Regional ecosystem details for 12.3.5

Regional ecosystem	12.3.5
Vegetation Management Act class	Least concern
Wetlands	Palustrine
Biodiversity status	No concern at present
Subregion	8, 4, 9, (10), (3), (7), (2), (11.14)
Estimated extent[1]	Pre-clearing 45000 ha; Remnant 2021 20000 ha
Short description	Melaleuca quinquenervia open forest on coastal alluvium
Structure code	Open Forest
Description	Melaleuca quinquenervia open forest to woodland. Understorey depends upon duration of water logging; sedges and ferns, especially Blechnum indicum, in wetter microhabitats and grasses and shrubs in drier microhabitats. Ground layer species include the grasses Leersia hexandra and Imperata cylindrica, the sedges/rushes, Machaerina rubiginosa, Gahnia sieberiana, Lepironia articulata, Schoenus brevifolius and Schoenus scabripes and the fern Lygodium microphyllum. Other tree species that may be present as scattered individuals or clumps include Lophostemon suaveolens, Eucalyptus robusta, E. tereticornis, E. bancroftii, E. latisinensis, Corymbia intermedia, Melaleuca salicina, Livistona australis, Casuarina glauca, Endiandra sieberi. Melastoma malabathricum subsp. malabathricum, Glochidion sumatranum and Melicope elleryana are often in understorey. Occurs on Quaternary

	alluvium in coastal areas. Palustrine. (BVG1M: 22a). Vegetation communities in this regional ecosystem include: 12.3.5a: [RE not in use][2]: This vegetation community is now mapped as 12.3.20. Melaleuca quinquenervia, Casuarina glauca +/- Eucalyptus tereticornis, E. siderophloia open forest. Occurs on lowest terraces of Quaternary alluvial plains in coastal areas. Palustrine. (BVG1M: 22a).
Supplementary description	Ryan, T.S. (ed.) (2012); Bean et al. (1998), C2
Protected areas	Great Sandy NP, Bribie Island NP, Poona NP, Burrum Coast NP, Curtis Island CP, Deepwater NP, Mooloolah River NP, Curtis Island NP, Pumicestone NP, Noosa NP, Bingera NP, Carbrook Wetlands CP 1, Glass House Mountains NP, Ningi Creek CP, Vernon CP, Carbrook
Special values	12.3.5: Habitat for threatened flora species including Phaius australis and P. bernaysii. Habitat for threatened fauna including the wallum froglet Crinia tinnula. This ecosystem is known to provide suitable habitat for koalas (Phascolarctos cinereus). 12.3.5a: Habitat for threatened flora species including Phaius australis, P. bernaysii and near threatened species including Schoenus scabripes.
Fire management guidelines	SEASON: Late summer to mid-winter (after rain). INTENSITY: Planned and occasional unplanned burns (typically of higher intensity) influence the ecology of melaleuca ecosystems. INTERVAL: Heath 8-12 years, Sedge 12-20 years, Mixed grass/shrub 6-20 years. INTERVAL_MIN: 6. INTERVAL_MAX: 20. STRATEGY: Aim for a 25-70% burn mosaic (in association with surrounding ecosystems, as melaleuca ecosystems often just occur in patches or along natural drainage lines). Fires may, depending on the conditions and type of vegetation, burn areas larger than just the melaleuca ecosystem. Ensure secure boundaries from non fire-regime adapted ecosystems. Consider the needs of melaleuca ecosystems based on understorey (i.e., heath dominated, sedge dominated or mixed grass/shrub) when planning burns. High soil moisture (or presence of water on the ground) is required, as avoidance of peat-type fires must be maintained. ISSUES: Fire regimes for melaleuca ecosystems require further fire research. Melaleuca forests are fire-adapted, but too high an intensity or frequent fire will slow or prevent regeneration and lead to lower species richness (since these communities contain numerous obligate seed regenerating species that require sufficient fire intervals to produce seed). High intensity fires may kill trees and lead to whipstick regeneration. Too frequent fire may result in a net loss of nutrients over time from an already nutrient poor system. Fire associations are significantly influenced by understorey composition. Melaleuca communities with a heath understorey should burn in a similar way to coastal heath (8-12 years). Sedge understorey communities will burn in association with the surrounding ecosystems (so will often burn with them but sometimes not, such that these communities have a slightly less fire frequency). Mixed understorey communities burn in a similar way to dry sclerophyll, in association with the surrounding dry sclerophyll, though somewhat less frequently due to the additional moisture present in melaleuca communities.

Comments	12.3.5: Tallest stands associated with estuarine sediments. Extensively cleared for sugar cane and urban development in south of bioregion. Subject to weed invasion, especially groundsel Baccharis halimifolia. Data on clearing rate between 1995 and 1997 indicate that the RE continues to experience an annual loss in excess of 1% of current extent per year. Generally a palustrine wetland although also some areas have been converted to lacustrine water bodies associated with the construction of bunding and levees. 12.3.5a: Extensively cleared for sugar cane and urban development in south of bioregion. Subject to weed invasion, especially groundsel Baccharis halimifolia.

[1] Estimated extent is from version 13.1 pre-clearing and 2021 remnant regional ecosystem mapping. Figures are rounded for simplicity. For more precise estimates, including breakdowns by tenure and other themes see remnant vegetation in Queensland (https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/remnant-vegetation/).

[2] Superseded: Revision of the regional ecosystem classification removed this regional ecosystem code from use. It is included in the regional ecosystem description database because the RE code may appear in older versions of RE mapping and the Vegetation Management regulation.

Access vegetation management regional ecosystem descriptions

The Queensland Herbarium REDD lookup tool searches for information on regional ecosystems for a range of planning and management applications. If you're looking for vegetation management information you can use the vegetation management regional ecosystems description database (VM REDD (https://www.qld.gov.au/environment/land/management/vegetation/maps/regional-ecosystems-lookup))

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