



Hebe cupressoides
recovery plan

2000-10

THREATENED SPECIES RECOVERY PLAN 33



Department of Conservation
Te Papa Atawhai

Recovery plans

This is one of a series of recovery plans published by the Department of Conservation. Recovery plans are statements of the Department's intentions for the conservation of particular plants and animals for a defined period. In focusing on goals and objectives for management, recovery plans serve to guide the Department in its allocation of resources and to promote discussion amongst a wider section of the interested public.

After preparing a technical report, which was refined by scientists and managers both within and outside the Department, a draft of this plan was sent to the New Zealand Conservation Authority and relevant Conservation Boards for comment. After further refinement, this plan was formally approved by the Southern Regional General Manager in August 2000. A review of this plan is due after 10 years (2010), or sooner if new information leads to proposals for a significant change in direction. This plan will remain operative until a reviewed plan is in place.

The Department acknowledges the need to take account of the views of the tangata whenua and the application of their values in the conservation of natural resources. While the expression of these values may vary, the recovery planning process provides opportunities for consultation between the Department and the tangata whenua. Departmental Conservancy Kaipapa Atawhai Managers are available to facilitate this dialogue.

A recovery group consisting of people with knowledge of *Hebe cupressoides* and with an interest in its conservation has been established. The purpose of the *Hebe cupressoides* Recovery Group is to review progress in the implementation of this plan and to recommend to the Department any changes that may be required as management proceeds.

Comments and suggestions relating to the conservation of *Hebe cupressoides* are welcome and should be directed to the recovery group via any office of the Department or to the Biodiversity Recovery Unit within the Department.

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Prepared by:
David A. Norton
Te Wai Pounamu Conservation
PO Box 31 287
Christchurch

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Cover photo: Flowers and foliage of *Hebe cupressoides*, cultivated plant, University of Canterbury.
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Abstract

Hebe cupressoides is a shrub of grey scrub communities in the eastern South Island, occurring historically from Marlborough to Otago. It has undergone a significant decline, especially in the north of its range, with its stronghold now being in the Mackenzie basin and Shotover River valley.

Only four of the 19 extant populations comprise 100 or more mature plants. Its decline has been attributed to human induced fire, pastoralism, competition with introduced herbaceous plants, and browsing.

While significant recent advances have been made in understanding its ecology, there are still some major areas of uncertainty, especially to do with rates of turnover and the factors limiting recruitment of new individuals. This plan sets in place a series of steps that will promote the recovery of *Hebe cupressoides*.

1. Introduction

Hebe cupressoides is or was a distinctive member of many eastern South Island grey scrub communities. Its greyish-green colour, rounded canopy shape, and fragrant odour readily distinguish it from other species. However, deliberate and accidental burning since human settlement, together with more recent extensive pastoralism and competition with introduced herbaceous plants, has resulted in pronounced changes in the distribution of these shrublands, seriously reducing their extent and often confining them to small remnants. As a result of its decline, *Hebe cupressoides* has been classified as Endangered in the most recent assessment of New Zealand threatened and uncommon plants (de Lange *et al.* 1999).

The goal of this recovery plan is to address the decline of *Hebe cupressoides* and to recommend management initiatives that will restore and sustain this distinctive plant within its natural habitats.

1.1 SPECIES DESCRIPTION

Hebe cupressoides is a greyish-green shrub forming a symmetrical rounded bush 1–2(–3) m tall with small scale-like decussate leaves. Inflorescences of 6–8 flowers occur at branch tips and flowers vary from white to pale bluish-purple. Plants flower in November–February and seed is ripe in March–May. Seedlings are readily distinguished by the presence of pinnatifid juvenile leaves, which are larger than adult leaves. Good descriptions of *Hebe cupressoides* with illustrations are given in Cheeseman (1914), Eagle (1975) and Wilson & Galloway (1993), while Heads (1994) and Wagstaff & Wardle (1999) provide more specific details on morphology.

1.2 DISTRIBUTION AND ABUNDANCE

Hebe cupressoides is endemic to New Zealand's South Island, occurring historically along the eastern side of the Southern Alps where it has been recorded from at least 39 localities from Marlborough in the north to Otago in the south (Appendix 1, Figure 1). *Hebe cupressoides* was first discovered by Europeans in 1859 or 1860 at the Wairau Gorge and at Tarndale, between the Wairau Valley and Clarence River in Marlborough. Further populations were discovered in the latter part of the 19th and early 20th centuries, extending its known range southwards through Canterbury and into Otago. Localities found since 1925, however, have not extended this distribution further.

In the past, *Hebe cupressoides* probably had a widespread, but patchy and locally plentiful distribution and abundance (Widyatmoko & Norton 1997). However, its distribution today is substantially more restricted, and it is now known from only 19 populations scattered from North Canterbury to Central Otago (Table 1, Figure 1). The decline of *Hebe cupressoides* has been most pronounced in the north of its historic range where it remains at only two of 10 localities known from North Canterbury and Marlborough (20%) and three of seven localities from mid and south Canterbury (43%) despite extensive searching at known sites. In contrast *Hebe*

cupressoides is still present at seven of eight known localities in the Mackenzie Basin (88%) and seven of 14 localities in Otago (50%). The stronghold of this species is now in the Mackenzie Basin and in the Shotover River valley.

It is likely that the total population today comprises some 1650 adult plants and perhaps 150 juveniles, with the majority of plants (c. 75%) at the Saddle Creek site in the Shotover (Table 1). Most populations are small and all are characterised by a predominance of adult individuals.

FIGURE 1. HISTORIC AND CURRENT DISTRIBUTION OF *HEBE CUPRESSOIDES* (NOT ALL SITES ARE SHOWN BECAUSE OF OVERLAP AT THIS MAPPING SCALE).



TABLE 1. NUMBERS OF *HEBE CUPRESSOIDES* INDIVIDUALS PRESENT FOR EXTANT POPULATIONS AND LAND TENURE STATUS OF SITE (UPDATED FROM WIDYATMOKO & NORTON 1997).

SITE	NUMBER OF PLANTS ¹	REGENERATION PRESENT ²	LAND STATUS ³	LAST SURVEY
North Canterbury				
Boyle River	6	No	CL	1994
Henry River	5	No	LH	1999
Mid Canterbury				
Broken River ⁴	5	No	CL	1994
Lake Lyndon	2	No	LH	1996
Red Hill Stream	21	No	LH/FH	1994
Mackenzie Basin				
Fork River Flats	1	No	Defence	1998
Maryburn	4	No	LH	1980s
Pukaki Scientific Reserve	c.100	Yes (?)	CL	1999
McMillan Stream	c.100	Yes (sparse)	CL	1999
Ahuriri River	28	No	LH	1996
Quailburn, Ahuriri	5	No	LH	1999
Glen Creek	c. 50	No	LH	1997
Shotover				
16 Mile Gorge	8	No	LH	1994
Mt Greenland ⁵	c.100	No	LH	1994
Saddle Creek ⁵	c.1200	Yes (sparse)	LH	1995
Skipper Creek	2	No	LH	1996
Deep Creek	17	No	LH	1994
Remarkables				
Wye River (N branch)	3	No	CL	1998
Wye River (S branch)	4	No	CL	1995
TOTAL NUMBER OF PLANTS	C. 1650			

¹ Number of plants >0.5 m tall.

² Presence of seedling plants up to 0.5 m tall.

³ CL, conservation land; LH, Crown leasehold land; FH, freehold land.

⁴ Some 100 further individuals have been planted at this site by the Department of Conservation.

⁵ These populations consist of a number of sub populations of variable size.

Only six of the 19 extant populations (32%) occur on land managed for nature conservation purposes (Table 1). The other populations occur on defence land or on freehold and pastoral leasehold land that is managed primarily for beef and wool production, although ongoing reviews of land tenure may see some of these sites protected in the future.

1.3 ECOLOGY

Hebe cupressoides is a plant of grey scrub communities and occurs across a range of sites from those that have been recently influenced by disturbance (especially river flooding and slips; Figure 2a) to more stable sites such as rock outcrops and bouldery moraine (Figure 2b). *Hebe cupressoides* grows best when mixed with other shrub species, especially *Discaria toumatou*. It has not been recorded under closed forest and appears to do poorly in open grassland sites.



FIGURE 2. *HEBE CUPRESSOIDES* POPULATIONS ASSOCIATED WITH (A, LEFT) AN ALLUVIAL RIVER SYSTEM (RED HILL STREAM) AND (B, BELOW) AN OLD MORaine (PUKAKI SCIENTIFIC RESERVE). PHOTOS BY D.A. NORTON.



Hebe cupressoides seed production and germination appears prolific, although seeds require high light conditions to germinate. Seed viability is limited, suggesting that there is no stored seed bank. Even height-class distributions are typical of populations regenerating after episodic disturbance. Despite this there is a marked absence of smaller plants and especially of recent regeneration at almost all sites, even at sites that appear to have been recently disturbed. Although smaller plants and some seedlings are present at Saddle Creek and McMillan Stream, these appear to be insufficient to sustain current densities of mature plants in those populations. However, there is some uncertainty over the regeneration ecology of this species given the diversity of sites at which it occurs.

Extant sites occur between 500 and 1080 m a.s.l. and experience a wide rainfall range (c. 600-2400 mm). Extant sites typically experience cold winters with mean July minimum temperatures of -1.8 to -5.0°C, and warm summers with mean January maximum temperatures of 19.1 to 21.5°C. Based on its current distribution, *Hebe cupressoides* appears to have moderate to high nutrient demands and to require

good soil moisture. Its poor growth in introduced grassland communities perhaps is owing to an inability to compete with the grass sward for water and nutrients. Little is known about the pests and diseases that affect this species. Widyatmoko & Norton (1997) provide more discussion on the ecology of *Hebe cupressoides*.

1.4 REASONS FOR DECLINE

Although habitat loss appears to have been the key factor in the historical decline of *Hebe cupressoides*, the dominant threat today appears to be factors limiting regeneration or eliminating seedlings once established. The main cause of this recruitment failure appears to be the invasive sward of naturalised herbaceous plants which rapidly occupy recently disturbed sites reducing germination through reduced light levels and competing with establishing seedlings for water and nutrients.

Grazing animals, both domestic stock and wild species such as rabbits and hares, have also contributed to this decline especially through predation of juveniles. However, there is little evidence for browsing of adult plants. Disturbed sites with vigorously growing grasses are also attractive to introduced browsers, and this may be a further factor limiting regeneration at these sites.

Small remnant *Hebe cupressoides* populations are also vulnerable to local extinction through disturbance such as river flooding. Such extinctions are of course natural and re-establishment at the disturbed site or at another site would have occurred historically thus maintaining the species at a regional scale. Nowadays, however, stochastic processes can lead rapidly to local extinction in a species that has been substantially reduced in range and abundance. Widyatmoko & Norton (1997) provide more discussion on the reasons for the decline of *Hebe cupressoides*.

1.5 PAST CONSERVATION EFFORTS

Past conservation efforts with *Hebe cupressoides* have focused on surveying known or suspected populations, identifying new wild populations and where possible securing their legal protection, establishing new plants into the wild (e.g. Broken River and Pukaki Scientific Reserve), and better understanding the ecology of this species. This work has included research-by-management trials undertaken by area office staff in Pukaki Scientific Reserve and the Waimakariri Basin focusing primarily on the effects of grazing on this species, and monitoring of natural regeneration of tagged seedlings at the McMillan Stream site.

2. Long-term recovery goal

To ensure viable populations of Hebe cupressoides are restored in the wild throughout the natural range of this species.

This goal will be realised when the IUCN threat status and the Department of Conservation priority status of the species has been improved by at least one category within 50 years.

3. Options for recovery

A. MANAGE ONLY IN CULTIVATION

Hebe cupressoides is easily grown in cultivation and is an attractive and popular garden plant. Management in cultivation, however, demands considerable financial and human resources and is unlikely to protect the full range of genetic diversity present in this species if used as the only management option. Relying solely on *ex-situ* management also ignores the fact that these species are part of larger natural ecosystems, and ignores the threats to other species in these grey scrub communities.

B. MANAGE AT A RANGE OF SITES THROUGHOUT NATURAL RANGE

The second option is to manage *Hebe cupressoides* throughout its natural range by dealing directly with the threats it faces and putting in place management initiatives that will help mitigate these threats.

Preferred option

Based on the evidence of decline from the last 140 years and the current lack of recruitment in most *Hebe cupressoides* populations, it is likely that without active management further decline will occur. Management should ensure some improvement in the condition of existing populations (e.g. number of plants) and in the medium to long term an increase in the total number of populations in the wild. Understanding *Hebe cupressoides* regeneration ecology and dealing with competition from introduced herbaceous plants will underpin effective and sustainable management.

This recovery plan emphasises Option B as the main approach to the recovery of this species, but recognises Option A will also play a role.

4. Objectives for the term of this plan

The following objectives are designed to meet the long-term recovery goal for *Hebe cupressoides* (and are listed in priority order).

OBJECTIVE 1

Promote landowner/manager, public and iwi interest and involvement in the recovery of *Hebe cupressoides*.

OBJECTIVE 2

Carry out adaptive management and research that addresses the information deficiencies in species ecology and threats.

OBJECTIVE 3

Determine more precisely the distribution of *Hebe cupressoides* and population trends.

OBJECTIVE 4

Establish *ex-situ* collections of all *Hebe cupressoides* populations.

5. Work plan

To meet each objective the following actions are required:

OBJECTIVE 1

Promote landowner/manager, public and iwi interest and involvement in the recovery of *Hebe cupressoides*.

Explanation

Conservation of *Hebe cupressoides* cannot occur in isolation from landowners/managers, the public or iwi. Many of the remaining *Hebe cupressoides* populations occur on land that is farmed, and landowners/managers need to be made aware of the importance of this plant and, where able and willing, be involved in its recovery. This species also has considerable potential for use in conservation education because it is readily grown in cultivation and can be used in schools and elsewhere as a basis for studies of threatened plant conservation. The importance of *Hebe cupressoides* to Maori is unknown but needs to be investigated with appropriate local iwi involvement.

Actions required to meet this objective

High priority

1. Formal consultation on implementation of this plan with all land owners/managers and interested iwi on whose land *Hebe cupressoides* populations occur or have occurred in the past (lower priority) by June 2002.
2. Seek legal protection of sites through tenure review and as other opportunities arise throughout the duration of this plan.

Medium priority

3. Work with the public and iwi to assist them in better understanding the problems this species is facing and the opportunities for their involvement in its recovery (e.g. through oral presentations and field trips with interested groups) throughout the duration of this plan.
4. Publication of articles on the ecology and conservation of *Hebe cupressoides* in appropriate local newspapers throughout the distribution of extant and historic populations by June 2001.

Key personnel

Conservation Officers – Programme (Biodiversity) at Wakatipu, Twizel, Waimakariri and North Canterbury Area Offices; *Hebe cupressoides* Recovery Group.

OBJECTIVE 2

Carry out adaptive management and research that addresses the information deficiencies in species ecology and threats.

Explanation

Widyatmoko & Norton (1997) have helped clarify several aspects of the ecology of *Hebe cupressoides*, but the efficient management of this species is still hindered by knowledge deficiencies in some aspects of reproductive biology, ecology and threats. This requires prioritisation of research topics, *Hebe cupressoides* populations, and research by management needed to address these deficiencies.

Actions required to meet this objective

High priority

1. Set up and maintain a regularly updated list of research topics to be managed by the recovery group leader by June 2001.
2. Prioritise research topics annually at the recovery group meeting and promote to potential research providers.

Research topics include:

- Synthesis of the results of published and unpublished studies on the recruitment of other similar woody species in the face of competition with invasive herbaceous plants.
- What influence do invasive herbaceous plants have on *Hebe cupressoides* recruitment (best done through a research-by-management project)?
- What influence do browsing animals (both domestic stock and wild animals) have on *Hebe cupressoides* plants of different ages (best done through a research-by-management project)?
- How fast do *Hebe cupressoides* plants grow and how long do they live for, and how does this vary between sites?
- What is the role of different types of disturbance on *Hebe cupressoides* population dynamics?
- What role does *Discaria toumatou* play in the ecology of *Hebe cupressoides*?

Key personnel

Conservation Officers – Programme (Biodiversity) at Wakatipu, Twizel, Waimakariri and North Canterbury Area Offices; Technical Support Officers – (Botanist) Otago and Canterbury Conservancies; Conservancy Advisory Scientists Otago and Canterbury Conservancies; Science and Research Rare Plant Botanist; Principal Regional Scientist Southern Region; research providers (CRIs, Universities etc); *Hebe cupressoides* Recovery Group.

OBJECTIVE 3

Determine more precisely the distribution of *Hebe cupressoides* and population trends.

Explanation

The number of sites at which *Hebe cupressoides* is known to occur has increased as a result of recent survey work, and further survey will probably locate additional populations. While survey assists in identifying new populations, we have only limited information on changes in plant abundance with time. Further survey work together with surveillance monitoring of extant populations should address this issue. Such monitoring should follow a standard format and include tagging of a sample of plants and recording of plant health (based on canopy dieback to the nearest 10%). All plants should be monitored for populations with less than 50 individuals, while a sample of plants (comprising at least 50 individuals) should be monitored for larger populations.

Actions required to meet this objective

High priority

1. Implement monitoring programmes for all populations by June 2003, with repeat measurements planned for 5 years after establishment.

Medium priority

2. Survey potential sites as opportunities arise (e.g. during tenure review) throughout the duration of this plan.
3. Survey sites based on those historic records that sufficiently identify sites by June 2005.

Key personnel

Conservation Officers - Programme (Biodiversity) at Wakatipu, Twizel, Waimakariri and North Canterbury Area Offices; *Hebe cupressoides* Recovery Group.

OBJECTIVE 4

Establish *ex-situ* collections of all *Hebe cupressoides* populations.

Explanation

Ex-situ collections of *Hebe cupressoides* will be an important complement to *in-situ* field management programmes as they (i) provide a safeguard against the local extinction of wild populations, (ii) provide a source of plants that can be used for restoration projects, (iii) can play an important educational role, being readily available to the general public, and (iv) provide a source of material for experimental studies. To be effective as a reserve of plants for restoration, *ex-situ* collections should include the full range of populations (genotypes) for this species, which at a minimum should include North Canterbury, Waimakariri/Rakaia Basins, Mackenzie Basin, Shotover Valley and Wye Valley.

Actions required to meet this objective

Medium priority

1. Establish collections of representative populations of *Hebe cupressoides* in at least one botanical garden in the Canterbury (North Canterbury, Waimakariri/Rakaia basins and Mackenzie Basin genotypes) and Otago (Shotover Valley and Wye Valley genotypes) Conservancies and in other appropriate places (e.g. Department of Conservation Area office grounds) by June 2005.

Key personnel

Conservation Officers - Programme (Biodiversity) at Wakatipu, Twizel, Waimakariri and North Canterbury Area Offices; *Hebe cupressoides* Recovery Group; Botanic Garden staff; nursery staff.

6. Review date

This plan will be formally reviewed in 2010 or sooner if new information leads to proposals for a significant change in direction. It will remain operative until a reviewed plan is published.

Acknowledgements

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Appendix 1: Past and present *Hebe cupressoides* records

Extant populations are highlighted in bold, and the most recent date that they were assessed is indicated. For sites from which *Hebe cupressoides* is now thought to be extinct the source for past records is indicated by herbarium records (H – including year, number of sheets and [collector]) and/or literature records (including likely date, [collector] and the reference).

MARLBOROUGH-NORTH CANTERBURY

1. Wairau Gorge/Upper Wairau Valley: 1878, 1H, [Cheeseman]; 1859 or 1860 [Sinclair], Hooker (1867), Cheeseman (1914, 1925); (possibly more than one site).
2. Tarndale, Molesworth: 1859 or 1860 [Sinclair], Hooker (1867), Cheeseman (1914).
3. Awatere River/Inland Kaikouras: 1911, 2H [Cockayne]; Cheeseman (1925).
4. Lake Tennyson: no date [Cheeseman, Laing], Cheeseman (1914, 1925).
5. Lake Guyon: 1875, 2H [Kirk].
6. Stanley River/Fowler's Pass, Amuri: 1875, 5H [Kirk]; no date [Kirk], Cheeseman (1925).
7. Waiau Valley (Wai-au-na): no date [Travers], Hooker (1867), Cheeseman (1914, 1925); (possibly one of the above three sites).
8. **Boyle Valley**: 1982, 1H [Child]. Last checked 1994 Didik Widyatmoko.
9. **Henry River**: Last checked 1999 Nick Head.
10. Harpers Pass: [Haast], Cheeseman (1914, 1925).

MID-SOUTH CANTERBURY

11. Harper Valley: no date, 1H ["CM"].
12. Tims Creek: 1958, 1H [Burrows]; 1994 (site visit failed to relocate any plants).
13. **Broken River Basin (Cave Stream Scenic Reserve)**: 1880 to present, 19H [Simpson, Connor, Brockie, Kelly, Armstrong, Baker, Burrows, Kirk, Cockayne, Cheeseman, Petrie, Adams, Thomas, Norton]; Cheeseman (1914, 1925); 1994, 1995. Last checked 1999 Nick Head.
14. **Lake Lyndon**: 1971, 1H [Druce]; 1996, 1H [Harding]. Last checked 1996 Mike Harding.
15. **Red Hill Stream, Acheron River**: 1951, 1992, 2H [Burrows, Norton & Harding]. Last checked 1994 David Norton.
16. Mt Arrowsmith: no date [Cockayne], Cheeseman (1925).
17. Ashburton Valley: no date [Haast], Hooker (1867), Cheeseman (1914, 1925); (this and the previous record may be from the same location).

MACKENZIE BASIN

18. **The Fork River Flats, Tekapo:** 1986, 1 H [Ogle]. Last checked 1998 Dave Massam.
19. **Maryburn (Wolds Wetland):** Last checked late 1980s Brian Molloy.
20. **McMillan Stream:** Last checked 1999 Dave Massam.
21. **Lake Pukaki Scientific Reserve:** Molloy (1984). Last checked 1999 Dave Massam.
22. **Ahuriri River, Upper Waitaki Basin:** 1919, 2 H [Cockayne, Overmars]; Cheeseman (1925). Last checked 1996 Dave Massam.
23. **Quailburn, Ahuriri River:** (Mid-Ahuriri RAP) Last checked 1999 Nick Head.
24. **Glen Creek:** Last checked 1996 Dave Massam.
25. Lindis Pass: [Hector & Buchanan], Hooker (1867), Cheeseman (1925).

CENTRAL OTAGO

26. **16 Mile Gorge, Shotover River:** Last checked 1995 Neill Simpson.
27. **Mt Greenland, Shotover River:** Last checked 1995 Neill Simpson.
28. **Saddle Creek, Shotover River:** 1995 1H [de Lange]. Last checked 1998 David Norton *et al.* This is a large complex site that includes many subpopulations.
29. **Deep Creek, Shotover River:** Last checked 1995 Neill Simpson.
30. **Skippers Creek, Shotover Valley:** Last checked 1995 Neill Simpson.
31. Queenstown Hill, Lake Wakatipu: 1911, 1H [Petrie].
32. **Wye Creek (north branch):** 1985, 3H, [Druce]; 1995 1H [de Lange]. Last checked 1998 Neill Simpson & John Barkla.
33. **Wye Creek (south branch):** Last checked 1995 Neill Simpson & David Norton.
34. Garvie Mountains: no date, 1H [det. by Rawson]; [Poppelwell & Steadman], Cockayne & Allan (1926).
35. Lamerlaw Hills, Lawrence: no date, 1H, [Petrie]; Cheeseman (1925).
36. Otago Valleys: no date, 2H [Buchanan, Enys]; (this site may be the same as some of the above).
37. The Lake District of Otago: 1863 [Hector and Buchanan], Hooker (1867), Cheeseman (1914, 1925); (this site may be the same as some of the above).
38. Grandview, Lake Hawea: 1963, 2H [Wardle ex cultivation].
39. Lake Te Anau: no date, Cheeseman (1914).

Appendix 2: Published recovery plans

RECOVERY PLAN	#	COST	YEAR APPROVED
Inland <i>Lepidium</i>	32	(\$15)	Approved 2000
<i>Muehlenbeckia astonii</i>	31	(\$15)	Approved 2000
North Island kokako	30	(\$15)	Approved 1999
Weka	29	(\$15)	Approved 1999
<i>Pittosporum patulum</i>	28	(\$15)	Approved 1999
<i>Cyclodina</i> skinks	27	(\$15)	Approved 1999
Coastal cress	26	(\$15)	Approved 1999
Threatened weta	25	(\$15)	Approved 1998
Striped skink	24	(\$15)	Approved 1998
Fairy tern	23	(\$15)	Approved 1997
Blue duck	22	(\$15)	Approved 1997
Kakapo	21	(\$15)	Approved 1996
Stitchbird	20	(\$15)	Approved 1996
Brown teal	19	(\$15)	Approved 1996
Native frogs	18	(\$15)	Approved 1996
New Zealand (Hooker's) Sea Lion	17	(\$15)	Approved 1995
<i>Dactylanthus taylorii</i>	16	(\$15)	Approved 1995
Bat (Peka peka)	15	(\$15)	Approved 1995
Otago and grand skinks	14	(\$15)	Approved 1995
Giant land snail	13	(\$15)	Approved 1995
Takahe	12	(\$15)	Approved 1994
South Island saddleback	11	(\$15)	Approved 1994
New Zealand Dotterel	10	(\$15)	Approved 1993
Tuatara	9	(\$15)	Approved 1993
Kowhai ngutukaka	8	(\$15)	Approved 1993
Subantarctic teal	7	(\$15)	Approved 1993

Mohua (yellowhead)	6	(\$15)	Approved 1993
Chevron skink	5	(\$15)	Approved 1993
Black stilt	4	(\$15)	Approved 1993
Whitaker's and robust skinks	3	(\$15)	Approved 1992
Kiwi	2	(\$15)	Approved 1991
North Island kokako	1	(\$15)	Approved 1991
Yellow-eyed penguin*	-	*-	Approved 1991
Kakapo		Out of print	Approved 1989

* Available: from Otago Conservancy, Department of Conservation, Dunedin

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