



Annual distribution of *Caulerpa brownii* lineage

The green seaweed *Caulerpa brownii* (C.Agardh) Endlicher is found on the southern North Island (particularly around Cook Strait), and on the South, Chatham, Stewart, and Snares Islands (Adams 1994, Neale & Nelson 1998, Nelson et al. 2002). In the South Island it has not been found on the west coast except in Fiordland (Parsons & Fenwick 1984, Neale & Nelson 1998). It is also found around southern Australia, from Perth to Victoria, around Tasmania, and also on Lord Howe Island (Womersley 1984).

1. Literature sources

The literature was searched for distributional information for *C. brownii*.

- a. A search was carried out of the following databases: Te Puna using the keywords “*Caulerpa brownii* + Zealand +geograph? (+distribut?” Keyword Relevance Search = “*Caulerpa brownii*” +thesis (16/09/2005); Aquatic Sciences and Fisheries Abstracts “*Caulerpa brownii* and zealand and (geograph* or distribut*)” (16/09/2005); Web of Science “TS = (*Caulerpa brownii* and zealand and (geograph* or distribut*))” (15/09/2005); Scopus “title-abs-key (“*Caulerpa brownii*” and zealand and (geograph* or distribut*))” (16/09/2005); Google Scholar “zealand geographic or distributed or distribution ‘*Caulerpa brownii*” (19/09/2005). From all these sources a number of paper citations were located (ASFA = 1; Google scholar = 28).
- b. Using subject indices, *Seafood New Zealand* was checked for articles dealing with *Caulerpa brownii* and research.
- c. A search of NIWACAT in September 2005 produced no records that contributed additional distribution information for this species.

2. Ministry of Fisheries electronic databases

There are no data held for *C. brownii* in the Ministry of Fisheries databases.

3. Museum holdings

Holdings of *C. brownii* were examined at WELT (herbarium of the Museum of New Zealand Te Papa Tongarewa), AK (Auckland Museum herbarium, including the herbarium of Auckland University), and in the algal research collections at NIWA. Data were used to help estimate presence/absence.

4. Summary

Caulerpa brownii grows on open coasts from the low intertidal zone to depths of 15–20 m, although populations have been found at 35 m depth

in Fiordland; this gives a depth range relative to high water of about 0.5–35 m, depending on location. There has been little research on the biology or ecology of this species in New Zealand waters, although there have been studies on the epifauna associated with it.

The 90% distribution has been overlaid on the 100% distribution and has been extended to link headlands or subtidal reef areas where this species has been recorded and/or where equivalent habitats occur.

The above information on the distribution of *C. brownii*, derived primarily from herbarium collections, was reviewed by Dr Murray Parsons, former Keeper Landcare Herbarium, and then integrated by hand onto a large-scale map of New Zealand. The rounded lines were then digitised and imported into a GIS software package as layers. The areas of each distribution class were calculated and the layers were linked to attribute and metadata files. The map, because of its scale, cannot be taken to accurately define the local distribution of this species.

5. References

The following publications were the key references and/or the ones most useful in describing the recent/current annual distribution of *C. brownii*. The list is not intended to be an exhaustive bibliography of publications about this species.

- Adams, N.M. (1994). Seaweeds of New Zealand. Canterbury University Press. 360 p.
- Neale, D.; Nelson, W.A. (1998). Marine algae of the West Coast, South Island, New Zealand. *Tuhinga 10*: 87–118.
- Nelson, W.A.; Villouta, E.; Neill, K.; Williams, G.C.; Adams, N.M.; Slivsgaard, R. (2002). Marine macroalgae of Fiordland. *Tuhinga 13*: 117–152.
- Parsons, M.J.; Fenwick, G.D. (1984). Marine algae and a marine fungus from Open Bay Islands, Westland, New Zealand. *New Zealand Journal of Botany 22*: 425–432.
- Womersley, H.B.S. (1984). The marine benthic flora of Southern Australia. Part 1. Government Printer, South Australia. 329 p.