

# Libocedrus bidwillii

## COMMON NAME

pāhautea, kaikawaka, New Zealand cedar

## SYNONYMS

None

## FAMILY

Cupressaceae

## AUTHORITY

Libocedrus bidwillii Hook.f.

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Trees & Shrubs - Gymnosperms

## NVS CODE

LIBBID

## CHROMOSOME NUMBER

2n = 22

## CURRENT CONSERVATION STATUS

2012 | Not Threatened

## PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened

2004 | Not Threatened

## DISTRIBUTION

Endemic. North and South Islands. In the North from Te Moehau, Te Aroha and Mt Pirongia south.

## HABITAT

Montane to subalpine (250-1200 m.a.s.l.) but exclusively upper montane in northern part of range. Usually in mixed cloud forest, often at the margins where forest grades into subalpine scrub or wetlands. This species seems to prefer regions of moderate to high rainfall and long periods of cloud cover.



Libocedrus bidwillii bark. Photographer: John Barkla



Juvenile. Photographer: John Barkla

## FEATURES

Tree 25(-30) m tall and 1.0-1.5 m d.b.h., or a shrub in open conditions, evergreen, monoecious. Bark thin, scaly, greyish-brown, exfoliating in longitudinal strips. Branches long, spreading or ascending, arranged in dense tufts above each other, forming a pyramidal crown in young trees, conical or irregular with a clear bole in old trees. Foliage flattened sprays in young trees, in old trees more irregular and ascending, ultimate branchlets subopposite to alternate, 5-40 mm long, entirely covered with leaves, changing with age of plant from flattened to ± quadrangular, persistent. Leaves decussate, on lateral branchlets, short, decurrent, imbricate, dimorphic in young trees, facials small, rhombic, 1.5-2.0 × 1.0 mm, apiculate to acute, appressed, partly covered at base by larger 2.0-6.0 × 1.5-2.5 mm, divergent, bilaterally flattened, slightly curved laterals with entire margins and free apices, leaves on mature trees smaller, nearly monomorphic; amphistomatic, stomata on facials at base, on laterals much reduced on adaxial side, abaxially in a short, conspicuous band of irregularly but densely arranged stomata, adaxially dull dark green or yellow-green with whitish-green stomatal band, bearing a single resin cavity, eglandular. Pollen cones terminal, solitary, 2.5-5.0 mm, subglobose to ovoid, yellowish-green maturing light brown; microsporophylls decussate, 8-14, peltate, margins entire, bearing 4 abaxial yellow, microsporangia containing spherical pollen. Seed cones terminal on branchlets with monomorphic leaves of equal size, initially consisting of 2 decussate pairs of acute, 3-4 mm long, spreading bracts subtended by 4-5 similar but gradually smaller leaf pairs, the upper pair developing within one growing season to become thinly woody, together forming a cone 8-12 mm long. Bract-scale complexes 7-10 mm long, ± finely rugose, recurved in upper half above the abaxially exerting bract, subtended by the lower, smaller (3-4 mm long) less modified pair. Ovules 4, erect, alternating with each fertile bract. Seeds 2-4, 2-3 mm long, ovoid, flattened, with an acute apex, brown, with a whitish hilum and 2 opposite, thin, unequal, membranous wings, smaller 1 mm wide, larger, irregularly oval-oblong, 4-5 × 2.3 mm, yellowish brown. Cotyledons 2, juveniles leaves only on seedlings, ± acicular, on lower stem in whorls of 4 but soon decussate, bilaterally flattened, acuminate, the facials only slightly smaller, transitional leaves prevalent through much of life of young trees.

## SIMILAR TAXA

Easily distinguished from kawaka (*Libocedrus plumosa*) by the ultimate branches ± quadrangular rather than flattened, by the facial leaves only slightly smaller than lateral leaves (< half the size of the laterals in *L. plumosa*); and by the free part of the bract 1/3 the size of the cone scale beyond which it does not extend, rather than half the size of the cone scale and exceeding beyond it.

## FLOWERING

August - November

## FLOWER COLOURS

No flowers

## FRUITING

August - July

## PROPAGATION TECHNIQUE

Easily grown from fresh seed. Can be grown from hard wood cuttings but these are often slow to take and results variable. Does best in a deep, well mulched, moist, fertile soil. Makes an excellent specimen tree. *Libocedrus bidwillii* is however, better suited to cooler climates. It does not like drought or humidity.

## ETYMOLOGY

**libocedrus:** Frankincense cedar

**bidwillii:** Named after the botanist - John Carne Bidwill (born 1815 and died 16 March 1853)

## ATTRIBUTION

Fact sheet prepared for NZPCN by P.J. de Lange (13 January 2012). Description adapted from Farjon (2005).

## REFERENCES AND FURTHER READING

Farjon, A. 2005: A monograph of Cupressaceae and Sciadopitys. Royal Botanic Gardens, Kew. ISBN 1842460684.

## NZPCN FACT SHEET CITATION

Please cite as: de Lange, P.J. (Year at time of access): *Libocedrus bidwillii* Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. <https://www.nzpcn.org.nz/flora/species/libocedrus-bidwillii/> (Date website was queried)

**MORE INFORMATION**

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