

SCLEROPHYLL FORESTS AND WOODLANDS OF THE WET TROPICS BIOREGION

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Acacia forests and woodlands (vegetation codes 21a-21f)



The presence of *Acacia* spp. in woodlands or forests is generally indicative of some form of limiting ecological factor. Within the Wet Tropics bioregion, the limiting conditions that result in the development of an acacia dominant community may include:

- Repeated exposure to high winds (ridgelines and escarpments)
- Exposure to salt laden winds (coastal headlands and dune systems)
- Low soil fertility
- Shallow stony soils
- Immature or developing soils (Beach dunes)
- Severe wildfire events, and
- Anthropogenic disturbance.

The two *Acacia flavescens* dominated associations (21c and 21d) are controlled by a combination of skeletal soils and wind exposure in the case of the former and regular saline trade winds in the latter. The *Acacia polystachya* dominated woodland association (21e) occupies rocky granite pavements on steep coastal escarpments, and the single, highly restricted *Acacia julifera* dominated association (21f), occupies areas of rock pavement on protected coastal headlands.

The *Acacia crassicaarpa* association (21a) is prominent on prograding dune systems. In some locations it represents a seral stage in the development of notophyll vine forest. It is likely that these communities are the end result of severe fire events which caused mass germination of this species whilst eliminating most others.

To the west of Ingham, in the footslopes of the Herbert River Valley, there is a low open forest association dominated by *Acacia mangium* and *Lophostemon suaveolens* (21b). This unusual association appears to be stable but consists of younger regrowth dispersed amongst larger remnant trees. This pattern in conjunction with the presence of emergent eucalypt species suggests that this association may be linked to an historical disturbance event, although it is unclear as to whether this disturbance relates to a severe fire or some other influence.

Facts and figures

Vegetation alliances

Acacia crassicaarpa forests and woodlands

Acacia mangium forests and woodlands

Acacia flavescens forests and woodlands

Acacia polystachya woodlands

Acacia julifera forests and woodlands

Current extent in the bioregion

3,235ha

Area protected

1,044ha (32%)

Geography

The majority of occurrences are found on, and to the east of the coastal escarpment, typically in areas exposed to persistent trade winds and on areas of shallow soil. Some associations are highly restricted, particularly the *Acacia julifera* dominated association (21f) which is confined to small rock pavement areas on the northern tip of Hinchinbrook Island. *Acacia flavescens* dominated types are more widely distributed and are found on steep ridgelines on the coastal fall along the entire length of the Wet Tropics. Communities dominated by *Acacia crassicaarpa* are also widely distributed but are generally of restricted extent. Major occurrences are found in the Cooper Point, Cairns, and Forest Beach areas, in all cases restricted to prograding dune complexes.

Impacts and changes

Limited change to floristics or structure has affected most of these associations apart from 21a and 21b, which are controlled by the occurrence of extreme wildfire disturbances. Association 21a is a seral stage in the development of simple notophyll forest and thicket on coastal foredunes. This transition is controlled by fire regimes; with extremely hot wildfire events arresting this succession.



Key values

The establishment of *Acacia crassicarpa* on coastal foredunes may provide a mechanism for dune stabilisation and provide a pre-cursor to the development of more complex vegetation associations.

Threatening processes

- None identified.

Tenure

This formation is well represented within major National Park and State Forest areas including Broadwater SF, Hinchinbrook Island NP, Fitzroy Island NP, Daintree NP, Department of Defence Land at Cowley Beach and Aboriginal Reserve (Yarrabah).

Management considerations

- Appropriate management and monitoring of wildfire regimes in coastal dune habitats.

