Field update

Anglesea River Fish Survey

Arthur Rylah Institute for Environmental Research

Field Update – 21/07/2026

Assessment of water quality conditions and general fish surveys in the Anglesea River in response to a potential acidification event.

Locations surveyed	Water quality was taken at six locations within the Anglesea estuary (figure 1), located between Coalmine Road and adjacent to the Anglesea Visitor Information Centre. Fish sampling was conducted at three locations: site 1 - from Coalmine Road boat launch to the walking bridge; site 2 - from the walking bridge to the Great Ocean Road bridge; site 3 - from the Great Ocean Road bridge to adjacent to the Anglesea Visitor Information Centre. Both water quality and fish sampling locations were consistent with locations sampled in August 2025
Dates	21/07/2026
Data collected and methods	Water quality data was collected using a TPS 90-FLT Field Lab Analyser water quality meter. Fish sampling was conducted using a Hans Grassl boat-mounted electrofishing unit.
Survey team	Liam Hogan and David Dawson (ARI)

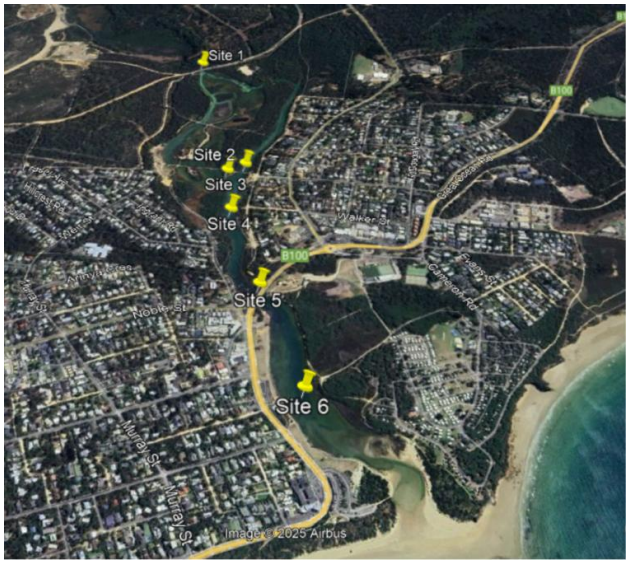

Figure 1. Locations where water quality samples were collected in 2026.

Water Quality

Dissolved oxygen was relatively high at the upper and middle sections of the estuary, however declined closer to the estuary mouth (site 6) (table 1). At all locations, dissolved oxygen was slightly higher near the water's surface and declined slightly as the depth of water sample increased. The pH levels were consistently low (acidic) across the sites sampled, ranging from a pH of 5.01 to 2.48. The pH was lower at 1m depth compared to the surface water

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at all locations. The pH was lowest at site 4, approximately the middle of the estuarine section surveyed. A turquoise colouration of water was observed at several locations.

Table 1. Water quality profiles taken at six sites in the Anglesea River estuary in 2026.

Site	Depth of sample (m)	Temp (C)	EC	pH	Turbidity	DO % sat
1	0.2	10.2	11400	5.01	0	117
	1	10.1	11400	4.83	0	104
	2	10.0	11400	3.91	0	92.1
2	0.2	11.4	11080	4.59	0	108
	1	11.0	11310	4.31	0	96.6
	2	11.1	12110	3.32	0	86.1
3	0.2	11.3	11260	4.41	0	85.9
	1	10.9	11150	3.44	0	72.8
4	0.2	11.2	11140	4.33	0	71.7
	1	11.0	11210	2.48	0	66
	2	10.9	11260	2.65	0	64.3
5	0.2	10.9	10800	4.5	0	68.7
	1	10.6	10960	4.37	0	60.1
	2	10.9	16240	3.34	0	56.4
6	0.2	11.7	10460	4.56	0	58.1
	1	10.9	10700	4.34	0	48.6

General fish surveys

No living fish were observed during the survey at any of the survey sites. In addition, it was noted that very few other aquatic fauna were detected (only one Eastern Long-Necked Turtle *Chelodina longicollis* and some mosquito larvae were seen). Broadly speaking, it would be expected that the electrical current produced by the electrofishing unit would disturb any aquatic fauna (such as shrimp) residing in the survey locations making them visible, however none were observed at any location. This finding is consistent with the water quality results, as the observed pH levels exceeded the lethal tolerance thresholds of most aquatic organisms.

Table 2. Summary of electrofishing effort and catch per site sampled in the Anglesea River in 2026

Site	Electrofishing seconds	Catch and/or observations
1	740 s	Mosquito larvae
2	530 s	Eastern-Long Necked Turtle, four dead fish (unidentifiable)
3	711 s	No fauna recorded

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Several dead fish were observed at site 2 (figure 2), however they were in very advanced stages of decay and could not be discernibly identified to species level. It is likely these fish had been dead for several weeks or were possibly regurgitated by a bird.

Figure 2. Unidentified dead fish (left), Anglesea River at Coalmine Road (right)

Figure 3. Anglesea River at site 2 (left), turquoise colouration in riverbed at site 1 (right)

Figure 4. Boat electrofishing at site 1 (left), Anglesea River estuary near the Anglesea visitor information centre (right).

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