

# Libocedrus plumosa

## COMMON NAME

kawaka, NZ cedar

## SYNONYMS

*Tuja doniana* Hook., *Libocedrus doniana* (Hook.) Endl.

## FAMILY

Cupressaceae

## AUTHORITY

*Libocedrus plumosa* (D.Don) Sarg.

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Trees & Shrubs - Gymnosperms

## NVS CODE

LIBPLU

## CHROMOSOME NUMBER

2n = 22

## CURRENT CONSERVATION STATUS

2017 | Not Threatened | Qualifiers: Sp

## PREVIOUS CONSERVATION STATUSES

2009 | At Risk – Naturally Uncommon

2004 | Sparse

## DISTRIBUTION

Endemic. new Zealand: North Island (from Te Pahi (Radar Bush) south to about the southern Kawhia Harbour in the west and near Gisborne in the East) and South Island (North-west Nelson, where it grows locally around the Golden Bay area from about Puponga south to the Anatori River).

## HABITAT

Coastal to lowland mixed broadleaf/hardwood forest. Often found in association with kauri (*Agathis australis* (D.Don.) Lindl.). Often on ridge lines, spurs, or forming apparently even-aged cohorts in sites of former major disturbance, such as in or around stabilised slips, slumps, or areas of major wind throw damage. This species tends to colonise more fertile soils and soils overlying high fertility (base-rich) substrates.



Oct 2006. Photographer: Peter J. de Lange, Licence: CC BY-NC.



Libocedrus plumosa. Photographer: Peter J. de Lange, Licence: CC BY-NC.

## DETAILED DESCRIPTION

Evergreen, monoecious tree up to 35 m tall, 2–3 m d.b.h. **Bark** thin, scaly, light-brown to greyish-brown, peeling readily in long irregular, inrolled strips. **Branches** spreading or ascending, branchlets numerous, spreading, arranged in dense sprays in tiers above each other, forming a pyramidal crown in young trees, becoming conical, rounded or irregular in older specimens. **Foliage** in flattened sprays except when cone-bearing, ultimate branches subopposite to alternate, 15–35 × 2–6 mm, leafy, flattened, long persistent. **Leaves** decussate, on lateral branchlets shortly decurrent, imbricate, dimorphic, rhombic 1–2 × 1 mm, apiculate to acute, appressed, partially covered at base by 2–6 × 1.5–2 mm, divergent, bilaterally flattened, slightly curved laterals with entire margins and free apices; leaves on older trees smaller and monomorphic. **Male cones** terminal, solitary, subglobose to ovoid, 3–5 mm, yellowish-green, maturing light brown. **Female cones** terminal subtended by weakly dimorphic leaves; comprising 2 decussate pairs of acute 4–6 mm long, spreading bracts subtended by 3–4 pairs of similar, gradually shorter leaves, the upper pair developing within one growing season to become thin, woody, and forming a cone 12–18 mm long. **Seeds** 2–4, ovoid, flattened, with an acute apex 3–5 mm long, brown, with a whitish hilum and 2 opposite, thin membranous wings of very unequal shape and size, the smaller a narrow strip less than 1 mm wide, the larger irregular oval-oblong, 6–8 × 3–4.5 mm, yellowish-brown.

## SIMILAR TAXA

*Libocedrus bidwillii* is somewhat similar but within the range of *L. plumosa* it is confined to montane cloud forests (> 600 m.a.s.l.). It differs by the more or less quadrangular ultimate branchlets, nearly monomorphic leaves, and by the bracts subtending the cone bracts being less than or about  $\frac{1}{3}$  the size of the actual cone scales.

## FLOWERING

July–September

## FLOWER COLOURS

No flowers

## FRUITING

July–June

## PROPAGATION TECHNIQUE

Easily grown from fresh seed which germinates within 4–8 months of sowing. An attractive conifer that makes an excellent specimen tree. It does best in a free draining, moderately fertile and moist soil, though once established it can tolerate considerable drought. It is moderately cold hardy but dislikes severe frosts. This species does not like much competition from other broad-leaf trees and to do best it should be planted as solitary specimens or as a monospecific plantings (in a stand).

## THREATS

A widespread and at times locally common, though generally naturally sparse species. Although it was logged when suitable trees were found, its general scarcity meant that logging has had little effect on its overall distribution and abundance. This species may even have benefited from past logging because it is at its most abundant in places that were once heavily logged, and/or burned. In fact field evidence suggests that *Libocedrus plumosa* needs regular disturbance to maintain itself.

## ETYMOLOGY

**libocedrus**: Frankincense cedar

**plumosa**: Feathery

## ATTRIBUTION

Fact sheet prepared for NZPCN by P.J. de Lange 3 February 2006. Description adapted from Allan (1961), Webb & Simpson (2001) and Farjon (2005).

Conservation status updated 25 Oct 2019, following de Lange et al. (2017)

## REFERENCES AND FURTHER READING

- Allan HH. 1961. Flora of New Zealand, Volume I. Indigenous Tracheophyta: Psilopsida, Lycopsidea, Filicopsida, Gymnospermae, Dicotyledones. Government Printer, Wellington, NZ. 1085 p.
- de Lange PJ, Rolfe JR, Barkla JW, Courtney SP, Champion PD, Perrie LR, Beadel SM, Ford KA, Breitwieser I, Schonberger I, Hindmarsh-Walls R, Heenan PB, Ladley K. 2018. Conservation status of New Zealand indigenous vascular plants, 2017. *New Zealand Threat Classification Series 22*. Department of Conservation, Wellington, NZ. 82 p. <https://www.doc.govt.nz/globalassets/documents/science-and-technical/nztcs22entire.pdf>
- Farjon A. 2005. A monograph of Cupressaceae and Sciadopitys. Royal Botanic Gardens, Kew, UK. ISBN 1842460684. 643 p.
- Webb CJ, Simpson MJA. 2001. Seeds of New Zealand Gymnosperms and Dicotyledons. Manuka Press, Christchurch. 428 p.

## NZPCN FACT SHEET CITATION

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## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/libocedrus-plumosa/>