

Plant checklists of Wellington Botanical Society for areas in the lower North Island, New Zealand

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INTRODUCTION

A plant checklist is an inventory of plant species found at a particular place at a given time. It is an important source of information about species distribution. A preliminary list is presented here of 31 plant checklists prepared by Wellington Botanical Society for areas in the lower North Island. Figure 1 shows the location of areas for which those checklists have been compiled. Checklists compiled by the Society for other areas of New Zealand are not included (e.g., Ocean Beach, Marlborough, Wellington Botanical Society 1995).

This list is taken from a bibliography of more than 800 plant checklists and vegetation survey datasets compiled by the Department of Conservation (Sawyer 2001) which includes references to all plant checklists for areas of the lower North Island, New Zealand (e.g., Druce 1976, Ogle *et al.* 1990, Bagnall 1980).

Society members including Colin Ogle, Iris Coulter, Margaret Aitken, Barbara Mitcalfe, Rodney Lewington, Pat Enright and Chris Horne helped in the preparation of this list by sending copies of plant checklists to the Department of Conservation. Some checklists were found in files of the Wildlife Service and documents and files held by the Department of Conservation. Other lists were compiled over the last few years during field trips.

Members of the Society are encouraged to compile plant checklists whenever they visit areas supporting indigenous vegetation. Plant checklists not included in this list may be sent to the Department of Conservation (address below) so that plant occurrence information may be stored on the region's plant database.

Copies of plant checklists in this list are held by the Department of Conservation, the herbarium of the Museum of New Zealand Te Papa Tongarewa in Wellington, and the herbarium keeper at the School of Biological Sciences, Victoria University of Wellington.

USES FOR PLANT CHECKLISTS

Not only is the preparation of a plant checklist an enjoyable task, the resulting list can be used to describe the geographical distribution of plant species (indigenous and adventive) and have been applied by the Department of Conservation in the development of strategies for plant conservation.

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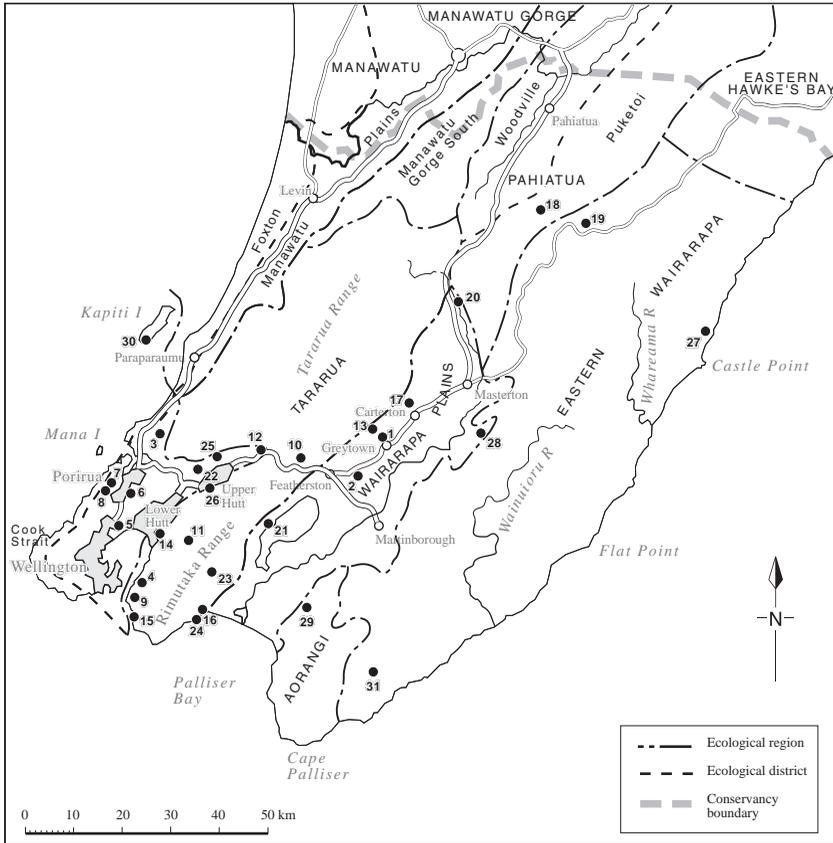


Figure 1. The location of sites for which plant checklists have been compiled by Wellington Botanical Society (numbers correspond to those in the list of checklists given in this paper).

That distribution information has been used to:

1. help prioritise efforts for legal protection to conserve populations of plant species (especially threatened species) where they fall outside of protected natural areas;
2. identify places that supported a particular plant species in the past so that, if it is no longer present, re-introduction may be considered as part of a plant restoration project;
3. provide baseline information for comparative analysis of future changes in species distributions and plant composition of sites and so provide a tool to monitor environmental changes over time;
4. set priorities for conservation work on the region's most uncommon plant species;

5. contribute to understanding larger-scale distribution of plant species and vegetation types.

A plant checklist can also serve as a guide for anyone visiting a particular place. Detailed plant checklists can also be applied in the description and classification of plant communities. A plant checklist that includes adventive species can be used to prepare weed control plans.

COMPILING A CHECKLIST

It is recommended that Latin binomials be used for each plant species in a checklist although it can be helpful to list common or other species names (e.g., *Ileostylus micranthus*, mistletoe, pirita).

There is no fixed methodology for compiling checklists that are not part of standardised vegetation surveys. One approach that has been recommended by Peterken (1981) in the United Kingdom when surveying woodlands could be applied when preparing a plant checklist for any area of vegetation. That approach involves a survey of the boundary of the area, followed by at least two traverses across the site at right angles to the main topographical features. Where there are no clear features to traverse, the search should follow a figure-of-eight path.

It can be useful to subdivide larger areas into smaller search areas for which separate plant lists can be prepared. It is also recommended that several visits are made to an area at different times of the year as some species are visible only seasonally and some can only be identified reliably at certain times of the year. Identification of some plants such as the sun orchids (*Thelymitra* spp.) may only be possible at certain times of the day so return visits may be necessary at various times if all plant species are to be observed and identified correctly.

When compiling checklists, some (or preferably all) of the following information should also be provided:

- the year and date when the list was compiled;
- a brief description of the plant communities of the area and the dominant structure of the vegetation;
- the search effort (an indication of the number of people who visited the area and the time spent in the field searching for plants);
- the names of the people involved in preparing the list (and contact details for at least one of those people);
- a map showing the area that for which the plant list was prepared;
- the central grid reference of the area searched;
- an indication of abundance for each species (e.g., common, uncommon or include an estimate of the number of individual plants seen);
- an explanation of any abbreviations used in the list (e.g., * = adventive, unc. = uncommon).
- the location of any herbarium vouchers for any of the plant species recorded;

There is no fixed way of ordering plants in a checklist. However, the method used by A.P. Druce (see, for example, Druce 1957 and 1971) has been accepted by some people and is a useful framework for checklists.

This method organises plants according to structural, functional or taxonomic classes. These are: lycopods (clubmosses) and psilopsids (fossil ferns); ferns; gymnosperm trees; monocotyledon trees and shrubs; dicotyledon trees and shrubs; monocotyledon lianes; dicotyledon lianes; orchids; grasses; sedges; rushes; monocotyledon herbs (other than orchids, grasses, sedges and rushes); composite herbs; dicotyledon herbs (other than composites); adventives. Species should, preferably, be listed in alphabetical order within each group. Alternatively, plants may be included in one list in alphabetical order. Adventive species are commonly indicated by an asterisk.

Occurrences of plant species should be cited if they were recorded previously by other workers even if they were not seen during the current site visit or survey. If old records are included in checklists, it is recommended that they be clearly identified and that the following information be provided: the name of the person who recorded the plant previously, the date of the observation, and a citation of the reference to that record (or the herbarium specimen).

There are some limitations with plant checklists. They often vary in quality depending on the author's expertise at botanical identification, the time spent searching for plants, and the number of visits to the site. Often the area searched is not described. Some checklists are limited because they are cumulative which means species have been added during subsequent visits. This means that a checklist can be misleading about what actually occurs at the site at a given time. Vegetation succession and disturbances and other environmental changes can result in some species disappearing. A species is rarely deleted from a checklist as it is not always possible to state categorically that it no longer occurs at a site.

Despite those limitations, checklists provide a very important insight into the plant composition of a site at a particular time and therefore the task of preparing a checklist is well worth undertaking.

CHECKLISTS COMPILED BY WELLINGTON BOTANICAL SOCIETY

Plant checklists compiled by the Wellington Botanical Society are listed below. Many other checklists have been prepared by individual members of the Society. For example, W.R.B. Oliver compiled a checklist of plants observed between Korokoro Stream and Belmont Trig in 1949 (for references to other checklists compiled by Society members see Sawyer 2001). The following list only includes checklists for which the Society was author. All grid references are to the NZMS 260 series of maps. Figure 1 shows the location of areas for which plant checklists have been compiled.

List	Name	Date
1	Greytown Park – partial species list, Wairarapa Plains. Approximate grid reference is S26 167 116. Unpublished list.	1973
2	Tauherenikau Racecourse, Wairarapa Plains. Approximate grid reference is S27 090 063 Unpublished list.	1973
3	Transmission Gully – Paekakariki. Approximate grid reference is R26 74- 19-. Unpublished list.	1973
4	Muritai Park to Butterfly Creek, Eastbourne Hills. Approximate grid reference is R27 68- 87-. Unpublished list.	1973
5	Species list for the gully from Newlands to Hutt Road (now Gilbert Bush), Wellington. Unpublished list.	1974
6	Indigenous plants of ‘Papakowhai Bush’ – remnants of forest and scrub in valleys and on ridges south of Papakowhai Kindergarten and uphill from Tweed Avenue. Approximate grid reference is R27 666 083. Unpublished list.	1975
7	Native plants of Porirua (Elsdon) Scenic Reserve. Approximate grid reference is R27 630 070. Unpublished list and report prepared for Porirua City Council.	1977
8	Colonial Knob Reserve. Approximate grid reference is R27 617 044. Unpublished list.	1979
9	Gollans Valley to Butterfly Creek, Eastbourne Hills. Approximate grid reference is R27 69- 87-. Unpublished list.	1984
10	Rimutaka Summit Tea Rooms to Mount Frith (starter list of native vascular plants, mosses and lichens). Approximate grid reference for Mount Frith is S26 033 117. Unpublished list (draft and final copy).	1990
11	Additions to plant list for Wainuiomata Scenic reserve, Rimutaka Range. Approximate grid reference is R27 745 924. Unpublished list.	1990
12	Indigenous vascular plants of Te Marua Bush, Upper Hutt, compiled by the Wellington Botanical Society on 2/2/91 (revised 11/6/94). Approximate grid reference is R26 893 106. Unpublished list.	1991
13	Indigenous vascular plants of the Matarawa Bush (which lies adjacent to the railway at grid reference S26 126 134), Carterton, Wairarapa Plains. Unpublished list.	1993
14	Haywards Scenic Reserve native plants, Eastern Hutt Hills. Approximate grid reference is R27 718 962. Unpublished list.	1993
15	Indigenous vascular plants in Fitzroy Bay (draft list), Approximate grid reference is R28 66- 78-. Unpublished list.	1994
16	Indigenous vascular plants in vicinity of Corner Creek and Dry Creek catchments, Palliser Bay, entering sea at grid reference R28 808 796. Unpublished list.	1994

- 17 Fensham Memorial Sanctuary, Carterton, Wairarapa – higher plants. (Forest also known as Belvedere Road Bush or Cobden Road Bush). Approximate grid reference is S26 206 205. Unpublished list prepared 15 April 1995. 1995
- 18 List of indigenous vascular plants in and in the immediate vicinity of the QEII National Trust Open space covenant at ‘Awatea’ on true right of Tawataia Creek and on north side of Flat Hill, between Eketahuna and Alfredton, Wairarapa. Approximate grid reference is T25 477 568. Unpublished list. 1996
- 19 List of indigenous vascular plants in and around ‘Suckling Bush’ QEII National Trust Open space covenant, Turnberry, Alfredton. Approximate grid reference is T25 567 577. Unpublished list. 1996
- 20 List of indigenous vascular plants in the immediate vicinity of ‘Hidden Lakes’ QEII National Trust Open space covenant, on ‘Ngatui’ Farm, Kapuaranga. Approximate grid reference is T26 325 391. Unpublished list. 1996
- 21 Western Lake Shore Scenic Reserve, Wairarapa. Approximate grid reference is S27 930 962. Unpublished list. 1996
- 22 List of indigenous vascular plants in the QEII covenanted forest on the property of Mike and Christine Jacobsen, Rural Fire Code 5E8 Moonshine Road, Judgeford. Approximate grid reference is R27 748 087. Unpublished List. 1996
- 23 Wharekauhau Station and Rimutaka Forest Park, grid ref. R27, R28, Pt Q27 in a line from 835824 – 838830 and down the Wharepapa river and up Papatahi stream. Unpublished list. 1996
- 24 Ocean Beach, Palliser Bay, swamp area on the beach to the west of Corner Creek excluding the dry road margin (grid reference R28 805 794). Unpublished list. 1996
- 25 Indigenous vascular plants in the vicinity of Karapoti Road, Upper Hutt (R26 Pt R25 865142 – 850142). Unpublished list. 1996
- 26 Fendalton Recreation Reserve and Wi Tako Scenic Reserve. Approximate grid reference is R27 794 040. Unpublished list. (Prepared by Druce, A.P., Druce, H.M., Horne, J.C., Mitcalfe, B.J., Enright, P., Silbery, T, John, O. and Wellington Botanical Society). 1997
- 27 Indigenous vascular plants of Mount Percy, Eastern Wairarapa. Approximate grid reference is U26 837 393. Unpublished list. 1997
- 28 Checklist of indigenous vascular plants seen at Lamb’s Bush, Wairarapa Plains. Approximate grid reference is T26 345 143. Unpublished list. 1998

- 29 Indigenous vascular plants seen at Mangaroa Stream Bush, 1999
Southern Wairarapa. Approximate grid reference is S27 999 827.
Unpublished list.
- 30 Indigenous vascular plants seen at Wharekohu, Kapiti Island. 1996
Approximate grid reference is R26 687 336. Unpublished list
compiled by Raewyn Empson during a survey on 11/2/96.
- 31 Tora Bush Scenic Reserve. Approximate grid reference is 1997
S28 165 665. Unpublished list dated 31st March 1997 based
on an original list by I. Gabites. List includes additions by
B. Mitcalfe, D. Sherrett, C. Horne and R. Lewington from
a visit on 31/5/97 – 01/06/97.

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REFERENCES

- Bagnall, R.G. 1981. Vegetation of the Redwood Bush area, Tawa. *Wellington Botanical Society Bulletin* 41: 4-25.
- Druce, A.P. 1957. Botanical survey of an experimental catchment Taita, New Zealand. *DSIR Bulletin Number* 121.
- Druce, A.P. 1971. The Flora of the Aorangi Range, Southern Wairarapa (with notes on the vegetation). *Wellington Botanical Society Bulletin* 37: 4–29.
- Druce, A.P. 1976. Index to areas for which checklists of vascular plants have been compiled. *Wellington Botanical Society Bulletin* 39: 5-21.
- Ogle, C.C. Moss, T.; Druce, A.P. 1990. Vascular flora of Lake Wairarapa and its adjacent wetlands. *Department of Conservation Science and Research series No. 20*. Department of Conservation, Wellington.
- Peterken, G.F. 1981. *Woodland Conservation and Management*. Chapman & Hall. London and New York.
- Sawyer, J.W.D. 2001. A bibliography of plant checklists and vegetation survey data sets for areas in the Wellington Conservancy (excluding Chatham Islands). Department of Conservation, Wellington.
- Wellington Botanical Society 1995. Preliminary list of indigenous vascular plants below the road level at the northwestern end of Ocean Beach, Port Underwood (Marlborough), South Island. Unpublished list.