Halocarpus kirkii

BIOSTATUS
Native – Endemic taxon

CURRENT CONSERVATION STATUS
2023 | At Risk – Naturally Uncommon | Qualifiers: Sp, DPS, DPT
Jump to previous conservation statuses

CATEGORY
Vascular

STRUCTURAL CLASS
Trees & Shrubs - Gymnosperms

DETAILED DESCRIPTION
Dioecious forest tree up to 25 m tall, trunk up to 1.5 m d.b.h., bark greyish brown to dark brown, flaking in irregular to subcircular flakes, wood pale brownish red. **Branches** spreading, upper most often starkly erect, surfaces often marked with scars of old appressed leaves, and often retaining a few persistant, long dead, somewhat woody leaves. **Foliage** markedly heteroblastic, that of seedlings, juveniles and reversion shoots on adult trees 15–50 × 1–4 mm, yellow green to green, linear, apex obtuse to acute, mucronate, coriaceous; midribs distinct; petiole 1–3 mm long, often slightly twisted; adult foliage scale-like closely quadrifariously imbricating, 2–3 mm long, ovate-oblong to rhomboid, obtuse, faintly keeled, margin hyaline; appressed. **Ultimate branchlets** 1–2 mm diameter, subterete to terete, somewhat smooth. **Male strobili** up to 12 mm long, sessile, solitary and terminal; apiculus obtusely triangular. **Branchlets bearing female cones** terminal or subapical, cone scales 3–5, glaucous to green-grey, conspicuous, ovules solitary. **Epimatium** completely covering seed. **Aril** orange. **Seeds** 3–8 mm, lustrous black, ovoid-oblong, somewhat compressed, distinctly striate. Seeds taking two years to mature.

A Halocarpus kirkii plant showing juvenile and adult foliage, November, Kauaeranga Valley. Photographer: John Smith-Dodsworth, Licence: CC BY-NC.

immature male cones. Kauaeranga Valley. Photographer: Jeremy R. Rolfe, Date taken: 31/10/2007, Licence: CC BY.

SIMILAR TAXA
Halocarpus kirkii is completely allopatric from the other two species of the genus *H. bidwillii* and *H. biformis* (though on the Moehau range, both species are nearly sympatric). Its distinctive heteroblastic condition, preserved in even fully mature trees serves to distinguish it from the only superficially similar conifer with which it may grow *Manoao colensoi*. From hand and herbarium specimens of *Halocarpus bidwillii* and *H. biformis*, *H. kirkii* can be recognised by the much longer juvenile and reversion shoot foliage which is up to 50 mm long, and from *H. bidwillii* by the orange rather than white arils. The aril of *H. biformis* is pink to orange but the mature leaves of that species are prominently keeled whilst those of *H. kirkii* are only faintly so.

DISTRIBUTION
Endemic. New Zealand: North Island and Great Barrier Island (Aotea Island), from Te Paki (Radar and Unuwhao Bush) south to near Limestone Downs (south of Port Waikato) in the west and about the southern Kauaeranga Valley in the east.

HABITAT
A northern species associated with kauri (*Agathis australis* (D.Don.) Lindl.) forest. In mature kauri forest it is most usually found in apparently even aged cohorts of 10 or less trees along ridge lines, in swampy hollows or at gully heads. This species appears to thrive on disturbance and it is at its most abundant on the margins of kauri and gumland vegetation sites originating from past fires, gum digging and/or kauri logging.

THREATS
Although it was undoubtedly logged when suitable trees were found, this species appears to have never been common, and it still has a highly fragmented, sporadic distribution in what are otherwise largely intact tracts of its preferred habitat kauri (*Agathis australis*) forest today. It is the opinion of conifer experts (though studies are needed to confirm this) that this species is naturally sparse because it requires frequent disturbance to regenerate—thus climax type forested habitats are not suitable long term habitats for this species. whether this is true or not, *Halocarpus kirkii* is most commonly found flourishing (i.e., with all size classes in the appropriate numbers) in secondary regrowth forest abutting older, intact, kauri dominated remnants (e.g., Radar Bush, Maunga Hirakimatā (Mt Hobson)).

GENUS
Halocarpus

FAMILY
Podocarpaceae

AUTHORITY
Halocarpus kirkii (Parl.) Quinn

SYNONYMS
Dacrydium kirkii Parl.

ENDEMIC TAXON
Yes

ENDEMIC GENUS
Yes

ENDEMIC FAMILY
No

FLOWERING
October–December

FRUITING
December–November

LIFE CYCLE AND DISPERSAL
Arrilate seeds are dispersed by frugivory (Thorsen et al., 2009).

PROPAGATION TECHNIQUE
Best from fresh seed but often fickle and even well established plants are prone to sudden collapse. Monoao is a beautiful tree whose mixed juvenile/adult foliage is particularly attractive. In good conditions it can be quite fast growing and usually forms a small bushy tree up to 10 m tall within about as many years.

ETYMOLOGY
halocarpus: From the Greek hals ‘sea’, ‘salty’ and karpos ‘fruit’
kirkii: After Thomas Kirk (18 January 1828 - 8 March 1898), a NZ botanist and lecturer in natural sciences and regarded as a leader of botanical enquiry in NZ for over three decades. One of his most significant publications was Forest flora of NZ (1889) but he also contributed over 130 papers to the Transactions and Proceedings of the NZ Institute and other journals.

NVS CODE
HALKIR

CHROMOSOME NUMBER
2n = 22

PREVIOUS CONSERVATION STATUSES

2017 | At Risk – Relict | Qualifiers: DP, Sp
2012 | At Risk – Naturally Uncommon | Qualifiers: Sp
2009 | At Risk – Naturally Uncommon | Qualifiers: RF
2004 | Sparse
Jump to current conservation status

REGIONAL CONSERVATION STATUSES

Auckland: 2025 | Regionally At Risk – Regionally Relict | Qualifiers: DE, DPS, DPT, PF, RR Help
The regional threat classification system leverages off the national assessments in the NZTCS, providing information relevant for the regional context. Auckland conservation status information is sourced from the "Conservation status of vascular plant species in Tāmaki Makaurau / Auckland" Simpkins E et al. (2025) report.

REFERENCES AND FURTHER READING

Allan HH. 1961. Flora of New Zealand, Volume I. Indigenous Tracheophyta: Psilopsida, Lycopsida, Filicopsida, Gymnospermae, Dicotyledones. Government Printer, Wellington, NZ. 1085 p.
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Thorsen MJ, Dickinson KJM, Seddon PJ. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics 11*: 285–309. https://doi.org/10.1016/j.ppees.2009.06.001.
Webb CJ, Simpson MJA. 2001. Seeds of New Zealand Gymnosperms and Dicotyledons. Manuka Press, Christchurch. 428 p.

ATTRIBUTION

Fact sheet prepared for NZPCN by P.J. de Lange 3 February 2006. Description adapted from Allan (1961), Kirk (1889) Webb & Simpson (2001), fresh material and herbarium specimens.

NZPCN FACT SHEET CITATION

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MORE INFORMATION

https://www.nzpcn.org.nz/flora/species/halocarpus-kirkii/

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27 May 2026