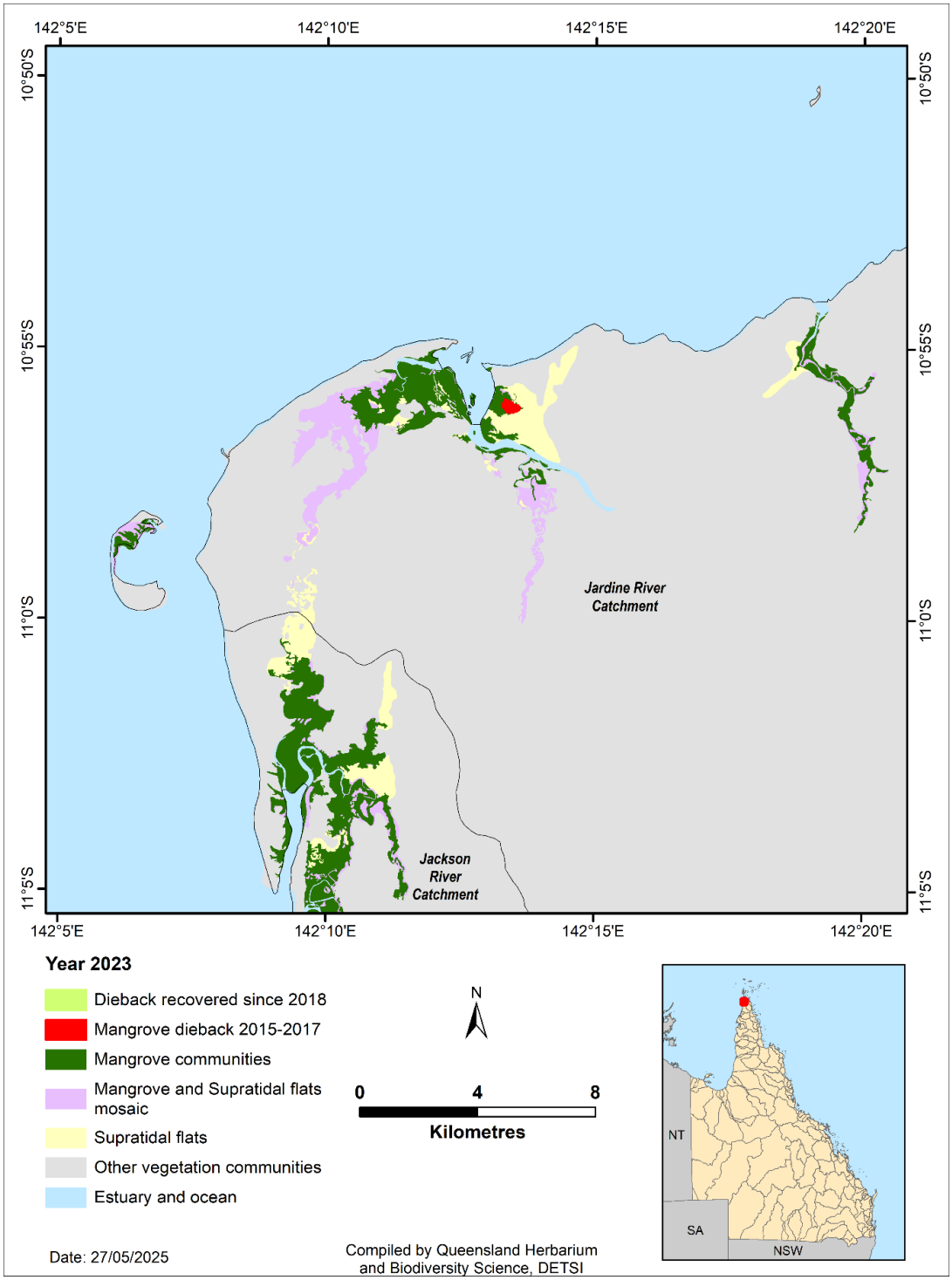

Figure 5. Jardine River Catchment mangrove, mangrove dieback and recovery map

There is no recovery in the mangrove area that died in the Jardine River Catchment. The Jardine River Catchment recorded 15 ha of dieback.

Jackson River Catchment

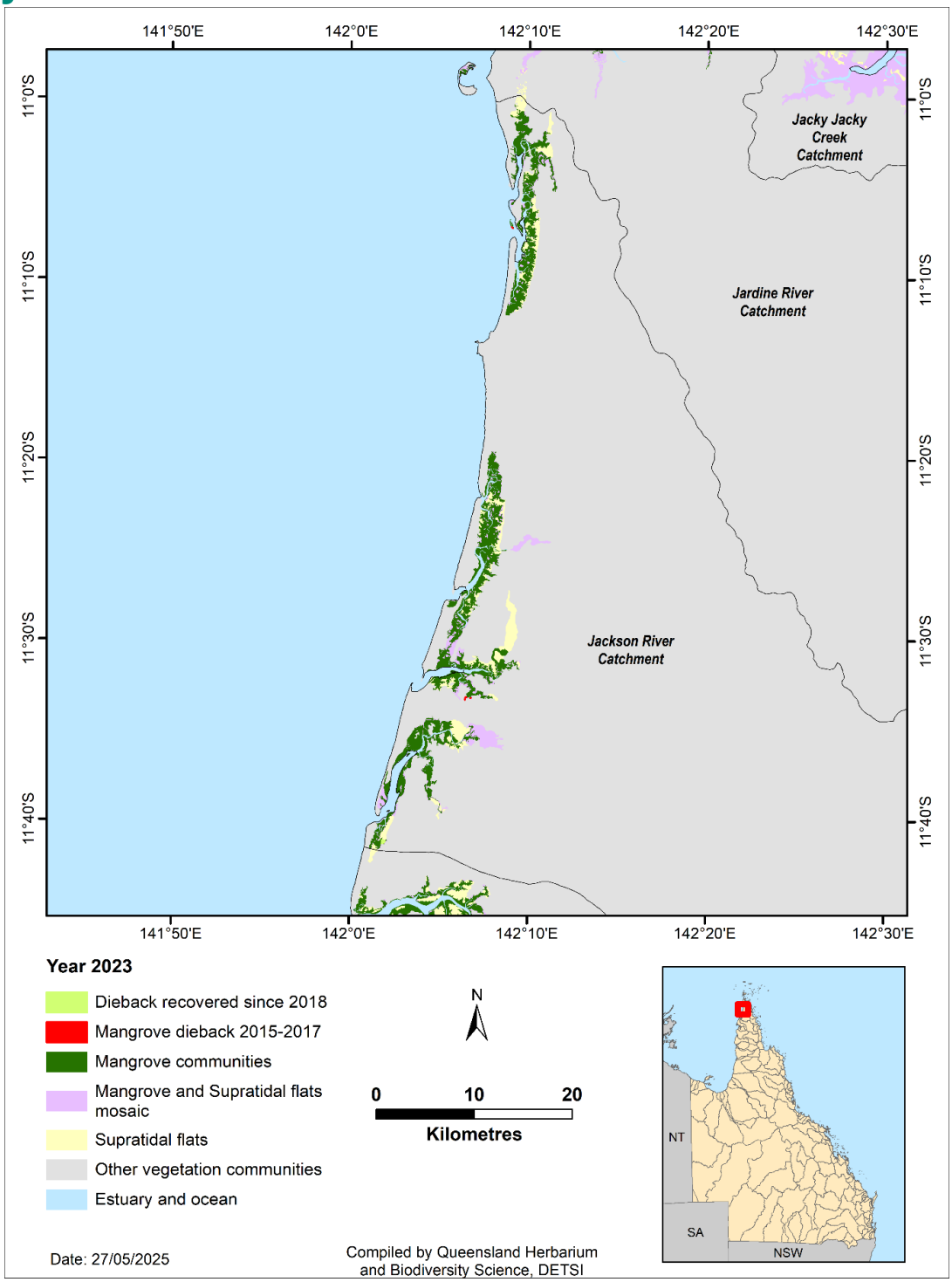

Figure 6. Jackson River Catchment mangrove, mangrove dieback and recovery map

The Jackson River Catchment recorded 10 ha of dieback. The Jackson River Catchment has recorded 8 ha that has recovered or on the trajectory of recovery (80% of the dieback extent).

Skardon River Catchment

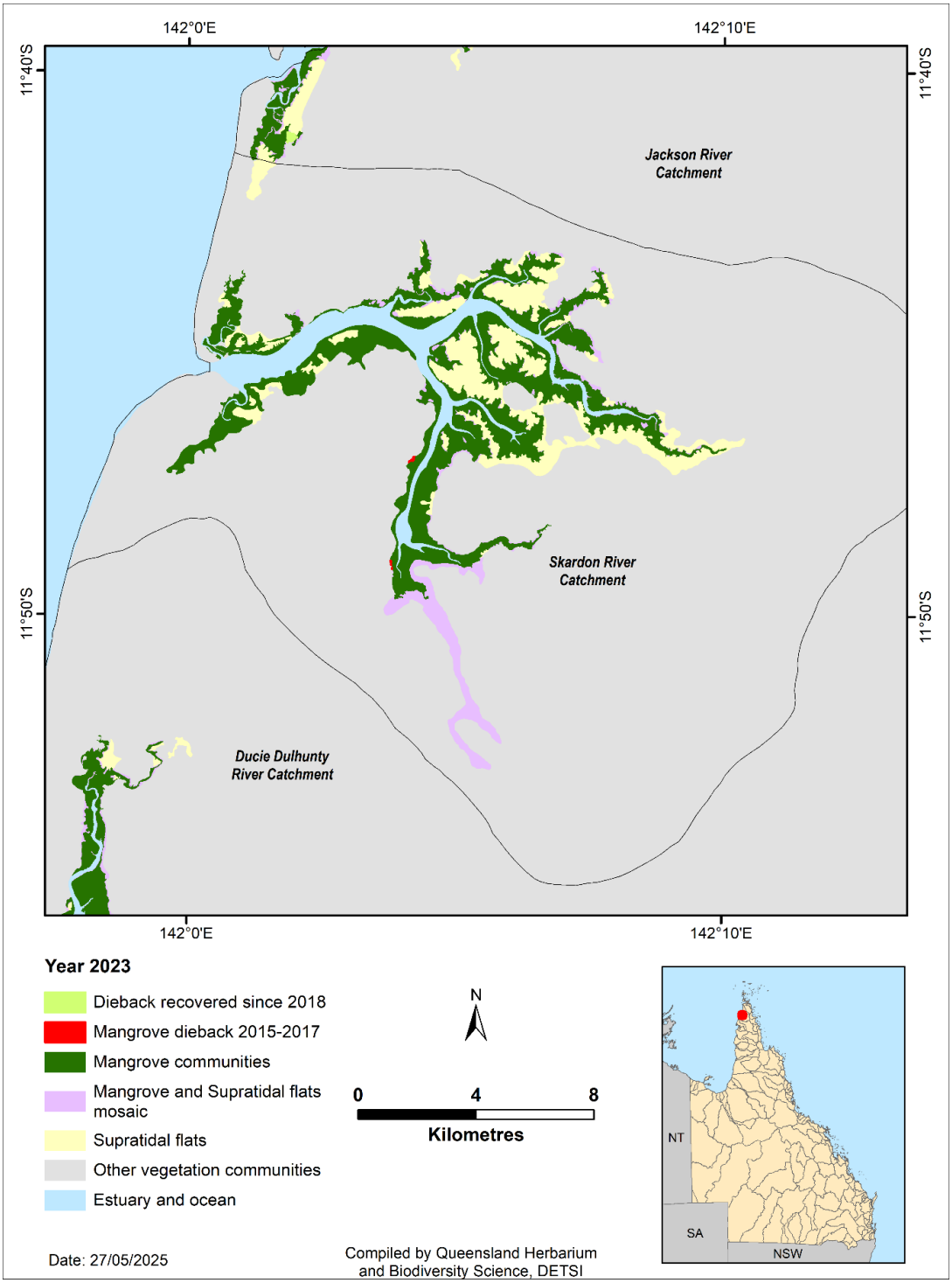

Figure 7. Skardon River Catchment mangrove, mangrove dieback and recovery map

There is no recovery in the mangrove area that died in the Skardon River Catchment. The Skardon River Catchment recorded 2 ha of dieback.

Ducie Dulhunty River Catchment

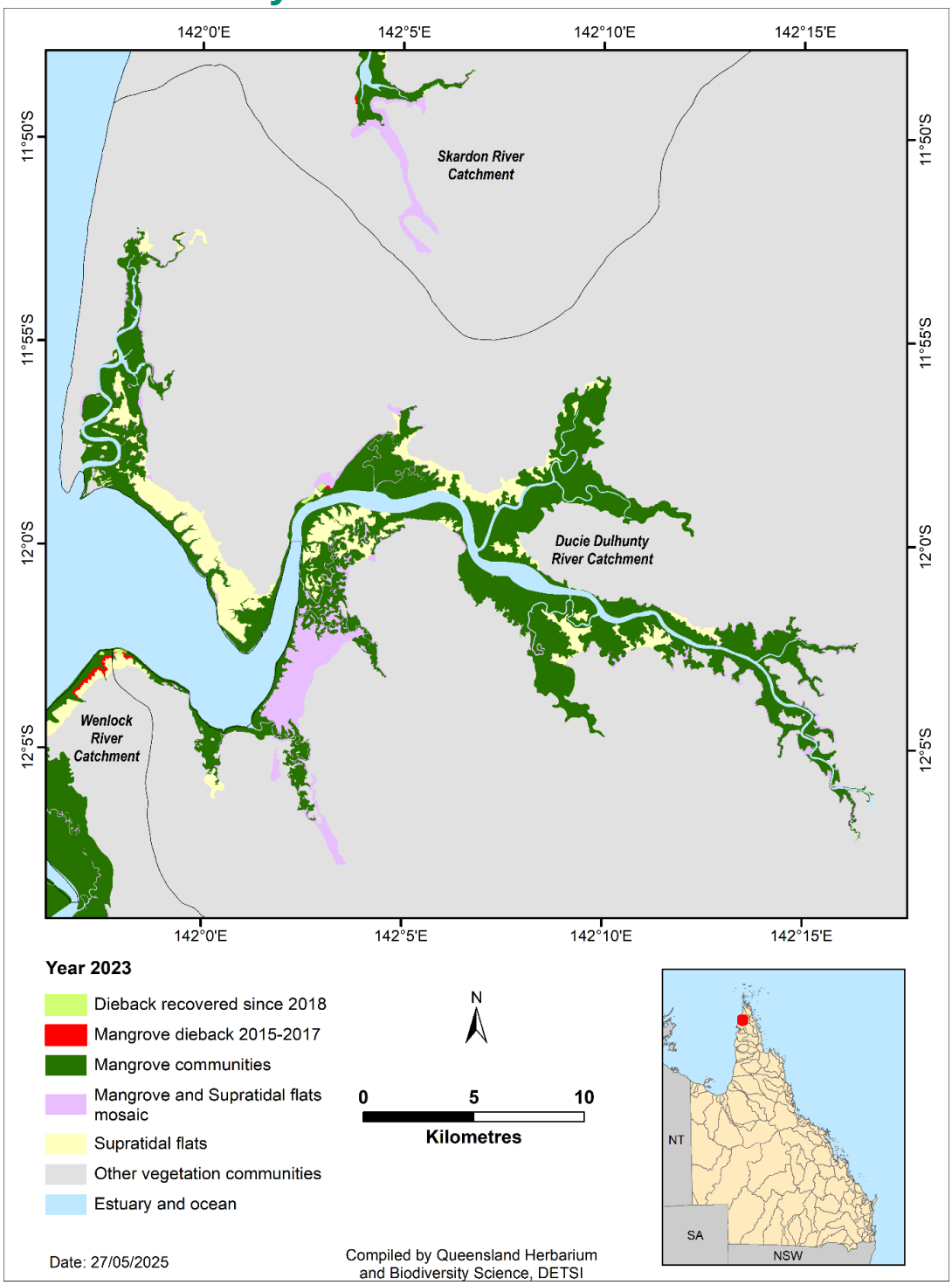

Figure 8. Ducie River Catchment mangrove, mangrove dieback and recovery map

The Ducie Dulhunty River Catchment recorded 17 ha of dieback. The Ducie Dulhunty River Catchment has recorded 13 ha that has recovered or on the trajectory of recovery (76% of the dieback extent).

Wenlock River Catchment

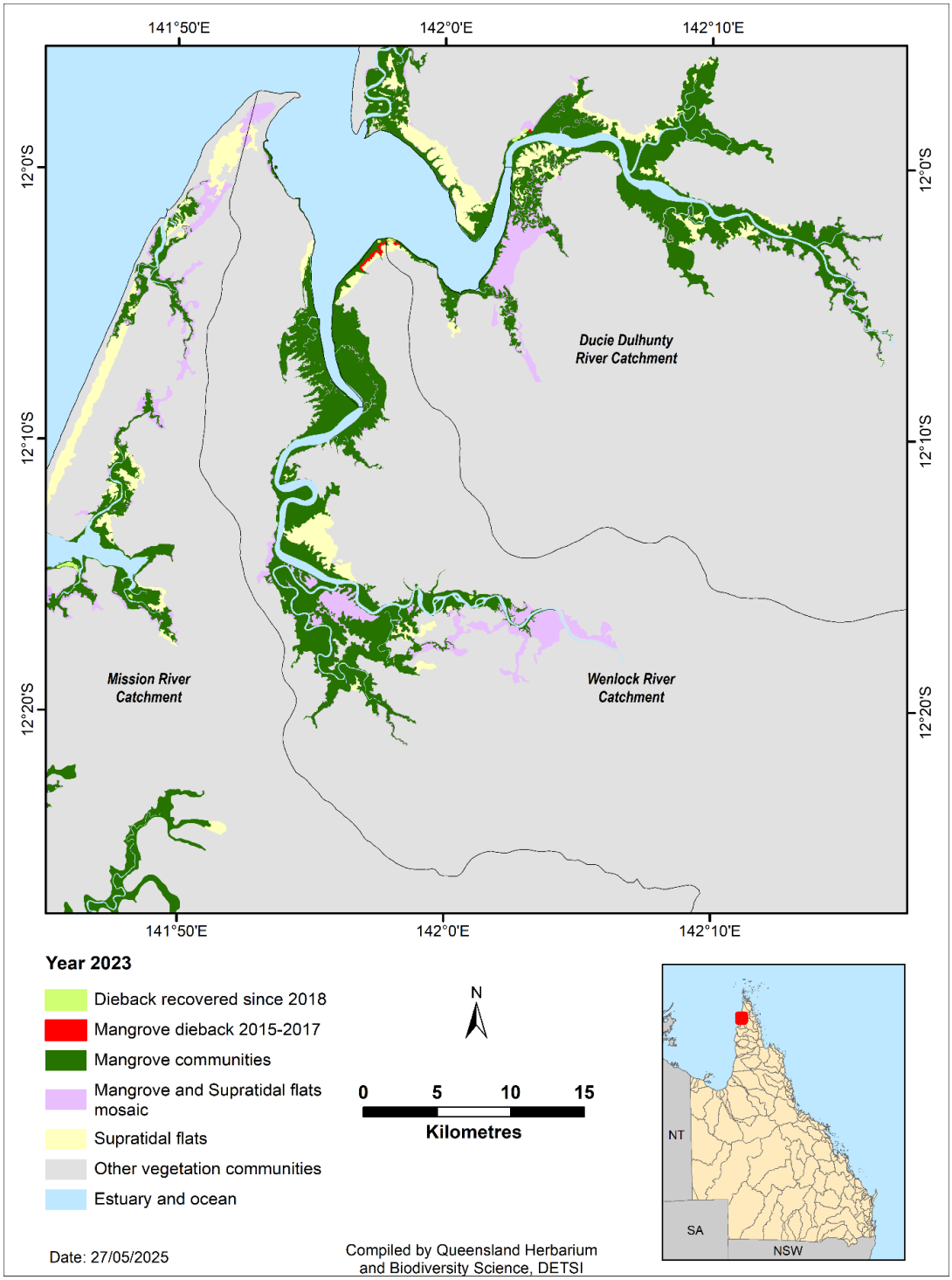

Figure 9. Wenlock River Catchment mangrove, mangrove dieback and recovery map

The Wenlock River Catchment recorded 14 ha of dieback. The Wenlock River Catchment has recorded 3 ha that has recovered or on the trajectory of recovery (21% of the dieback extent).

Mission River Catchment

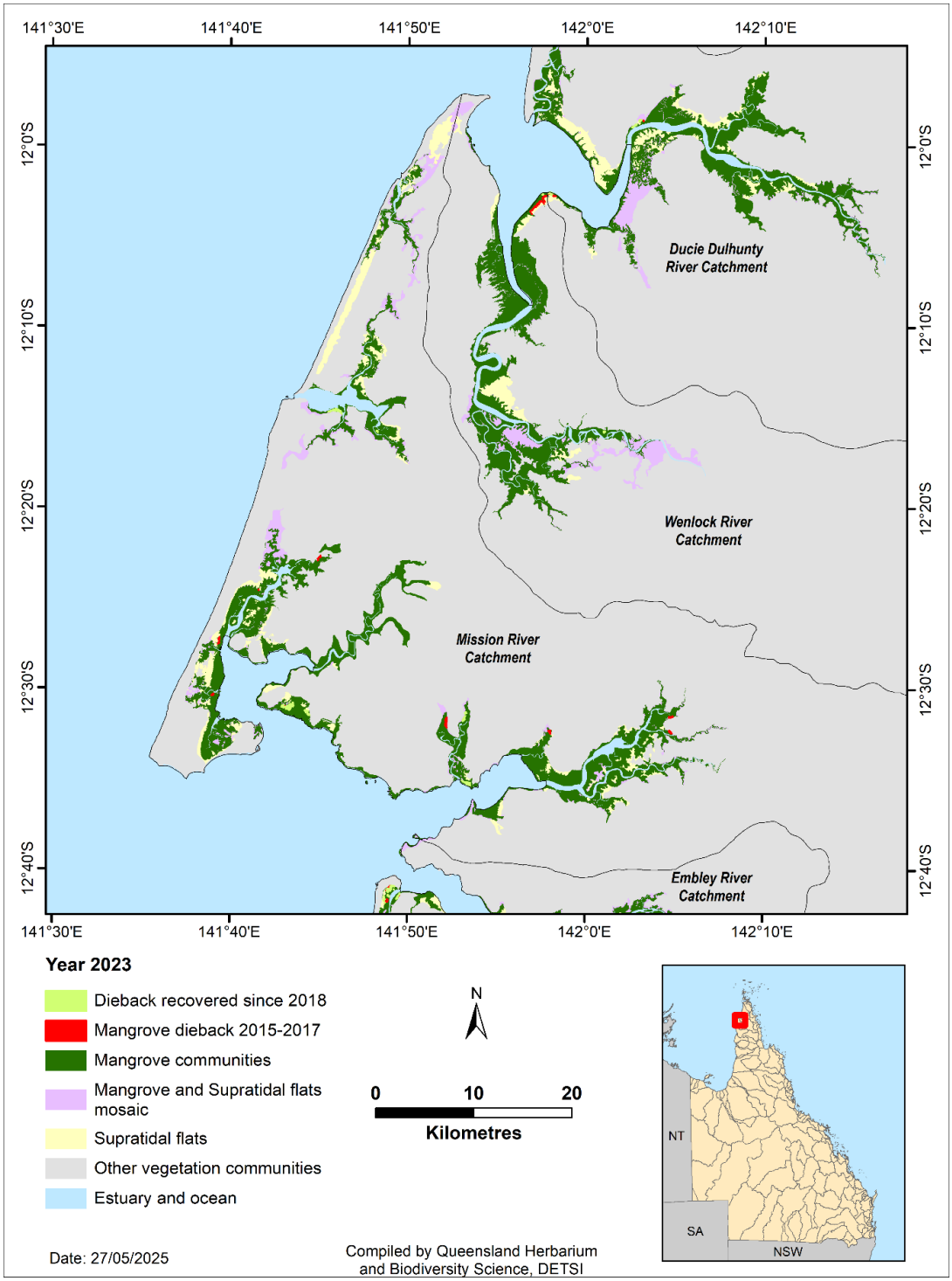

Figure 10. Mission River Catchment mangrove, mangrove dieback and recovery map

The Mission River Catchment recorded 119 ha of dieback. The Mission River Catchment has recorded 80 ha that has recovered or on the trajectory of recovery (67% of the dieback extent).

Embley River Catchment

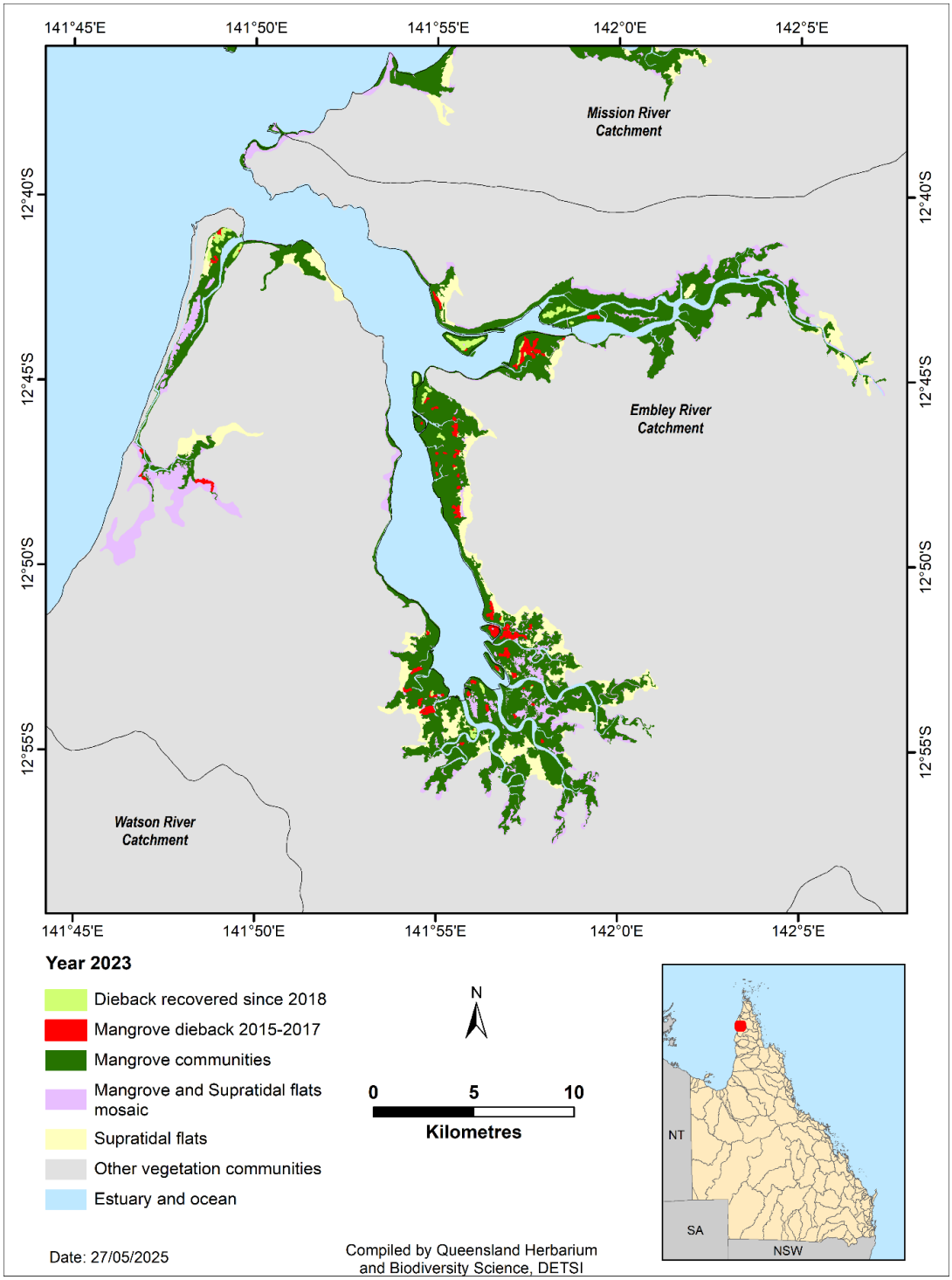

Figure 11, Embley River Catchment mangrove, mangrove dieback and recovery map

The Embley River Catchment recorded 279 ha of dieback. The Embley River Catchment has recorded 98 ha that has recovered or on the trajectory of recovery (35% of the dieback extent).

Watson River Catchment

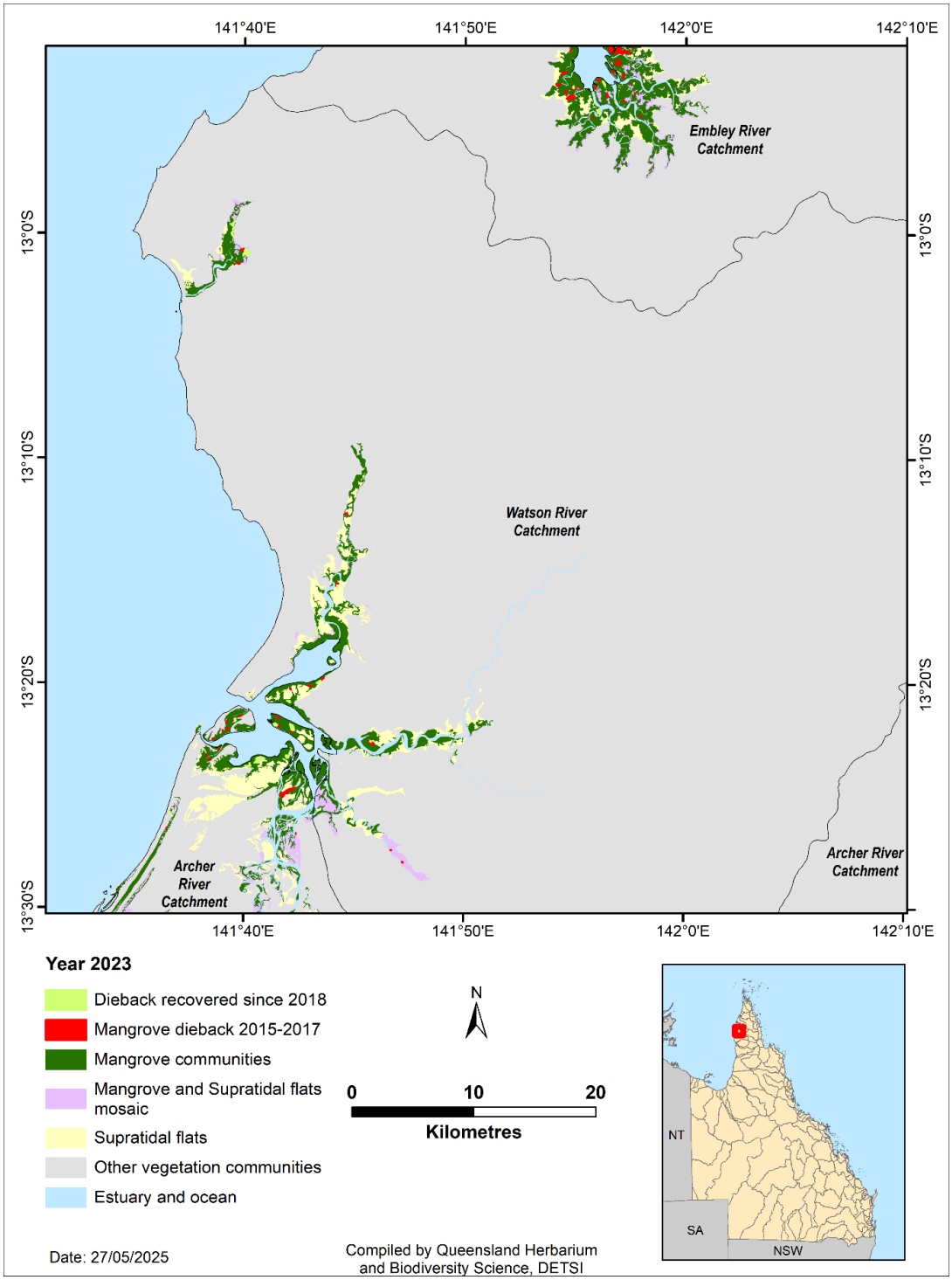

Figure 12. Watson River Catchment mangrove, mangrove dieback and recovery map

The Watson River Catchment recorded 75 ha of dieback. The Watson River Catchment has recorded 49 ha that has recovered or on the trajectory of recovery (65% of the dieback extent).

Archer River Catchment

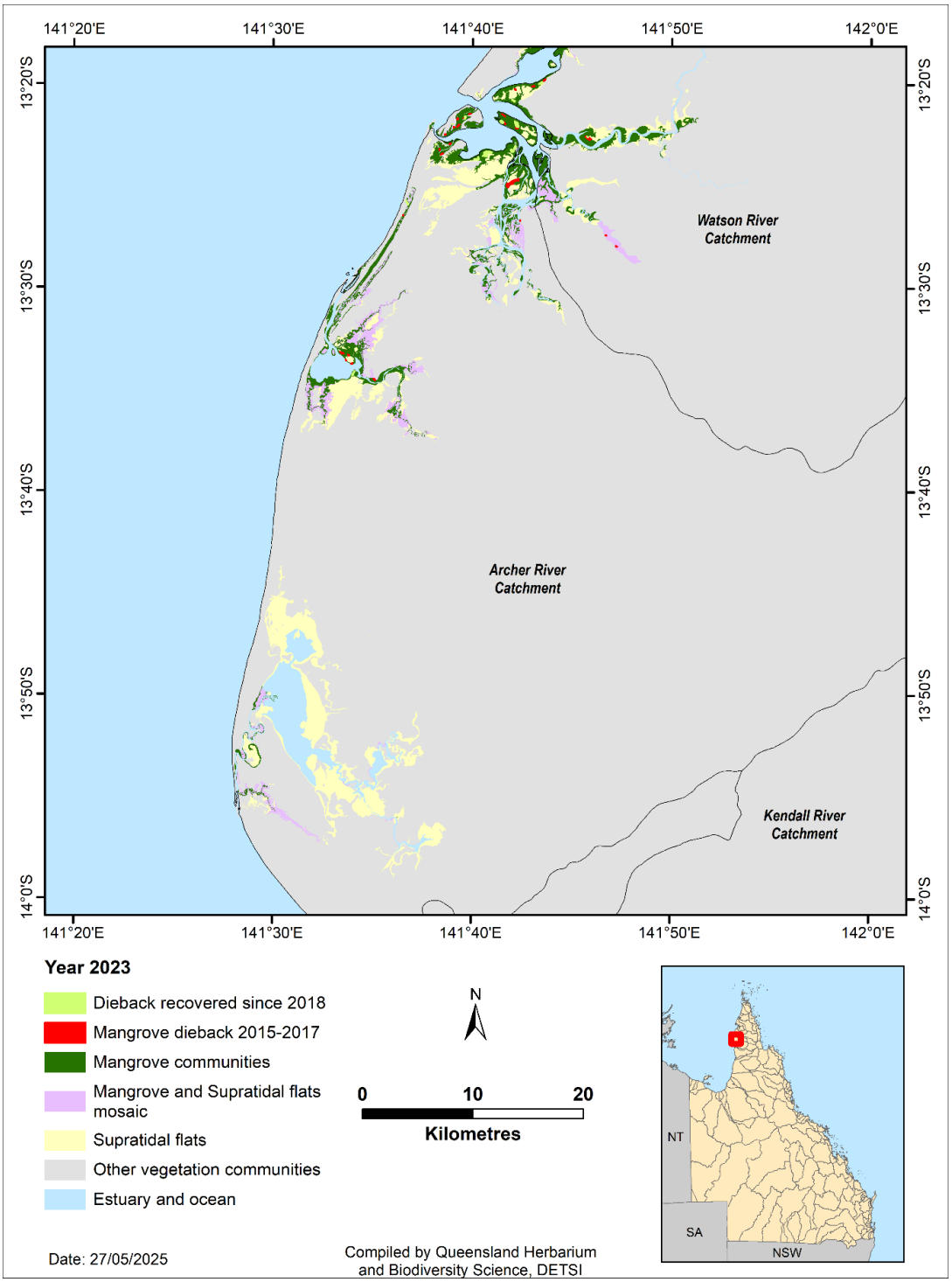

Figure 13. Archer River Catchment mangrove, mangrove dieback and recovery map

The Archer River Catchment recorded 73 ha of dieback. The Archer River Catchment has recorded 38 ha that has recovered or on the trajectory of recovery (52% of the dieback extent).

Holroyd River Catchment

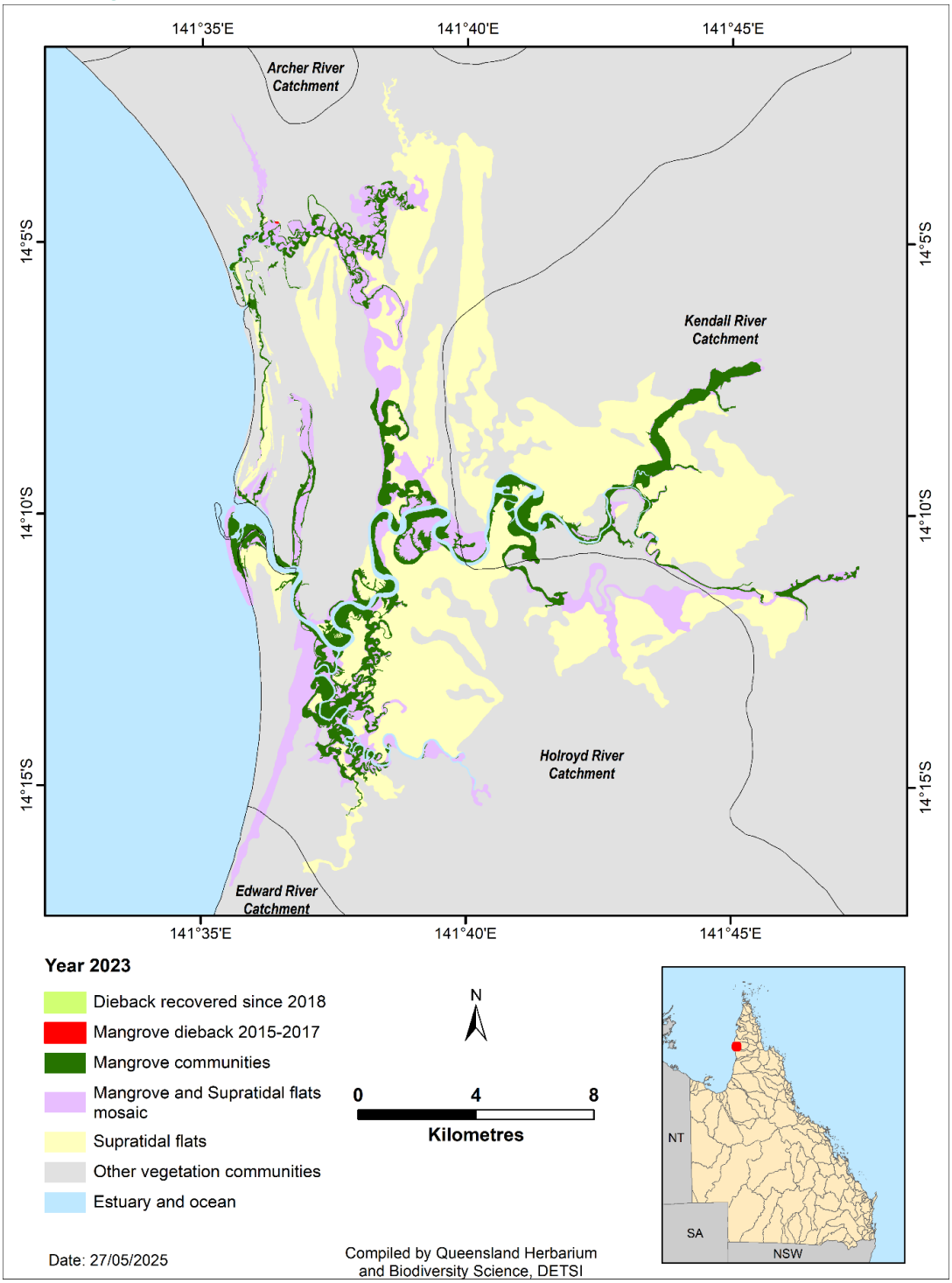

Figure 14. Holroyd River Catchment mangrove, mangrove dieback and recovery map

There is no recovery in the mangrove area that died in the Holroyd River Catchment. The Holroyd River Catchment recorded 0.2 ha of dieback.

Kendall River Catchment

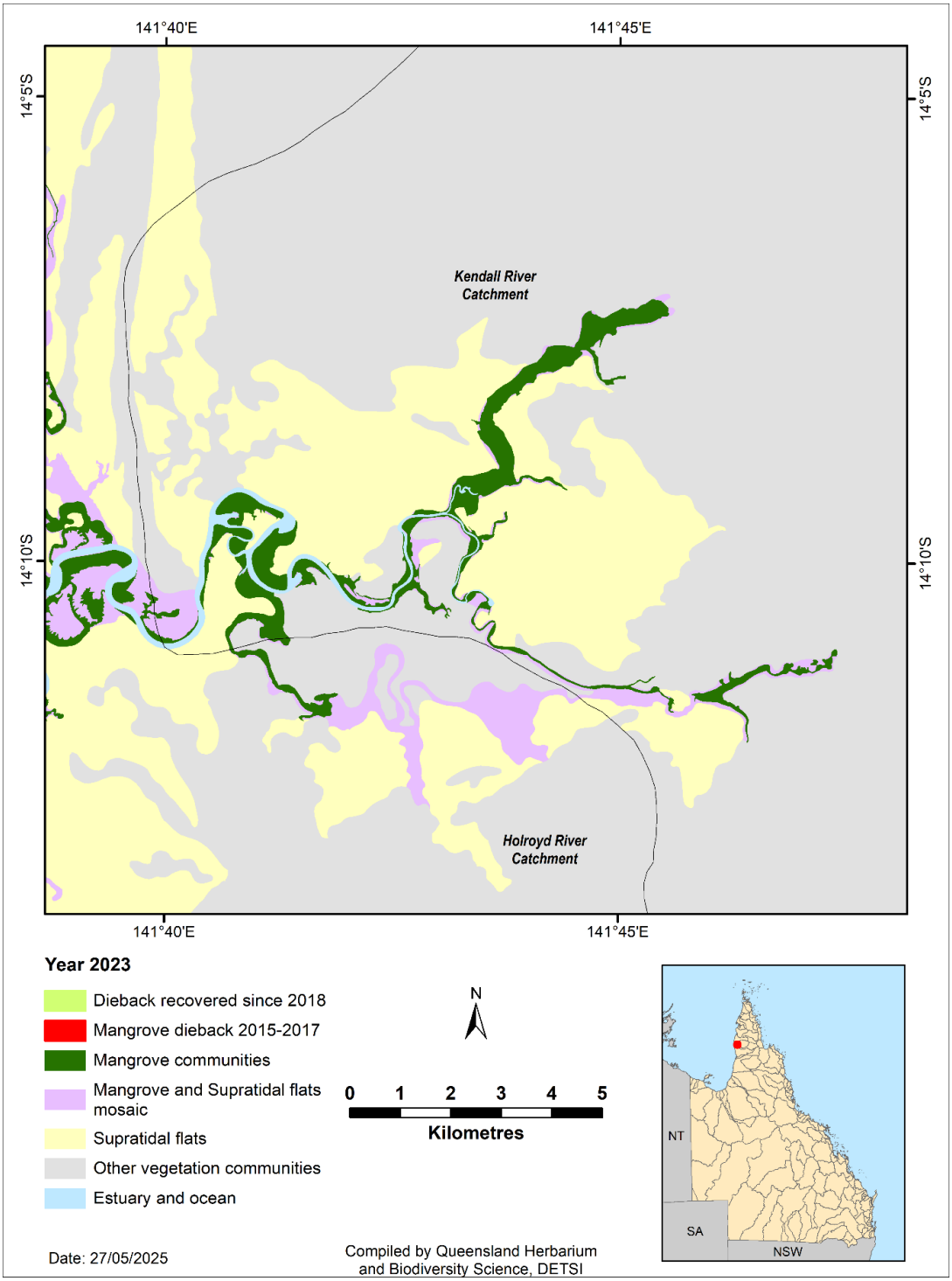

Figure 15. Kendall River Catchment mangrove, mangrove dieback and recovery map

No dieback was recorded in the Kendall River Catchment.

Edward River Catchment

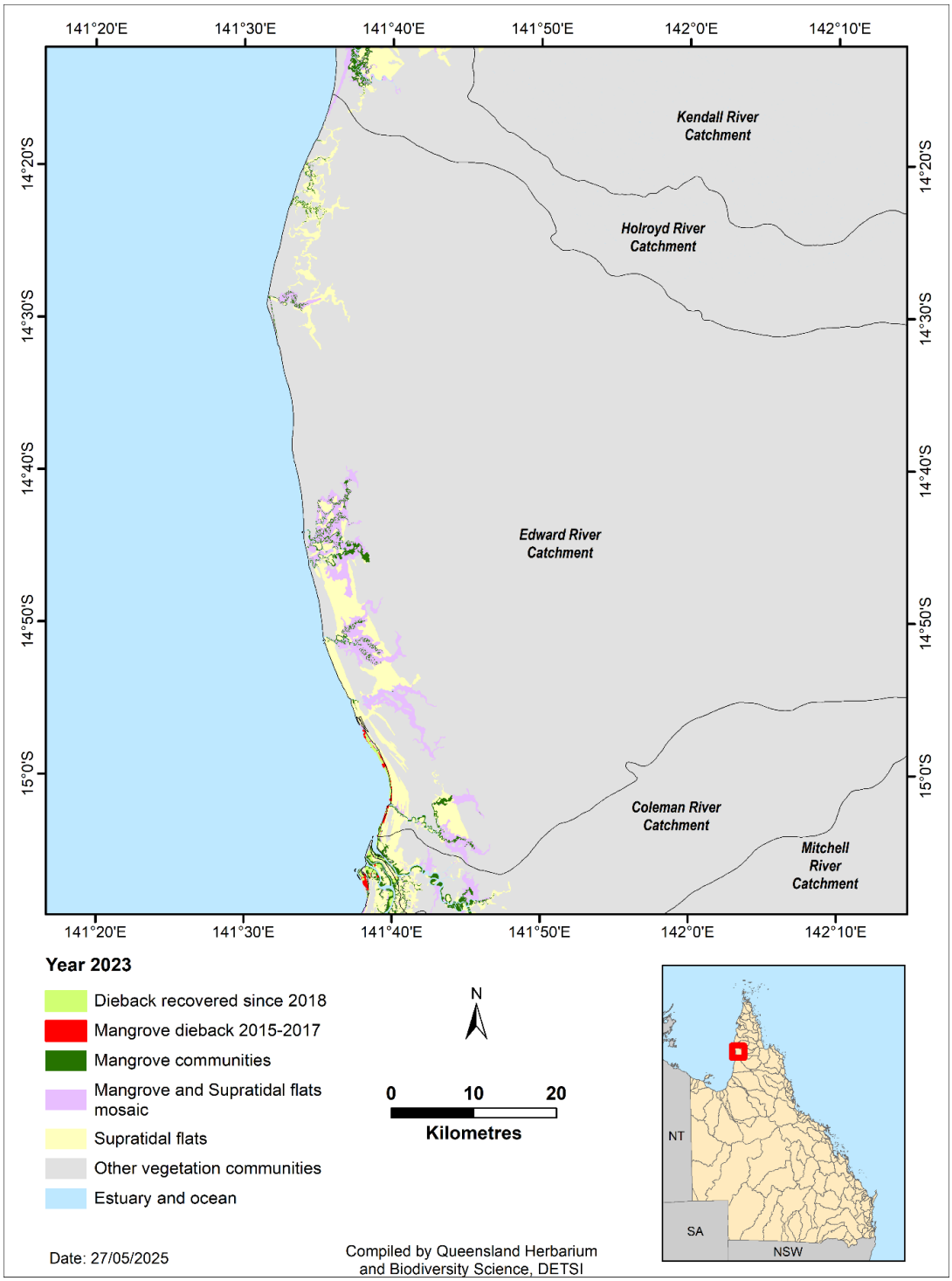

Figure 16. Edward River Catchment mangrove, mangrove dieback and recovery map

The Edward River Catchment recorded 126 ha of dieback. The Edward River Catchment has recorded 51 ha that has recovered or on the trajectory of recovery (40% of the dieback extent).

Coleman River Catchment

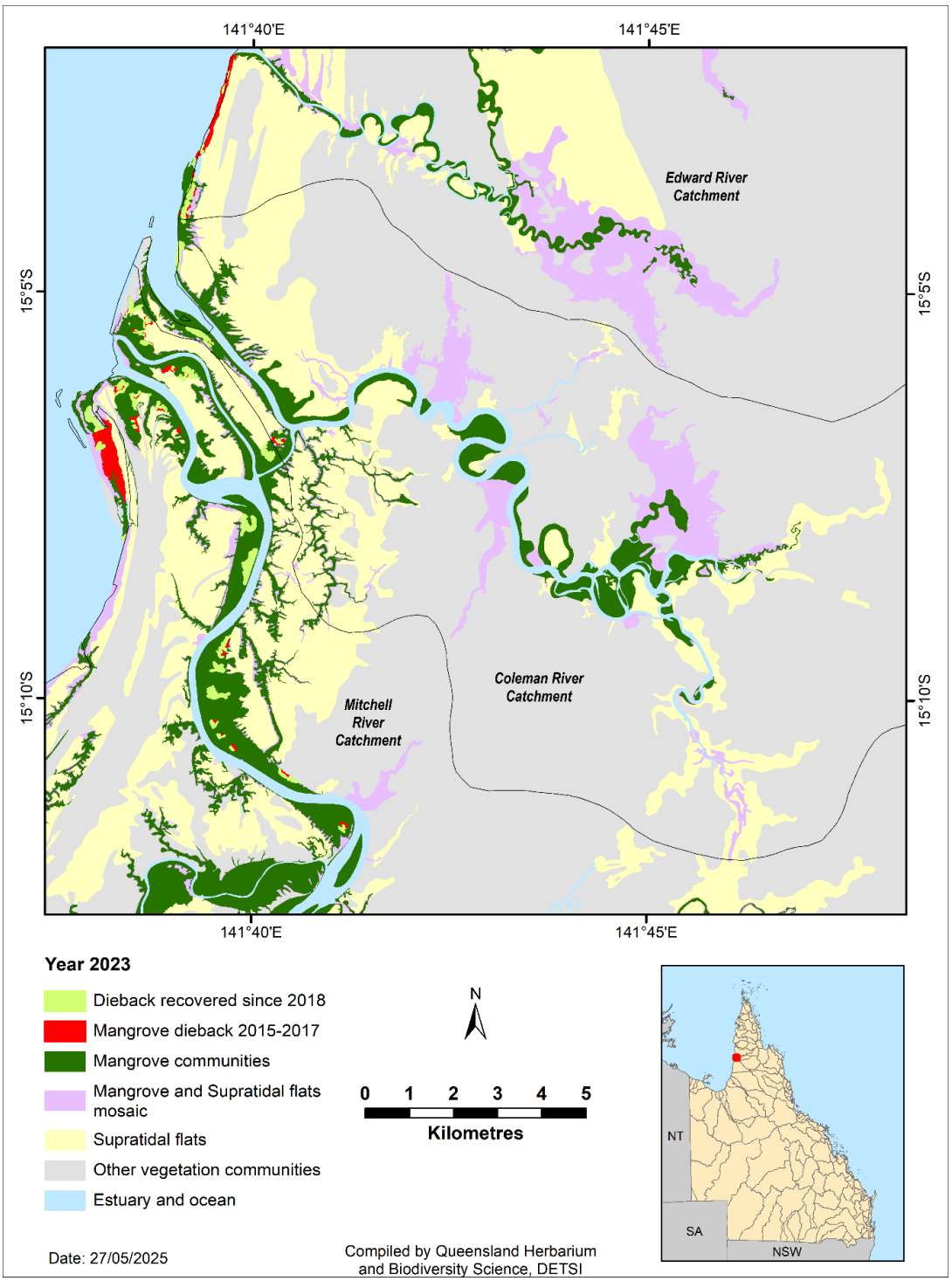

Figure 17. Coleman River Catchment mangrove, mangrove dieback and recovery map

The Coleman River Catchment recorded 13 ha of dieback. The Coleman River Catchment has recorded 12 ha that has recovered or on the trajectory of recovery (92% of the dieback extent).

Mitchell River Catchment

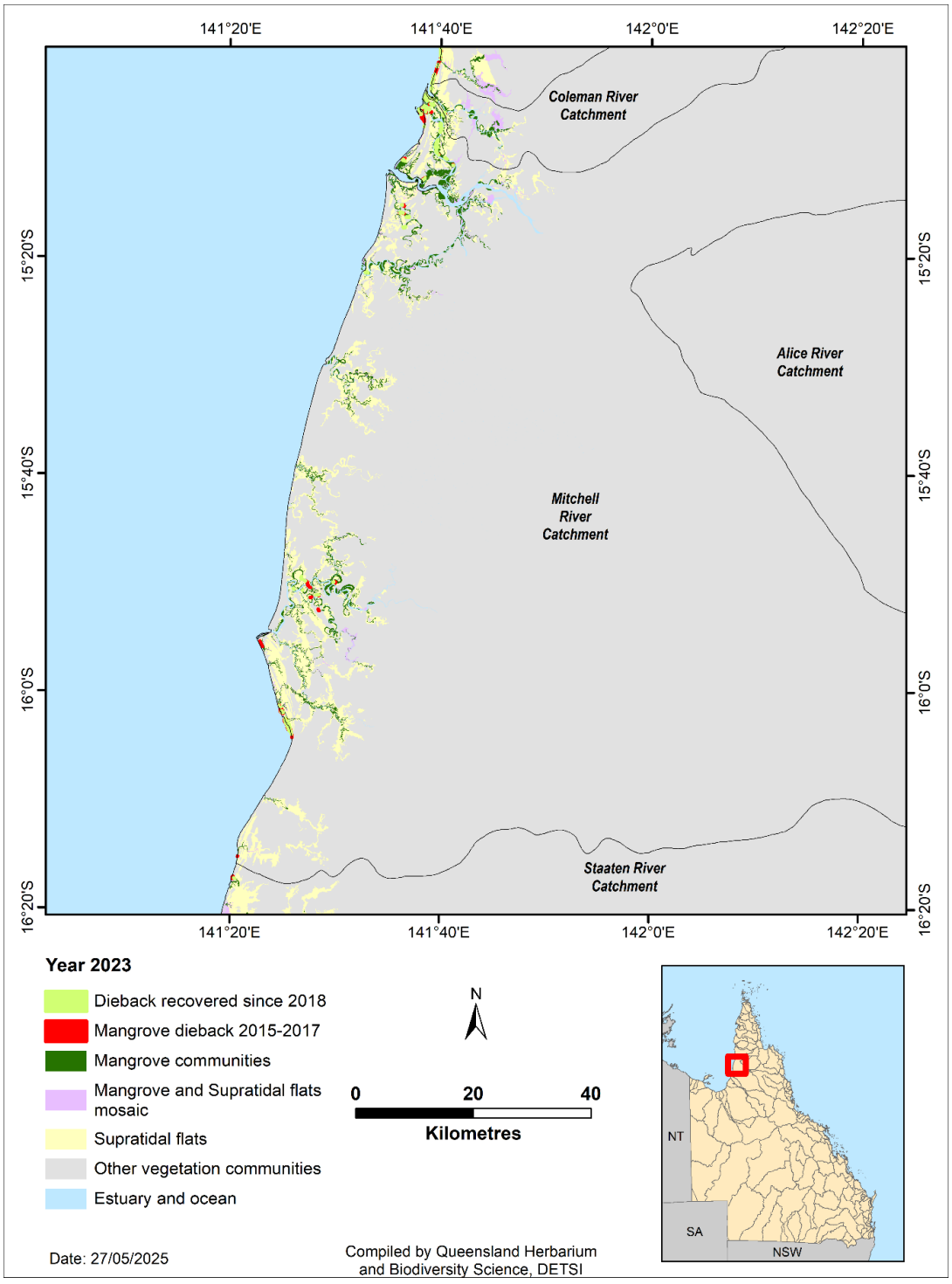

Figure 18. Mitchell River Catchment mangrove, mangrove dieback and recovery map

The Mitchell River Catchment recorded 278 ha of dieback. The Mitchell River Catchment has recorded 149 ha that has recovered or on the trajectory of recovery (52% of the dieback extent).

Staaten River Catchment

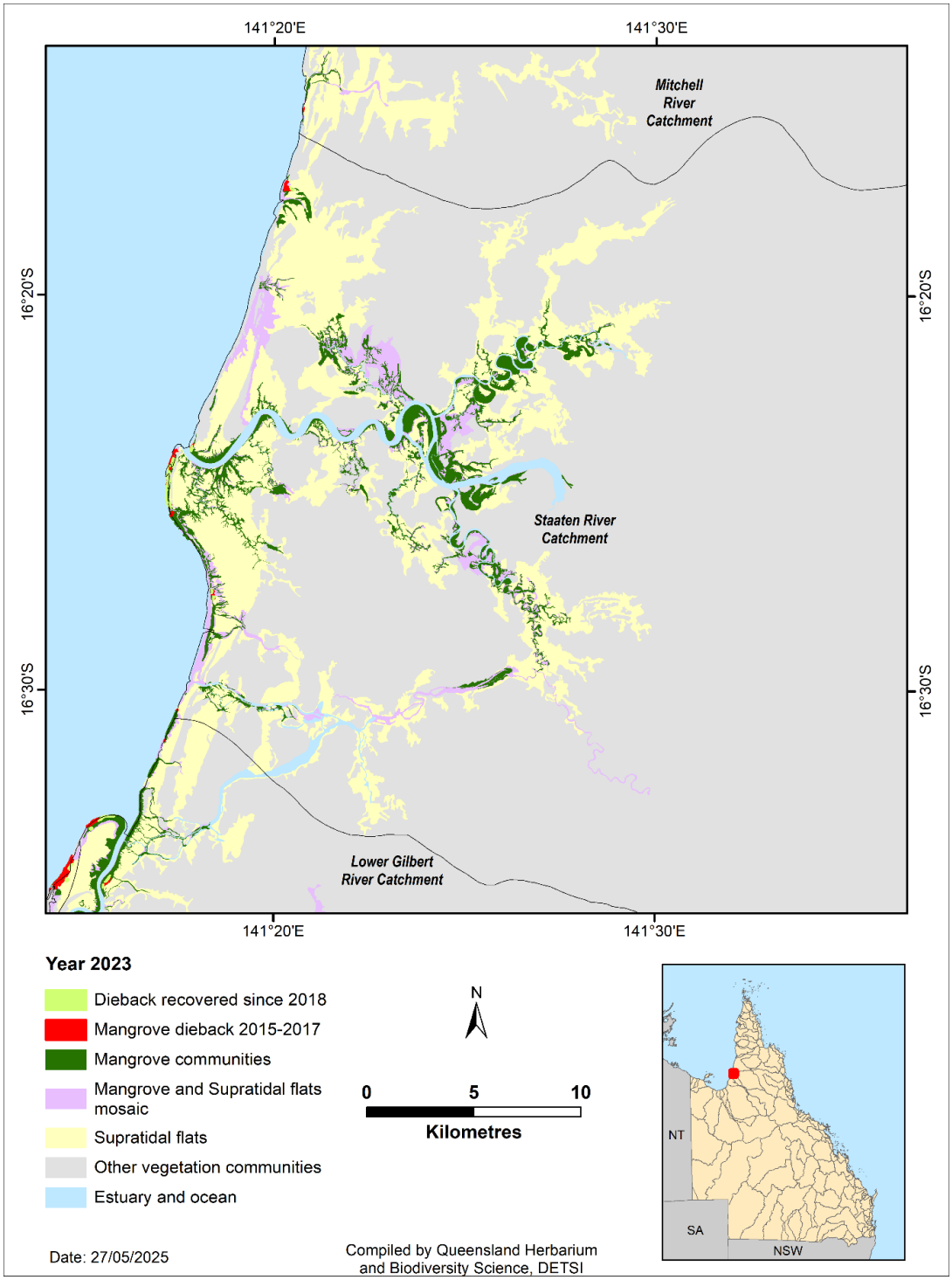

Figure 19. Staaten River Catchment mangrove, mangrove dieback and recovery map

The Staaten River Catchment recorded 46 ha of dieback. The Staaten River Catchment has recorded 22 ha that has recovered or on the trajectory of recovery (48% of the dieback extent).

Lower Gilbert River Catchment

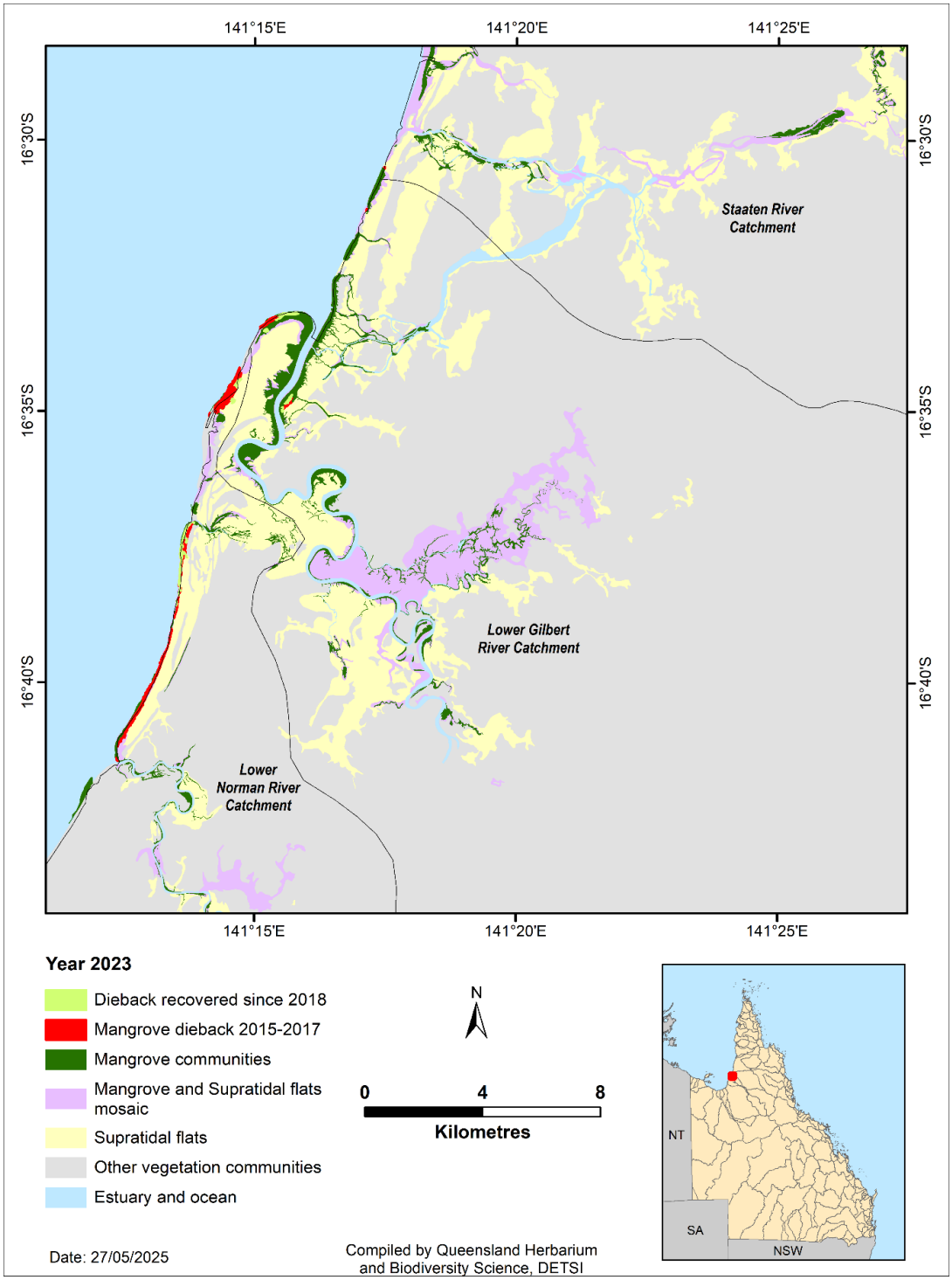

Figure 20. Lower Gilbert River Catchment mangrove, mangrove dieback and recovery map

The Lower Gilbert River Catchment recorded 19 ha of dieback. The Lower Gilbert River Catchment has recorded 9 ha that has recovered or on the trajectory of recovery (47% of the dieback extent).

Lower Norman River Catchment

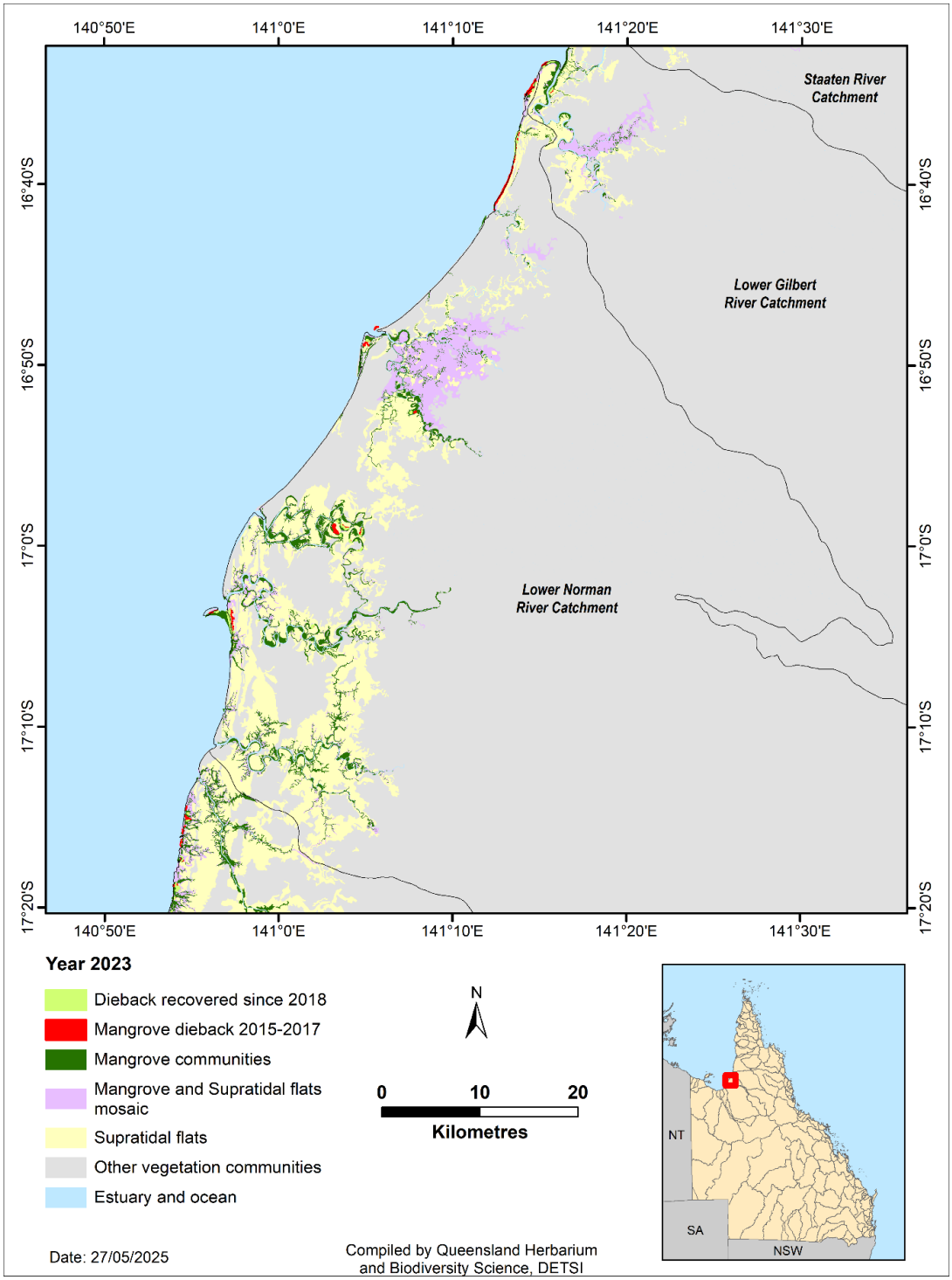

Figure 21. Lower Norman River Catchment mangrove, mangrove dieback and recovery map

The Lower Norman River Catchment recorded 233 ha of dieback. The Lower Norman River Catchment has recorded 77 ha that has recovered or on the trajectory of recovery (33% of the dieback extent).

Upper Norman River Catchment

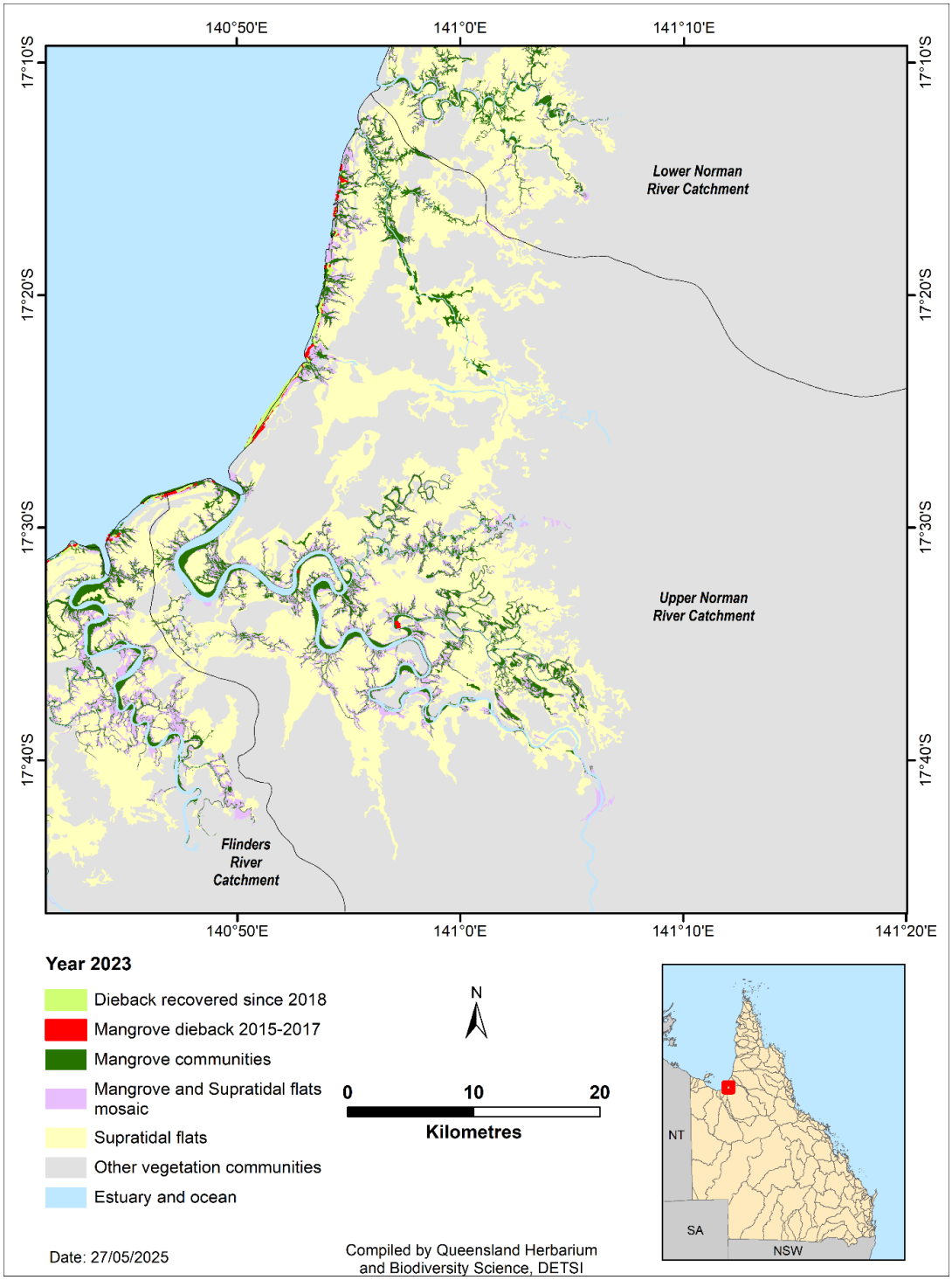

Figure 22. Upper Norman River Catchment mangrove, mangrove dieback and recovery map

The Upper Norman River Catchment recorded 306 ha of dieback. The Upper Norman River recorded 187 ha that has recovered or on the trajectory of recovery (61% of the dieback extent).

Flinders River Catchment

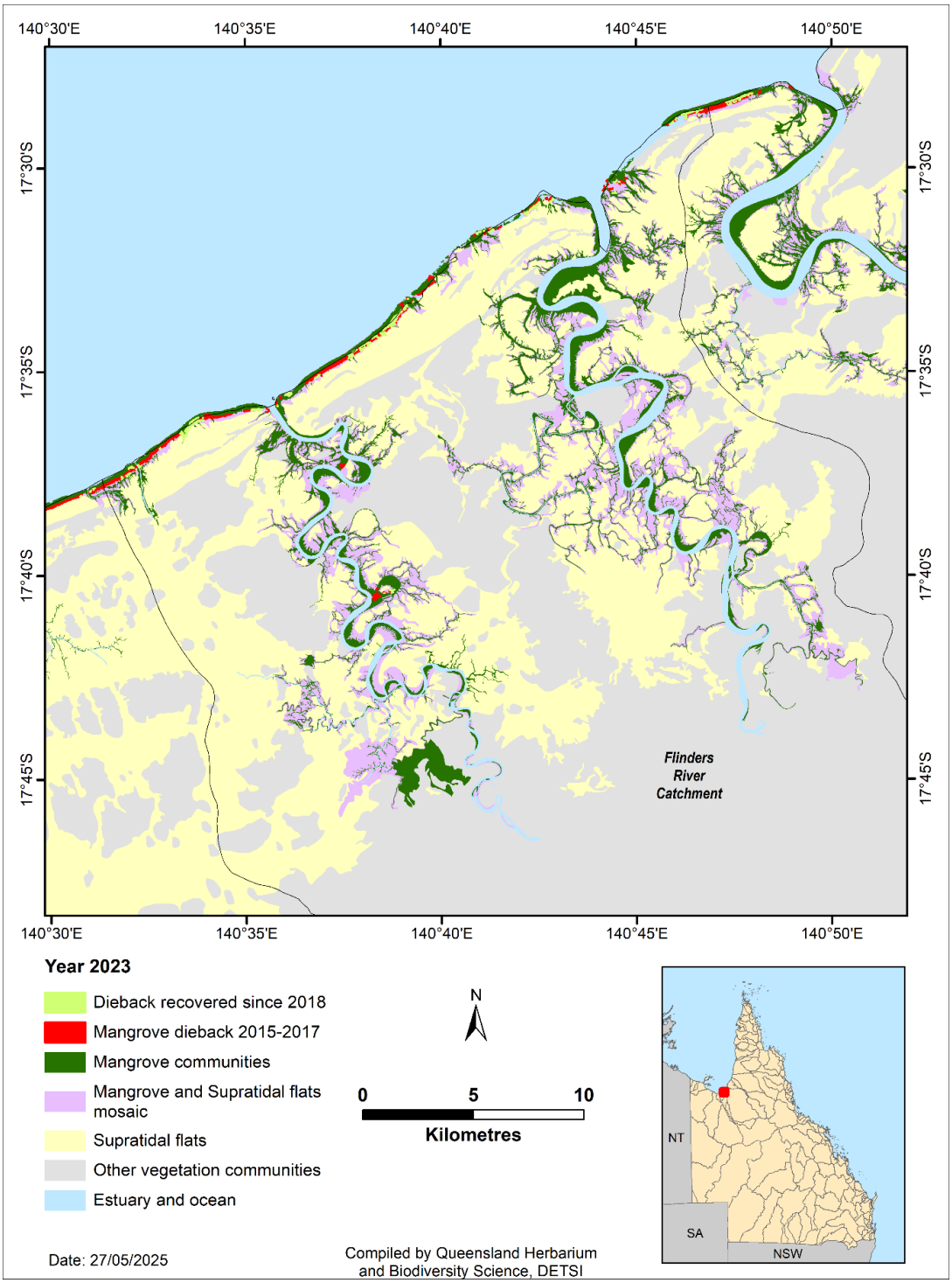

Figure 23. Flinders River Catchment mangrove, mangrove dieback and recovery map

The Flinders River Catchment recorded 184 ha of dieback. The Flinders River Catchment has recorded 57 ha that has recovered or on the trajectory of recovery (31% of the dieback extent).

L Creek Catchment

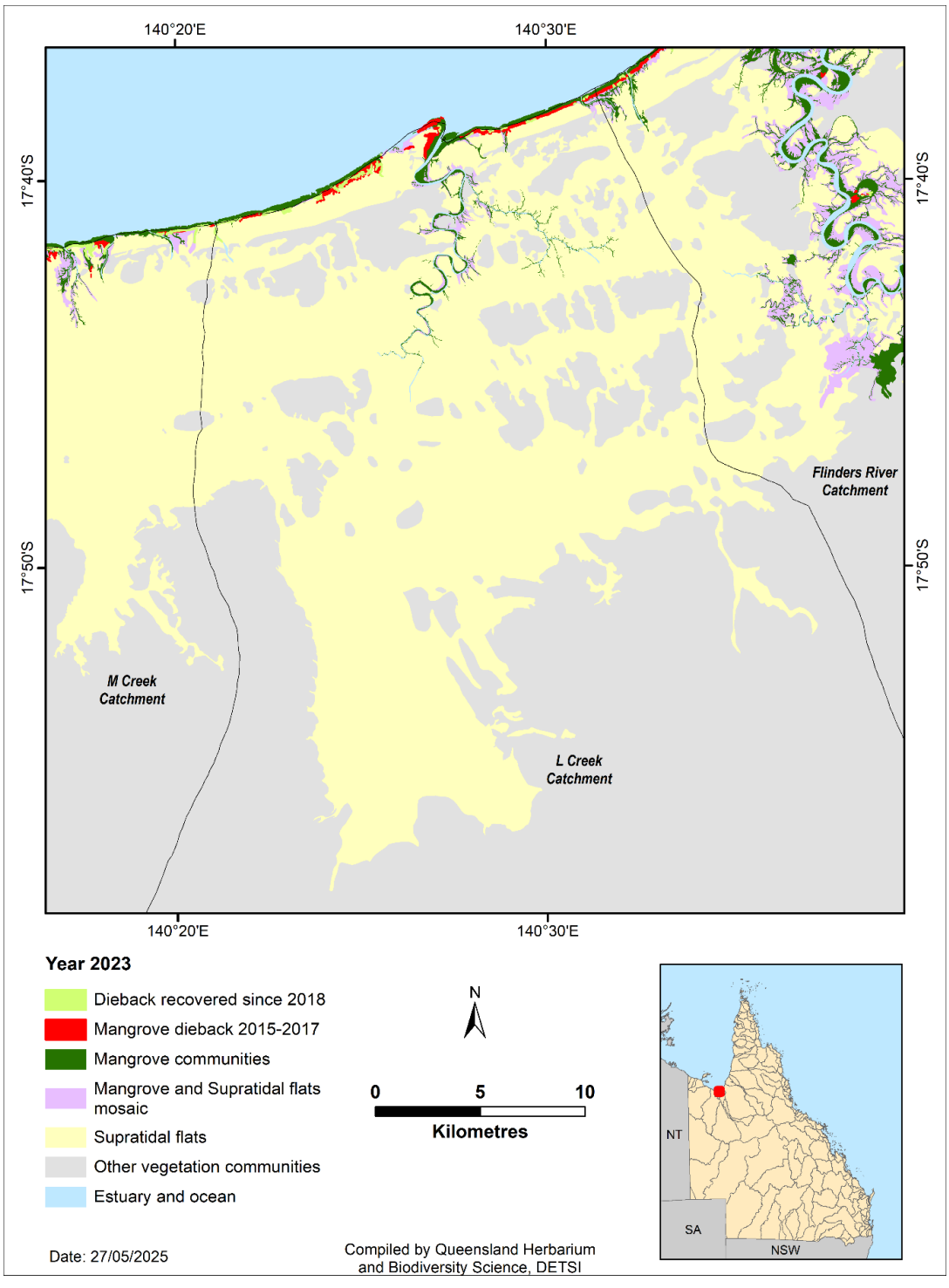

Figure 24. L Creek Catchment mangrove, mangrove dieback and recovery map

The L Creek Catchment recorded 183 ha of dieback. The L Creek Catchment has recorded 38 ha that has recovered or on the trajectory of recovery (21% of the dieback extent).

M Creek Catchment

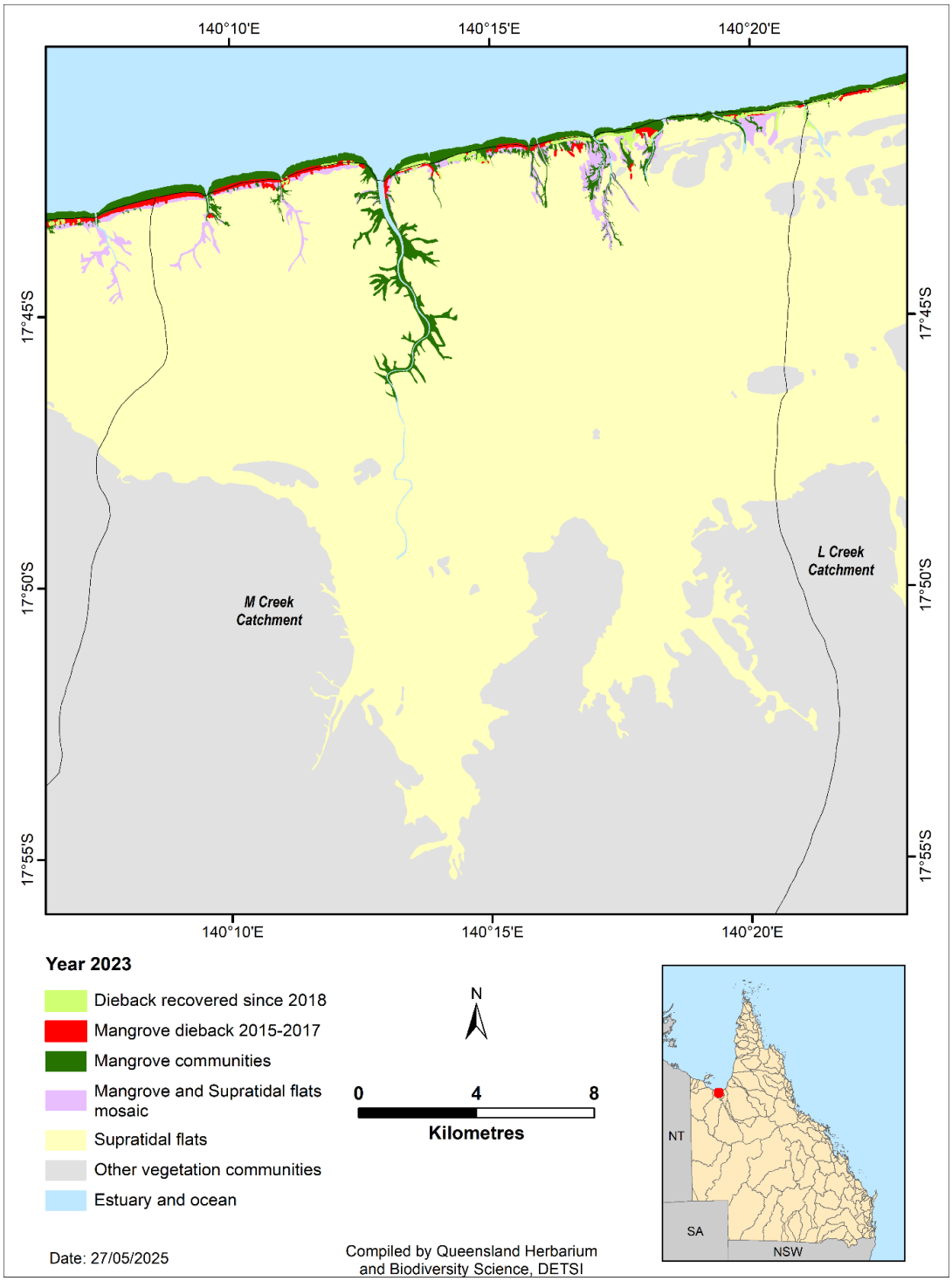

Figure 25. M Creek Catchment mangrove, mangrove dieback and recovery map

The M Creek Catchment recorded 170 ha of dieback. The M Creek Catchment has recorded 61 ha that has recovered or on the trajectory of recovery (36% of the dieback extent).

Leichhardt River Catchment

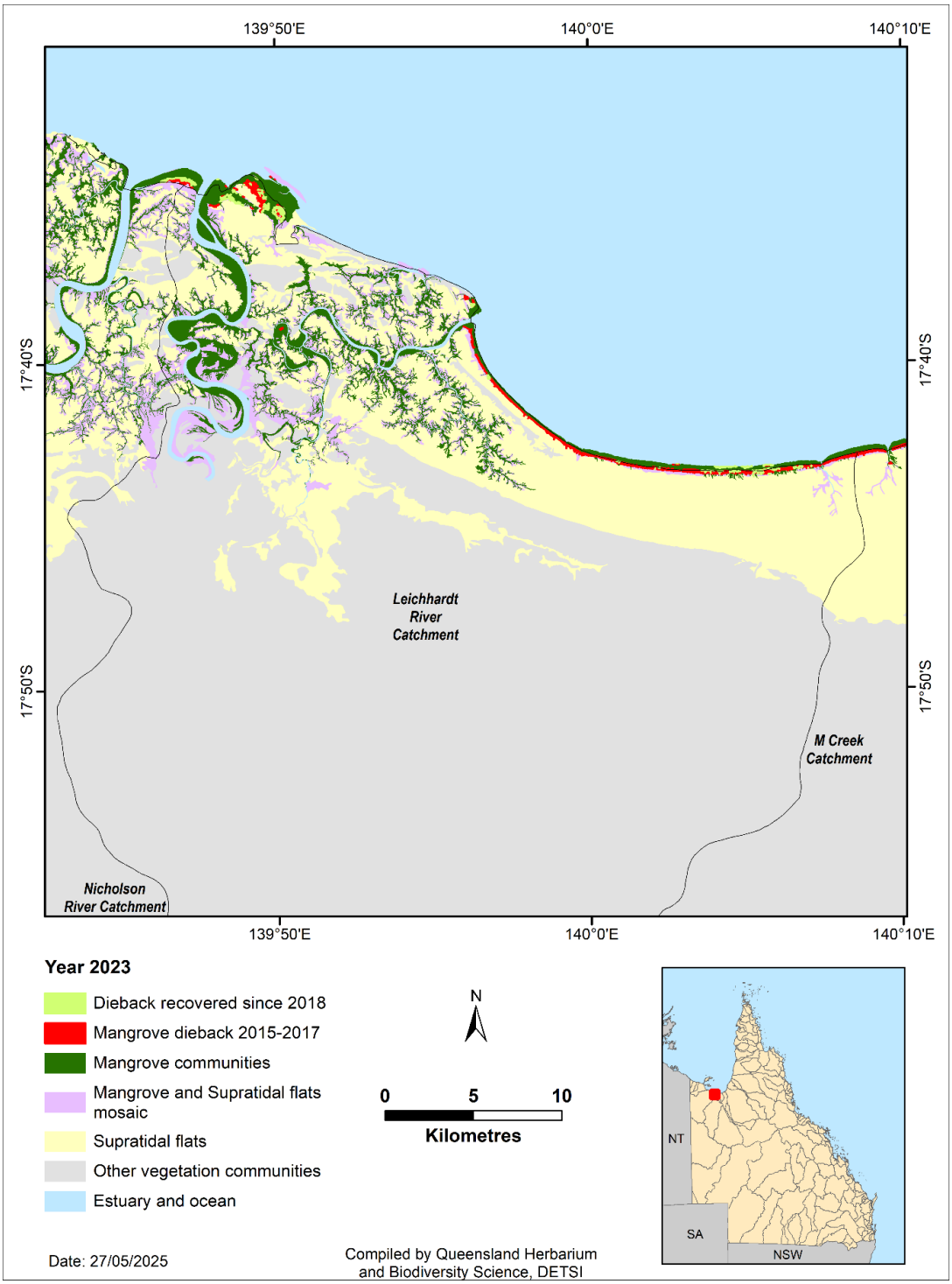

Figure 26. Leichhardt River Catchment mangrove, mangrove dieback and recovery map

The Leichhardt River Catchment recorded 356 ha of dieback. The Leichhardt River Catchment has recorded 86 ha that has recovered or on the trajectory of recovery (24% of the dieback extent).

Nicholson River Catchment

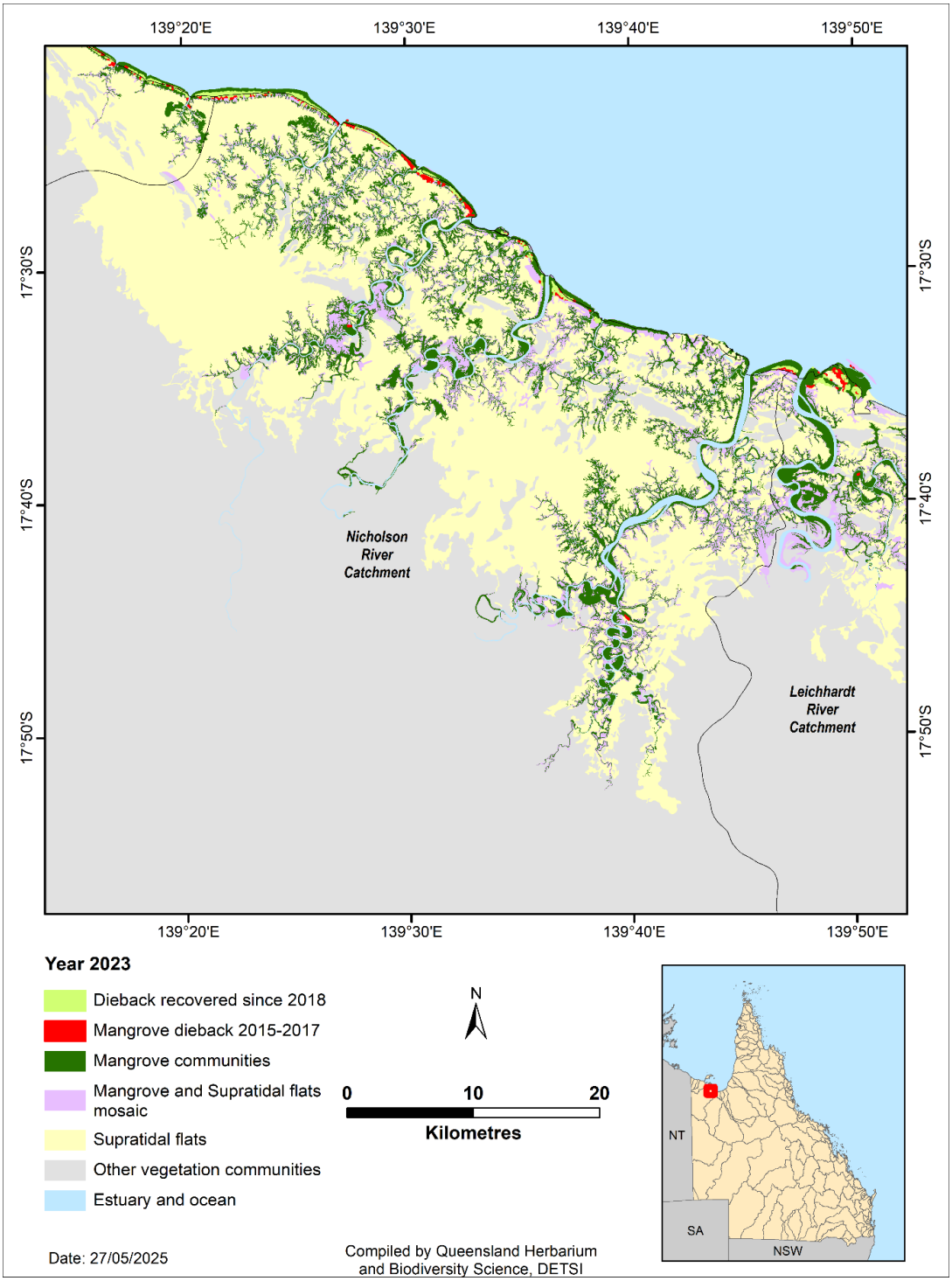

Figure 27. Nicholson River Catchment mangrove, mangrove dieback and recovery map

The Nicholson River Catchment recorded 436 ha of dieback. The Nicholson River Catchment has recorded 220 ha that has recovered or on the trajectory of recovery (50% of the dieback extent).

Cliffdale River Catchment

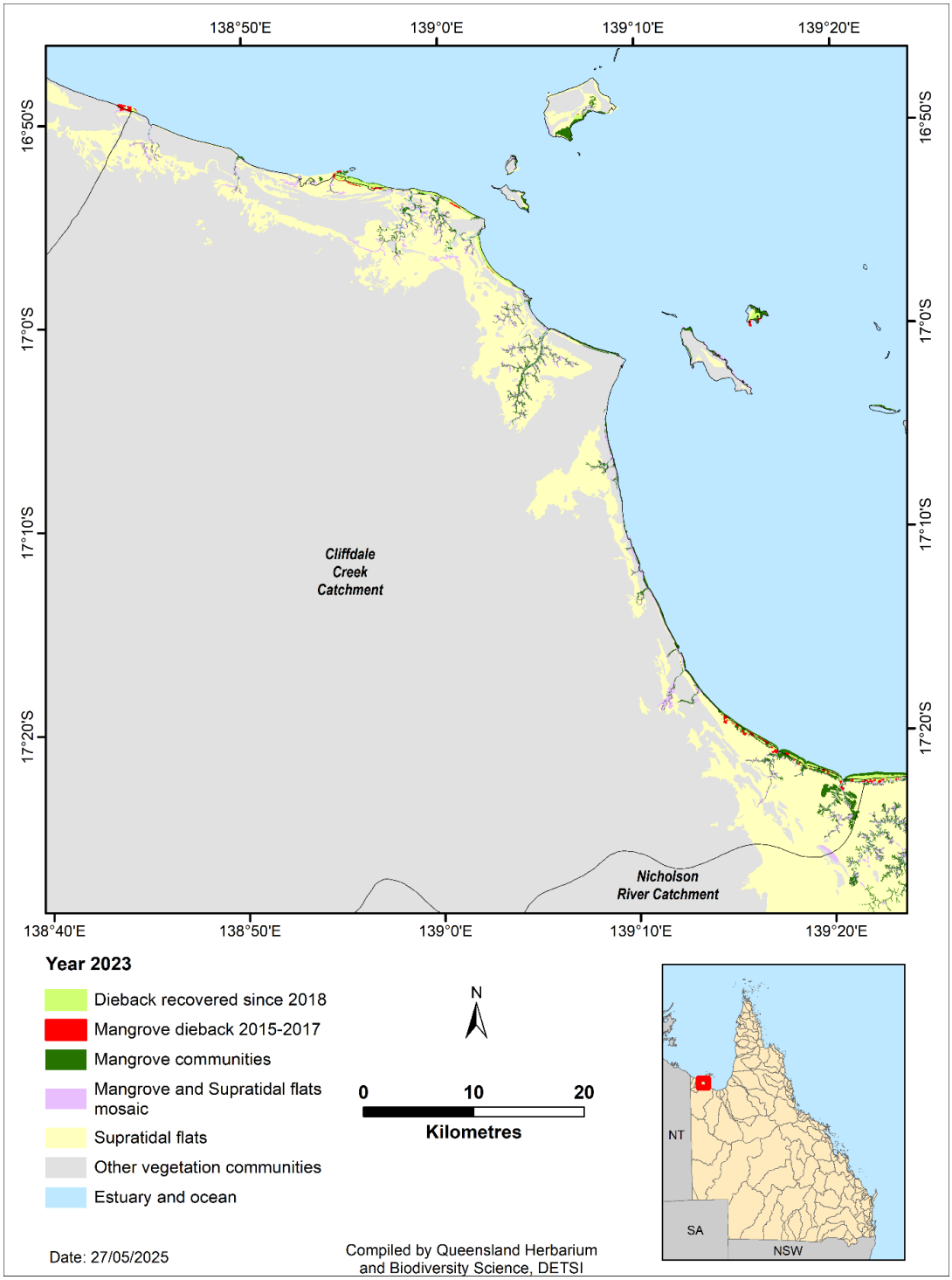

Figure 28. Cliffdale River Catchment mangrove, mangrove dieback and recovery map

The Cliffdale River Catchment recorded 385 ha of dieback. The Cliffdale River Catchment has recorded 266 ha that has recovered or on the trajectory of recovery (69% of the dieback extent).

Eight Mile Creek Catchment

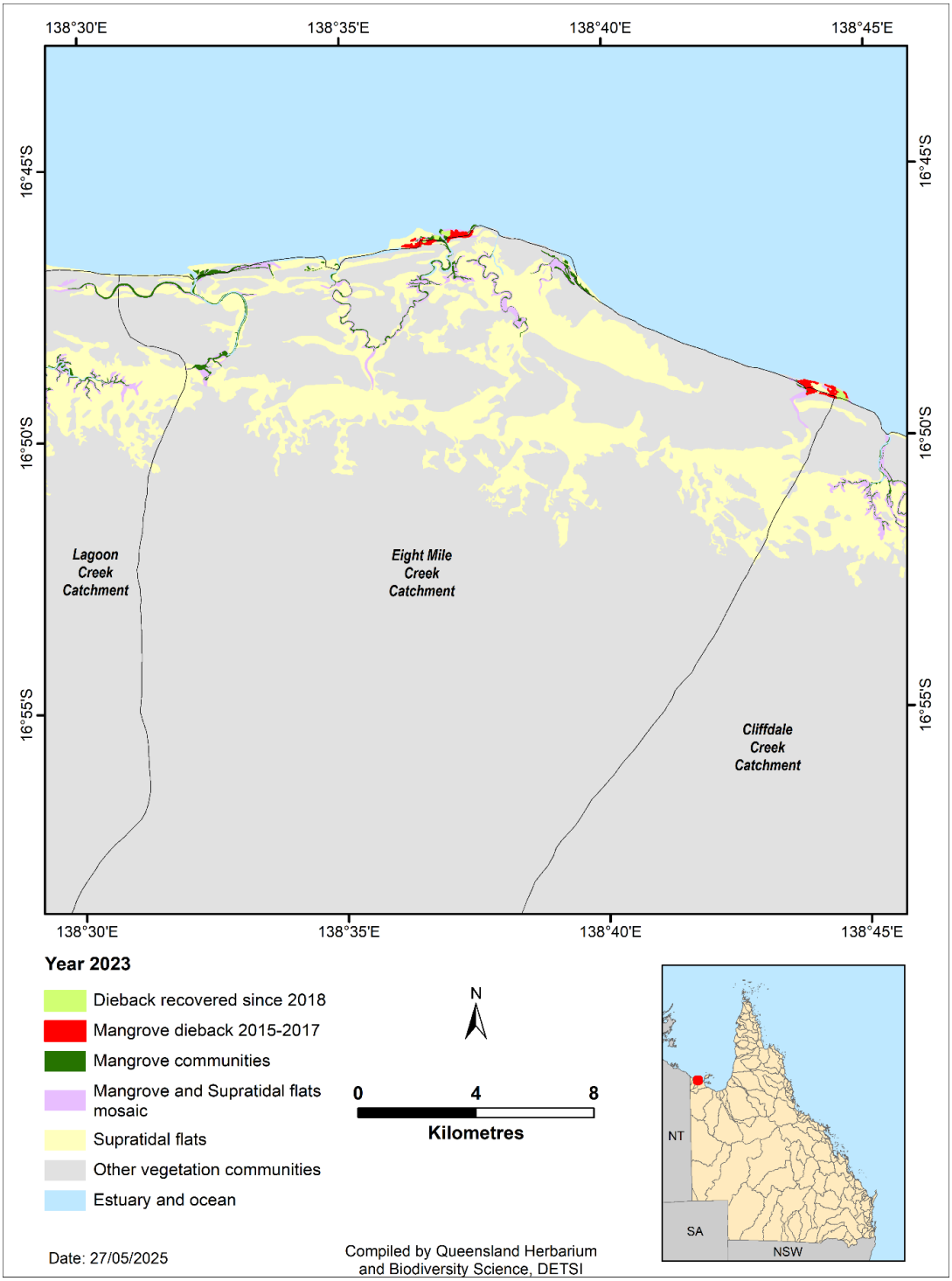

Figure 29. Eight Mile Creek Catchment mangrove, mangrove dieback and recovery map

The Eight Mile Creek Catchment recorded 44 ha of dieback. The Eight Mile Creek Catchment has recorded 4 ha that has recovered or on the trajectory of recovery (9% of the dieback extent).

Lagoon Creek Catchment

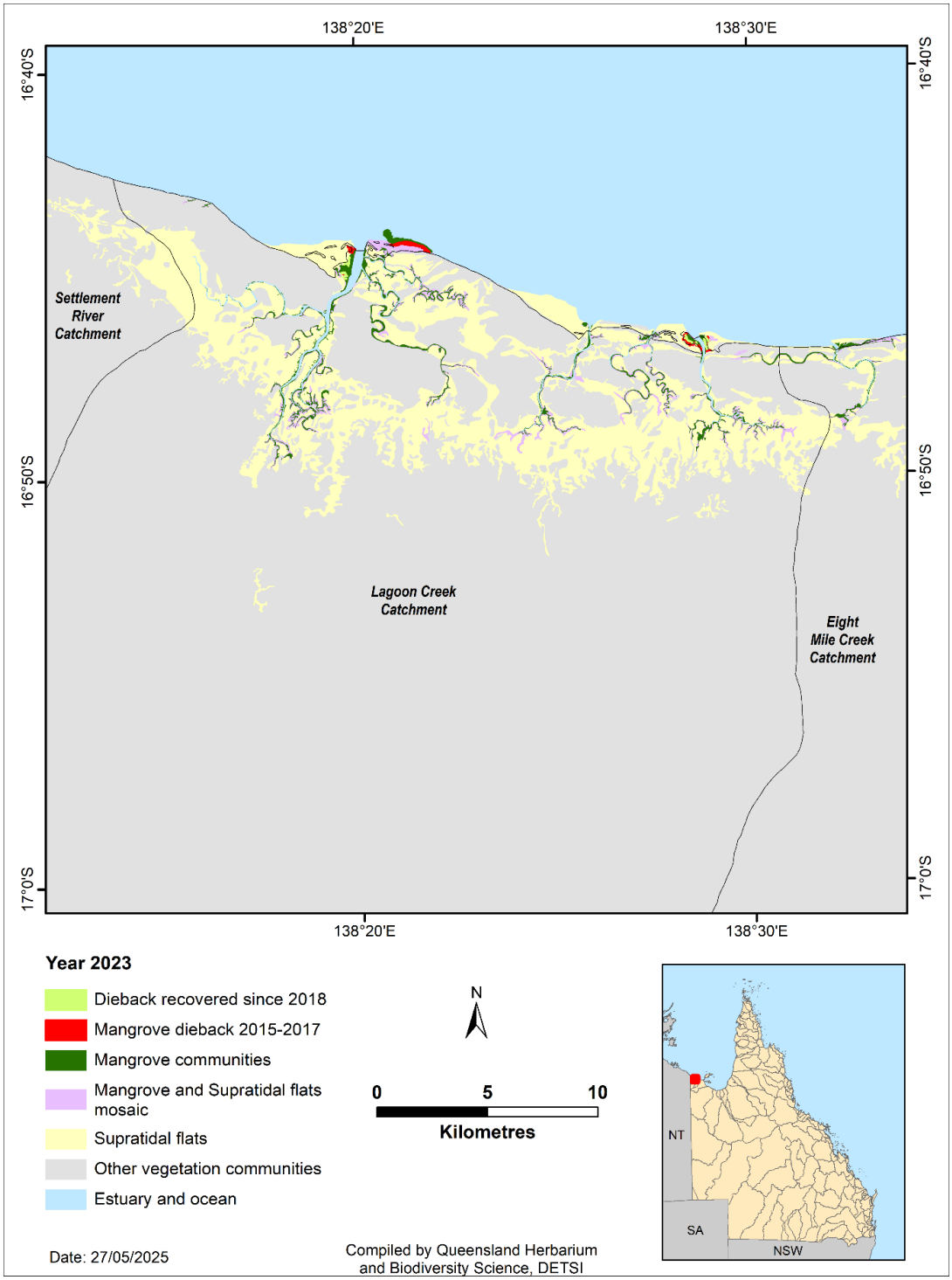

Figure 30. Lagoon Creek Catchment mangrove, mangrove dieback and recovery map

The Lagoon Creek Catchment recorded 48 ha of dieback. The Lagoon Creek Catchment has recorded 13 ha that has recovered or on the trajectory of recovery (27% of the dieback extent).

Settlement River Catchment

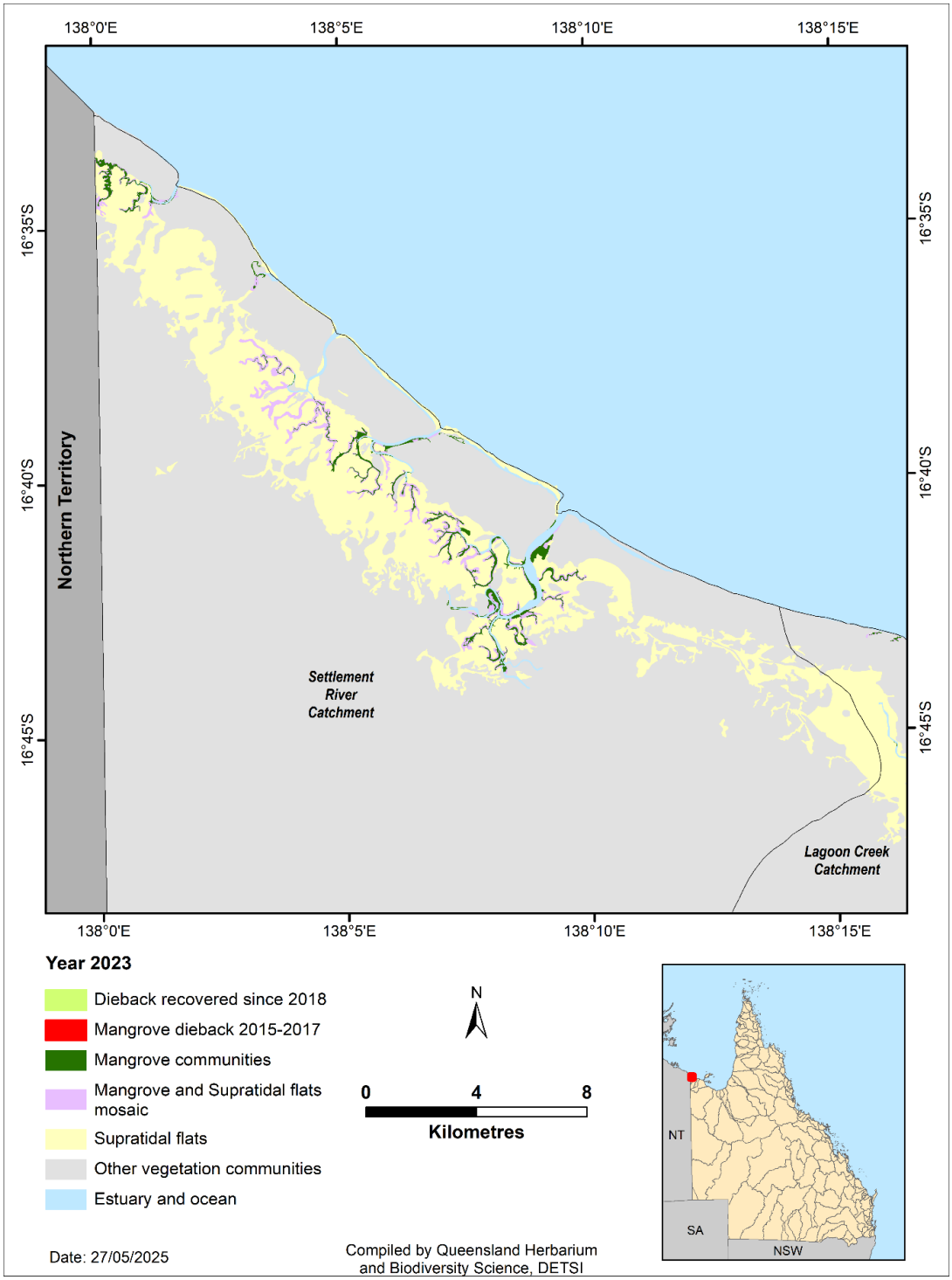

Figure 31. Settlement River Catchment mangrove, mangrove dieback and recovery map

No dieback was recorded in the Settlement River Catchment.

Mornington Island Catchment

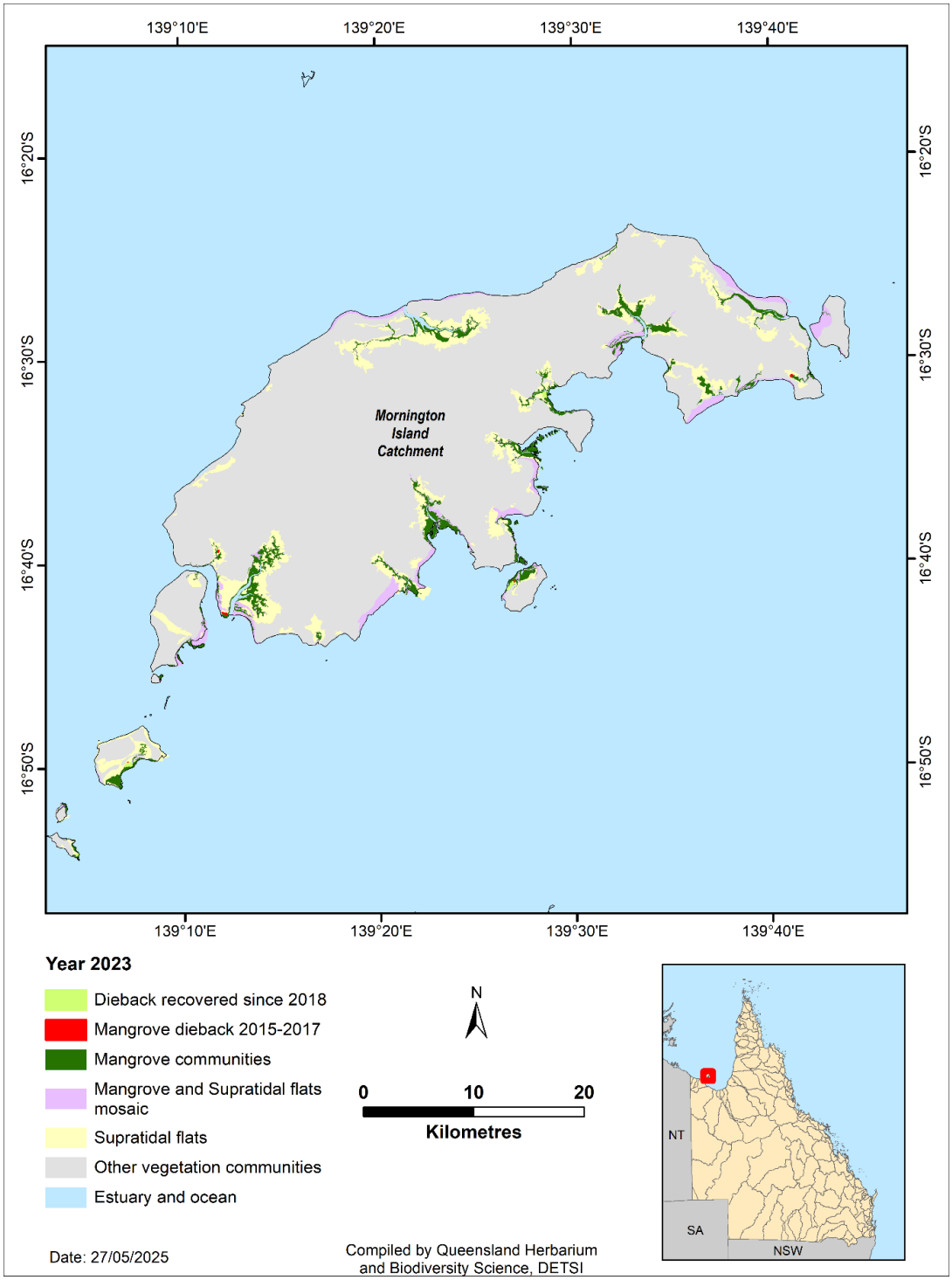

Figure 32. Mornington Island Catchment mangrove, mangrove dieback and recovery map

The Mornington Island Catchment recorded 32 ha of dieback. The Mornington Island Catchment has recorded 21 ha that has recovered or on the trajectory of recovery (66% of the dieback extent).

Outer Island Catchment

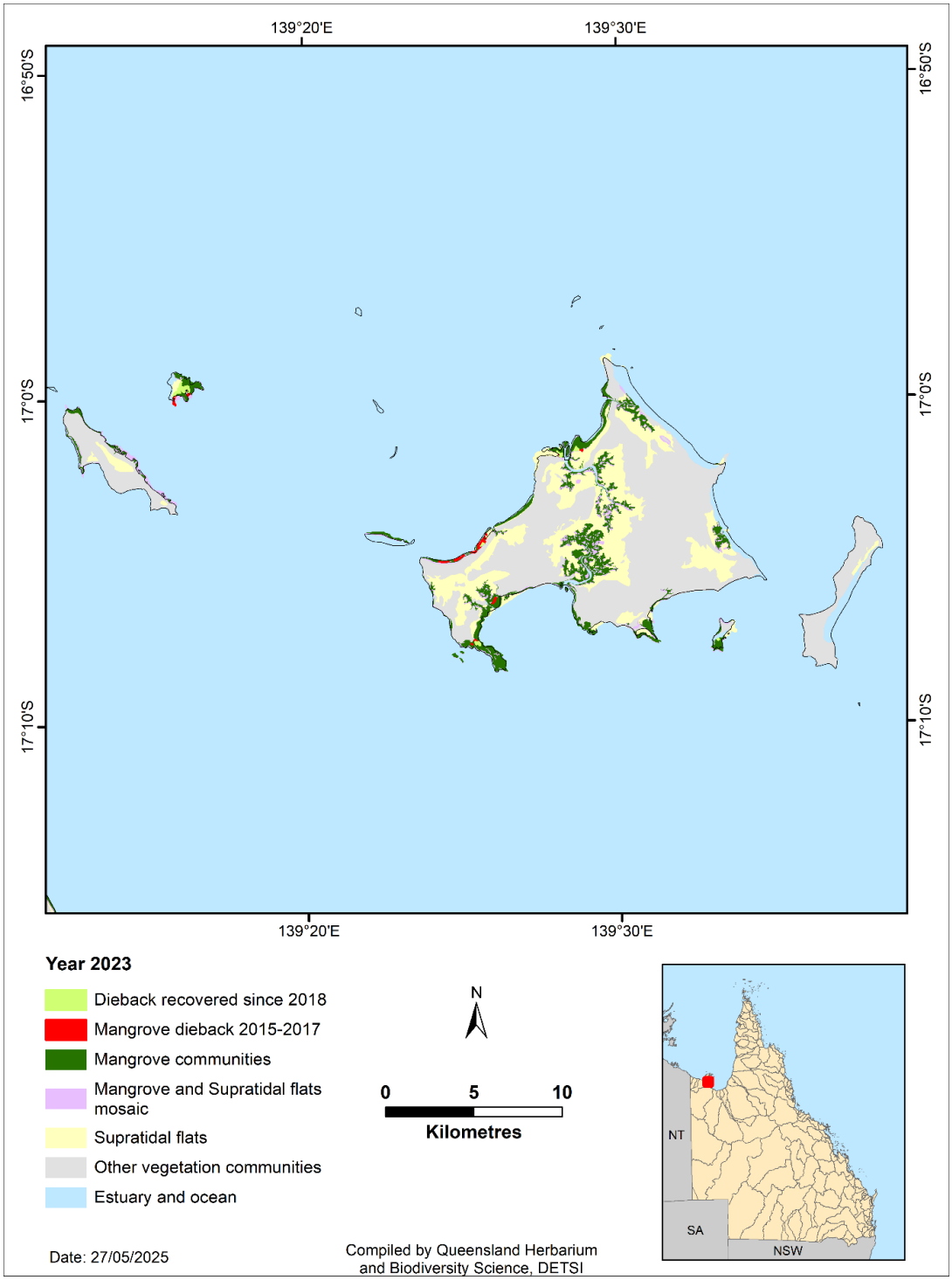

Figure 33. Outer Islands Catchment mangrove, mangrove dieback and recovery map

The Outer Islands Catchment recorded 27 ha of dieback. The Outer Islands Catchment has recorded 9 ha that has recovered or on the trajectory of recovery (33% of the dieback extent).

The Department of the Environment, Tourism, Science and Innovation acknowledges Aboriginal and Torres Strait Islander peoples as the Traditional Owners and custodians of the land.

We recognise their connection to land, sea and community, and pay our respects to Elders past and present.

Top: Recovery and secondary dieback in one of the long-term monitoring transects Pormpuraaw, August 2024.

Bottom: from left to right, La Schaya Body, Karumba 2023, Ralph Dowling, Karumba 2023, Gerry Turpin, Karumba 2023 and Michael Ngugi and Arnon Accad, Pormpuraaw 2024.

Queensland Government