

HFNC Report on Kanawalla Rail Flora Reserve works 2007

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Introduction

This section of the Kanawalla Station Ground and Railway Reserve on the disused rail line between Hamilton and Cavendish is the major part remaining in a near-natural condition, representing a valuable remnant of basaltic plains grassland flora, of which less than 0.02% of its previous extent remains in the public domain. The reserve is 100 m wide by 600 m long on the Station Ground section adjacent at the north end to Forts Rd and 25 m wide by 600 m long for the rail reserve south to McFarlanes Rd (see Site Plan). HFNC inspected this line in Nov. 2003 and 2004, to assess its condition, threats and means of protecting and enhancing it. This reserve was recognized by DCE in 1991 as having high conservation value and potential as habitat for Eastern Barred Bandicoot.

Hamilton Field Naturalists Club (HFNC) made a submission on Disused Railway Reserves (including Kanawalla) to the Department of Conservation and Environment in 1991, when the future of local disused railway reserves was the subject of a public enquiry. The late Dr Peter Milne surveyed the Kanawalla section in 1978/79, and had made representations later to the Land Conservation Council's SW-2 Study Area review. Milne's submission on the Kanawalla section in that review is presented below:

“Extensive area of *Themeda australis* grassland with approx. 70 species. Notable species include *Ranunculus lappaceus* (Australian buttercup), very showy and numerous in one part, *Veronica gracilis* (Slender Speedwell), *Arthropodium milleflorum* (Pale Vanilla-lily) and *Helichrysum scorpiodes* (Button everlasting). An isolated patch of *Dillwynia glaberrima* (Smooth Parrot-pea) and *Hibbertia stricta* (Erect Guinea-flower) is of interest, in a slightly more gravelly section. *Astroloma humifusum* (Cranberry heath) also occurs here. Since the survey was carried out the whole area has been (and still is being) heavily grazed”.

In 2004 the HFNC applied to the Glenelg-Hopkins CMA for assistance through the Second Generation Landcare Grant in protecting and enhancing the remnant vegetation on this reserve. Parts of the reserve were being overcome with weeds and recreational vehicles were destroying the grassland area in the northern block. Our application for funds was successful, although the sum applied for and granted (\$3,000) proved far too little to achieve our objective of removing all of the old pines as well as controlling pest plants, clearing the central rail line for vehicular and pedestrian/cyclist access, establishing indigenous tree vegetation in small sections of the reserve and fencing. We are grateful to Mark Wooton of Jigsaw Farms for assistance with the fencing. We were also given \$1,000 support by DSE (through Andy Govanstone) and \$1,000 by TimberCorp (through John Kiely) to effect the removal of most of the old pines from the northern section of reserve. This was accomplished by August 2006 but an equal amount of work was required on the southern block to complete the work.

Funding (\$2,000) was obtained through the DSE's Crown Land Grants program for 2007, from Second Generation Landcare Grant (\$5,675), from HFNC's own resources (\$2,800 cash and \$3,555 “in-kind” labour for tree-planting, weed control and cleanup) and \$1000 from TimberCorp to restore a fence that had to be dismantled to allow falling of huge pines on the western edge of the southern part of the reserve.

Progress to Date

Flora list

A list of native species present, using older records and new sightings currently stands at 79 native flora species (see Appendix). This list will be updated over the years.

Fencing

Both ends of the reserve have been fenced, with gates and pedestrian entry points installed.

- Dec 2004 - Mark Wooton (Jigsaw Farms) generously supplied treated pine posts and a new gate, arranged for and paid for a contractor to drive the posts.

- 13 Dec 2004 (6 hr) – RB hung the gates on both ends of the reserve and installed the “Tombstone” pedestrian entry points. A vandal smashed the then unlocked McFarlanes Rd gate and broke the strainer post, so the post had to be removed by hand and replaced, together with an old gate donated by Don Jowett.
- 20 Dec 2004 (3 hr) - JC, RZ and RB ran the 4 heavy-gauge wires and erected droppers on the fence on both blocks. The purpose of the fence is to exclude unwanted vehicles rather than to contain livestock
- 7 Jan 2005 (3 hr) – RB cleared away old ringlock, barbed wire and iron posts from the former siding area.
- 21 Oct 2005 (1.5 hr) – JC & RB fitted a new gate to McFarlanes Rd end, replacing an old gate busted down 3 times by vandals. CMA-HFNC signs were installed on both gates.
- October 2007 (2 hr) – JC arranged for contractor Denis Crawford to re-fence the west side of the south section of reserve. This was removed to allow the falling and burning of the 10 huge pines that were close to the boundary. The fencing (cost \$2,869) was completed by 20 Oct. 2007.

Signage

In 2005 JC organized the production of signs for both gates. This named the reserve and briefly described its purpose and providers for the project. A logo for TimberCorp was added in August 2006.

Path clearance

The bed of the railway line now is open for vehicular access. It was necessary to remove a few native trees from the line, plus many pine trees.

- 21 Oct 2005 (1.5 hr) – JC & RB cleared part of the central area.
- 26 Feb 2006 (3 hr) – RB cleared the remainder of the mid-section, giving access along all the track.
- 1 Sep. 2007 (1.5 hr) and 24 Nov. 2007 (1 hr) – RB cleared fallen tree from access track and leveled part of rail line path to improve the surface for walkers, bicyclists and vehicles.

Control of pasture and garden weeds

Unfortunately, over the years there has been an invasion of weeds from many sources, and no control. The sources include dumping of garden refuse (with escape of Briar Rose, *Oxalis purpurea*, *Oxalis pes-caprae*, *Sparaxis bulbifera*, Iris, Gladiolus, etc), fertilizer and seed at the station ground, drift of pasture species (Phalaris, Paspalum, Cocksfoot, Yorkshire Fog Grass and Bent Grass) from the roadside, paddocks and grazing sheep (grazing occurred until the mid-90s). An enormous amount of work required to try and change this situation.

- 26 Sep 2004 (2 hr) – RB spot-sprayed (12 L) mixture of water, metsulfuron-methyl, glyphosate and Pulse (wetter) on *Sparaxis*, Phalaris, Cocksfoot, Paspalum, Yorkshire Fog-grass, Bent Grass patches and Briar on the N Block
- 29 Oct 2004 (2 hr) – RB sprayed (15 L) weeds and Iris on south block
- 6 Oct 2005 (2 hr) – RB sprayed (15 L) *Sparaxis* and other plants on ramp area and along the line
- 3 Nov 2005 (2 hr) – RB sprayed (15 L) on Phalaris, Paspalum & Oxalis on S end of S block
- 11 Nov 2005 (2 hr) – RB sprayed (15 L) on Phalaris, Cocksfoot & Paspalum on N block
- 1 Dec 2005 (3 hr) – RB sprayed (22 L) on Phalaris, Cocksfoot, Bent Grass and Paspalum on N block
- 9 Dec 2005 (3 hr) – RB sprayed (22 L) on Phalaris & Paspalum etc on N block and mid-section
- 16 Dec 2005 (4 hr) – RB sprayed (22 L) on Phalaris & Paspalum on mid-section
- 2 Mar 2006 (3 hr) – RB sprayed (22 L) on Phalaris & Paspalum on N block
- 9-10 Mar 2006 (6 hr) - RB sprayed (44 L) on Phalaris & Paspalum on N block, incl. road verges
- 27 Apr 2006 (2 hr) – Don Jowett & RB slashed perimeter breaks on the N Block, in the hope that we could conduct an ecological burn later (that proved too difficult to arrange with the CFA brigade)
- 28 Apr 2006 (4 hr) – RB sprayed (33 L) on weeds in S block through to N block
- 8 Aug 2006 (4 hr) - RB sprayed (15 L) on *Oxalis purpurea* on S block and *Sparaxis* on N block
- 10 Aug 2006 (4 hr) – RB sprayed (23 L) on *O. purpurea*, Phalaris & Paspalum on S block to McFarlanes Rd, and along the road edge, plus a new patch of *Sparaxis* on N block near Forts Rd
- 13 Aug 2006 (2 hr) – RB sprayed (10 L) on Phalaris & Paspalum on N block, mainly along E fence
- 19 Aug 2006 (4.5 h) – RB sprayed spots (48 L) for 110 trees and surrounding weeds on N block
- 27 Aug 2006 (2 h) – RB sprayed (10 L) on 15 spots for new trees on S block and 30 spots on N block
- 13 Oct 2006 (3 h) – RB sprayed (25 L) on weeds on road frontage at N block and within the block

- 8-9 Mar 2007 (6 hr) – RB sprayed (33 L) on weeds at planted old Cypress area, part of planted area to south and NW to gate, plus roadside and lane.
- 18 Aug 2007 (3hr) – RB sprayed (17 L) hundreds of “new” *Sparaxis* plants on east side of old siding mound, plus *Oxalis purpurea* down entire eastern fence. Phalaris, Cocksfoot, Briar and Paspalum spot-sprayed also. Weeds near planted trees on old Cypress area also treated.
- 24 Aug 2007 (5 hr) – RB sprayed spots for new trees near old Cypress area and area near Hensley Pk Rd. A big patch of *Oxalis pes-caprae* (Garden Sour-sob) near Cypress east fence sprayed, and a small spot further north. Weeds in area planted in 2006 sprayed and weeds in many guards removed.
- 8 Sep 2007 (2 hr) – RB sprayed (11 L) weeds along west fence, incl. patch of *O. purpurea*.
- 6 Oct 2007 (2 hr) – RB sprayed (10 L) *Sparaxis* and Carrot Weed near ramp (under huge Wild Cherry) and others near previously treated area. Also Briar, Paspalum, Phalaris & Cocksfoot along the central area.
- 17 Oct 2007 (0.5 hr) – RB pulled ~20 *Sparaxis* in flower that were missed in spraying.
- 24 Nov 2007 (2 hr) – RB sprayed (11L) weeds along and adjacent to track.

Removal of Pines and Cypress

- Nov 2005 – Tim Jackson cut down the 41 Cypress near the former Station Ground; he was able to mill some of the timber, for use as external decking, in recompense for his efforts on our behalf.

Numbers of cypress removed in various diameter ranges

10-30 cm	30-60 cm	60-90 cm	90-120 cm	120-150 cm
4	19	13	4	1

- Dec 2005 – J. Cook and helper cut some small pines on the S block (\$792), before the work was interrupted by an abusive neighbor, Barbara Knight. Bill Knight had been informed by RB & D Jowett in Dec 2004 of proposed works but he had not told his wife. Mrs K objected to having fallen pines in her view over summer, and demanded that we cart them away, rather than leaving them to be burned in the winter (she did not do that when 3 large Manna Gum on the reserve were cut down when their power line was installed). Mrs K contacted the CFA, CMA, Southern Grampians Shire, VicTrack and local politicians. VicTrack ordered a stop while Mrs K’s vexatious and irrational complaints were sorted out. JC bore the brunt of her abuse.
- 27 Feb 2006 (4 hr) – RZ, KG, DN and Co. helped “Bandicoot Bobcarts” (\$240) cart away the branches from the S block, to be burned on the roadside near the crossing on Hensley Pk Rd.
- July 2006 – Julian Cook and helper spent 6 hr cutting small pines on S block (\$396). GreenCorps group then cut these up into 70-cm blocks for removal (that made it difficult for contractor Frank Tennant’s machine to move them but we found it handy when trying to stoke the fire later). The crew cut down most of the very small pines around the junction of north and south blocks.
- 27 July 2006 – FT began falling pines on the N block. He cut down and burned 4 pines at the NE cnr, 6 on the W boundary at S end of this N block, and 2 smaller pines near the track at that end. In all, 10 pines were 95-200 cm diam., 2 were 60-90 cm diam. and 2 were 30-60 cm diam. (see table below). This part of the job was finished by 10 Aug. 2006 (\$2,392). One pine was estimated (from ring count) to be 80 years old.
- 7 Aug 2006 (4 hr) – RB cut 6 medium pines on S block and cut them up for removal.
- 10 Aug 2006 – FT used his machine to pile up branches and logs on S block for burning (he did take a few loads up to the fire on the N block but that was too time-consuming).
- 12 Aug 2006 (8 hr) – RB (8 hr) cut 2 more pines on S block, and cut them up for removal, with assistance from JC & GC (each 8 hr), KG & JG (each 5 hr), & DN (3 hr). This material and some other was deposited on the heap for burning. The fire would not stay alight that day.
- 13 Aug 2006 - RB (4 hr) with JC & GC (each 3 hr) had the heap burning (a brisk wind in the afternoon, together with old pine cones and diesel). Also finished tailing in the pile on the N block.
- 14 Aug 2006 – D Jowett used his tractor to keep the pile burning. JC & GC assisted.
- 15 Aug 2006 – JC & GC (4 hr) inspected the fire and pushed in remaining sticks and logs.
- May 2007 – FT cut and burned the last pines on the reserve in the central and S end ((\$7,744 - see table below). Of these, 11 were v. large (90-180 cm diam.) and 14 were large (60-90 cm diam.).

- 1 Sep 2007 – KG, JS, JC & GC (1 hr each) removed pine branches from the adjacent crop. KG cut a wind-thrown Black Wattle off the E fence. RZ carted old wire away. RB pulled 10 small pines.
- June 2007 – JC & GC (8 hr) organized the tree falling and tended fires burning the cleared pines.

Numbers of pines removed in various diameter ranges in 2006 and 2007

	<10 cm	10-30 cm	30-60 cm	60-90 cm	90-120 cm	120-150 cm	>150 cm
2006	30	39	10	2	5	2	3
2007	17	17	30	14	3	5	3
Total	47	56	40	16	8	7	6

FT cut all large pines in 2006, RB cut 14 pines <60 cm while J Cook's crew & HFNC cut the smaller pines (<30 cm). In 2007, FT cut all pines (a huge job) except 10 v small pines removed by RB.

Revegetation

The purpose of tree planting on this woodland reserve is twofold:

- To replenish species poorly represented (e.g. Silver Banksia, Drooping Sheoak, Sweet Bursaria)
- To suppress exotic weeds on areas too degraded for economic restitution of native grassland flora.

Planting in 2006

Having removed or suppressed exotic vegetation, HFNC were then able to plant a total of local 385 trees (142 *Allocasuarina verticillata* (100 Nth Hamilton Rail Res & 42 Old Reservoir), 74 *Bursaria spinosa* (Lake Linlithgow), 72 *Banksia marginata* (50 Yatchaw, & 22 Hawkesdale), 48 *E. ovata* (Hamilton), 47 *E. viminalis* (Hamilton) and 50 *Poa sieberiana* tussocks on N and S blocks. The trees were guarded and watered in; 20 mm of rain fell a week later, giving some prospect of surviving this very dry year:

HFNC planted in 5 degraded areas:

- S block adjacent to gate off McFarlanes Rd – a small area degraded by Phalaris
- NE corner of the N Block occupied by Cypress – the cut pines and cypress were burned in 2006
- Rubble heap near NE cnr on N Block (near Forts Rd) – degraded by Phalaris and Wild Oats
- Area adjacent to Hensley Pk Rd in N Block (each side of gateway) – degraded by Cocksfoot, Phalaris, Wild Oats, Paspalum and other pasture weeds. The old rail line and the Telstra cable, some 6 m inside the boundary, was kept clear of trees
- SW end of N Block – planting around 2 huge pine stumps cleared & burned there in 2006.

2 Sept. 2006 (14 members present and 70 hr) planted 358 trees and 50 *Poa* tussocks:

- Two small areas on the S block adjacent to McFarlanes Rd gate – 15 Drooping Sheoak, 2 Swamp Gums and 50 *Poa* tussocks (the latter for the wet, degraded area in SE cnr).
- NE corner of the N block once occupied by Cypress – 180 trees (45 Manna Gum, 48 Swamp Gum, 47 Bursaria and 40 Silver Banksia).
- Rubble heap near NE cnr – 22 trees (20 Drooping Sheoak and 2 Silver Banksia)
- Area N of gate on Hensley Pk Rd – 29 trees (20 Drooping Sheoak, 2 Silver Banksia & 7 Bursaria)
- Area S of gate on Hensley Pk Rd – 110 trees (70 Drooping Sheoak, 20 Banksia & 20 Bursaria).

3 Sept. 2006 (4 hr) – RB planted and guarded remaining 27 trees

- SW corner of the N block – 17 Drooping Sheoaks (N Hamilton prov.) and 10 Silver Banksia (Yatchaw prov.).

Planting in 2007

HFNC concentrated on planting in 3 areas. As in 2006, all holes were crow-barred to penetrate buckshot or clay, water added before tube-stock planted, and plastic guards were secured with 3 bamboo stakes.

- Western boundary of S Block – at 8 sites spaced along the reserve where huge pines had been removed. These areas were deeply covered with pine needles and largely degraded of native species, although we did find regenerating Blue Devils near one huge stump. We planted 20-30 trees at each of these sites, mainly Drooping Sheoak, Silver Banksia and a few eucalypts.

- Mid-section boundary – trees were planted around the stumps of large trees that were removed in 2006 but had not had trees planted there in that year, and 1 tree cleared in 2007.
- Northern Block – extension of planting around the old cypress area (some replacement among trees planted in 2006 and more trees planted adjacent to the NE) plus replacement of trees planted in 2006 that did not survive in the area near the gate on Hensley Park Rd.

1 Sep 2007 (11 members present and 50 hr) – planted 204 trees.

- 87 Drooping Sheoak (N Hamilton prov.), 77 Silver Banksia (Yatchaw & prov.), 40 Swamp Gum (Hamilton prov.) on the S Block, around 7 pine stumps.

22 Sep 2007 (8 members present and 40 hr) – planted 244 trees, 117 at N Block & 127 at Mid-section

- Planted 40 Blackwood, 27 Drooping Sheoak, 34 Silver Banksia, 8 Sweet Bursaria (LLin prov.), 8 Swamp Gum on N Block old Cypress area and near gate to Hensley Pk Rd.
- Planted 10 Blackwood, 66 Silver Banksia and 51 Drooping Sheoak at 6 spots in mid-section. These were around 3 stumps along the W fence, the tree on the inner corner (nearest the rail line) and 1 tree further south cleared in 2007. Further, we planted trees diagonally opposite the SW cnr on the mound of ash and earth created last year from the burning of pines.

Conclusion

Despite some problems along the way, HFNC has made tremendous progress with this grassland conservation/restoration project. The club is proud of its endeavors now that the worst of the hard work is completed and we are able to better enjoy the place for its flowers, trees and birds.

The fencing of this area is now complete. We acknowledge the tremendous assistance we had from Jigsaw Farms in establishing the boundary fencing and gates. We have had problems with vandals smashing gates and cutting the chains that secure the gates (the most recent in June 2007) but we are hopeful that this will now cease.

The removal of cypress and pine has been accomplished. That was essential work if we were to restore the native vegetation on this reserve. Tim Jackson had a difficult task with 41 large, tough Cypress and we thank him for his efforts in exchange for his use of a few saw logs from the less-branched trees. Our tree contractor, Frank Tennant, did a tremendous job in removing and burning 21 huge (90-200 cm diam.) multi-stemmed pines, 16 very large pines (60-90 cm diam.), at least 32 large pines (30-60 cm diam.) and at least 20 smaller pines (10-30 cm diam.) from the reserve. This was done at a very moderate cost of \$10,136 (incl. ~\$600 to hire an excavator to deal with 2 huge, dangerous trees) – a very significant cost-saving for us since some contractors might charge that sum for the removal of only 10 large trees.

Our major tree-planting efforts are complete and appear to be successful, despite dry conditions. We thank Liz Fenton for growing and supplying the trees. We will undertake some limited, targeted further planting in the future, for species that we do not presently have seed available. However, that will be a minor activity and our aim is to see restoration of the vegetation mainly by local recruitment.

Despite initial success in weed suppression, there is a long way to go before we can say that the weed situation is under control. That will take persistent efforts for many years to come, but hopefully it will not be as arduous as it has been to date. HFNC will continue to manage this area. *Sparaxis* infestations (and, hopefully, *Oxalis purpurea*) must be controlled if we are to retain our fantastic display of native lilies and grassland orchids on this reserve. That will require continual monitoring and treatment for many years. It may not be possible to rid the worst-affected parts of the reserve (highly fertile areas around the old station ground) of Cocksfoot, Phalaris, Paspalum, Wild Oats and *Oxalis pes-caprae*. Our planting of Drooping Sheoak and other species in that area is designed to assist our targeted spot-spraying efforts. The outcome of this endeavour will be of great interest to many.

We were fortunate in having financial support from GHCMA, DSE, and TimberCorp. Without that support we could not have attempted this project.

Finally, we acknowledge the support of VicTrack in allowing us to undertake this project.

Kanawalla Station Ground & Rail Reserve

Shaded area managed by Hamilton Field Naturalists Club

