

SCLEROPHYLL FORESTS AND WOODLANDS OF THE WET TROPICS BIOREGION

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Lophostemon forests and woodlands (vegetation codes 49a-49d)



Of the bioregion's three *Lophostemon* species, *Lophostemon suaveolens* (swamp box) is the most abundant. It is a prominent component of a large number of eucalyptus associations. *Lophostemon confertus* has relatively narrow ecological tolerances while *Lophostemon grandiflorus* has specialised ecological requirements and therefore has a much more limited distribution.

The ecological dominance of *Lophostemon confertus* (49a) is generally associated with rocky infertile sites that are afforded protection from fire due to their topographic position, limited fuel loads and permanent moisture. Association 49a is a medium open forest which typically occurs as small pure *Lophostemon confertus* patches which separate from the sub-canopy of better developed eucalypt forest communities that occur in the immediate vicinity.

Lophostemon suaveolens is a highly tolerant species that can range from being a low shrub in permanently wet areas, to a tall tree on some of the best soils. In poorly drained parts of the coastal lowlands, extensive areas are dominated by pure stands of *Lophostemon suaveolens*. The species is tolerant of shade and fire, but in regard to the latter, probably less so than the majority of other myrtaceous, open forest and woodland species. With prolonged exclusion of fire, it appears to invade and dominate some melaleuca communities and once established, there is little evidence that any fire regime can remove its dominance. Where it forms taller communities, it appears to be a precursor to rainforest development or at least to the development of a understory of rainforest species. *Lophostemon suaveolens* forests are represented by two associations. Type 49b is the more well developed open forest form, while type 49c is of lower stature than 49b and is found in association with a greater range of other open forest species.

Lophostemon grandiflorus is a hardy species typically associated with rock pavements in the drier margins of the bioregion. Type 49d is a *Lophostemon grandiflorus* dominated association found on rocky drainage lines. The structure of this association varies from a low to medium woodland and forest to a low closed forest in which the sub-canopy and understory are composed of notophyll/microphyll rainforest species. In a bioregional sense, this is a highly restricted community. However it is much more extensive in the neighbouring Einasleigh Uplands bioregion.

Facts and figures

Vegetation alliances

Lophostemon confertus forests and woodlands

Lophostemon suaveolens forests and woodlands

Lophostemon grandiflorus forests and woodlands

Current extent in the bioregion

3,623ha

Area protected

2,400ha (66%)

Geography

On swampy alluvial coastal lowland sites, *Lophostemon suaveolens* often forms open forest communities. The most extensive areas of lophostemon forests are located in the Bilyana area (e.g. Edmund Kennedy section of the Girramay National Park) and to the south of Ingham (e.g. Wharps Holding). Scattered occurrences are also located on shallow dune systems at the mouth of the Daintree River and in the Ella Bay area. *Lophostemon confertus* forests are largely restricted to wet upland and highland situations, particularly in the Herberton, Tully Falls, Kirrama and Bluewater section of the Paluma State Forest areas. The community is largely confined to infertile rocky sites, typically on rhyolites and metamorphic rock types. *Lophostemon grandiflorus* associations are restricted to gully areas on the moist western margins of the bioregion (e.g. Shiptons Flat and Mt Spec map sheets).

Impacts and changes

Where it forms taller communities, *Lophostemon suaveolens* appears to be a precursor to rainforest development, or at least, where soils are favourable to the development of an understory of rainforest species. The reduction of broad-scale landscape burning practices has favoured expansion of *Lophostemon suaveolens* into previously *Melaleuca spp.* dominated communities. The bioregion's *Lophostemon confertus* and *Lophostemon grandiflorus* associations are stable 'climax' communities due to their highly specific rocky habitat requirements and their limited potential for expansion, contraction, or structural and floristic change.



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Key values

No key values identified.

Threatening processes

- The extent of association 49b has been severely reduced though historic clearing on areas of the coastal plain to the south of Cardwell
- Invasion by exotic herbs and grasses into ground cover layers threatens habitat integrity.

Tenure

Association 49b occurs within lowland national park areas including: Girramay NP, Girringun NP, Hinchinbrook Island NP and Hull River NP. Scattered upland communities are found within Koombooloomba NP.

Association 49a is found scattered throughout a range of upland reserve areas including Bare Hill CP, Dinden NP, Girringun NP, Grey Peaks NP, Herberton Range NP, Hinchinbrook Island NP, Kirrama NP, Mount Hypipamee NP, Mount Lewis NP, Mount Windsor NP, Mount Windsor NP, Girramay NP, Paluma Range NP, Tully Falls NP, Tully Gorge NP and Wooroonooran NP.

Management considerations

- Changes to historical fire regimes over large parts of the bioregion in recent decades has resulted in habitat changes over large areas
- Maintenance of association 49a requires regular fire
- Widespread colonisation of *Lophostemon suaveolens* into shrub layers of open forest communities has the potential to impact Mahogany Glider habitat in the coastal lowlands south of Tully.