

HFNC Report on Kanawalla Rail Flora Reserve works 2019

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Background

HFNC applied to VicTrack in 2004 to manage the Kanawalla section of the disused Hamilton-Cavendish rail reserve. Despite a history of grazing after the line closed in the 1970s this reserve contained valuable remnants of the Basaltic Plains Grassy Woodlands, of which less than 0.2% remains in the public domain.

HFNC worked from 2004-08 with various funding bodies to remove 200 pines (100 of which were from 30-150 cm diam.) and 41 large cypress from the reserve.

In 2006-08 HFNC planted 850 shrubs and trees indigenous to the area on degraded parts of the reserve. Some of those Silver Banksia, Sweet Bursaria, Tree Everlasting, Drooping Sheoak, Manna Gum, Swamp Gum and Blackwood have blown over in storms or failed due to unfavourable site conditions but the main loss has been from Black Wallabies that browsed many of the trees that only had plastic guards for protection. The surviving browsed trees have recently been fitted with wire mesh guards and are responding.

Control of weeds has been on-going in most years since 2004. One aim of the weed control measures is to greatly reduce the Phalaris and Cocksfoot in the fertile area near the Hensley Pk Rd area before planting Drooping Sheoak and Silver Banksia on those infested areas. The sheoaks are capable of suppressing weeds once the ground is clear. Other aims are to remove all weed spots from the native grassland areas. The weeds include *Phalaris*, *Dactylis glomeratum*, *Sparaxis bulbifera*, *Oxalis purpurea*, *Oxalis pes-caprae*, *Gladiolus* sp., *Fumaria*, *Galium*, *Disa bracteata*, *Rosa rubiginosa*, *Hypericum perforatum* and thistles. Wild Gladiolus, Clingers, Fumaria, African Weed Orchid (AWO) and St John's Wort have emerged as new weeds in recent years and it is vital that these (and other 'new' weeds) are closely monitored and controlled in future years.

Site works in 2019

Past experience of depredations of resident Black Wallabies, and the current presence of more than 50 Eastern Grey Kangaroos in the reserve and adjacent Blue Gum plantation has obliged us to fit all of the newly planted trees with wire mesh guards over the plastic guards. HFNC applied for funds through the Southern Grampians Shire Council's (SGSC) Greater Grants Program 2019/20 and was granted \$2,057 to buy hardwood stakes and wire mesh to make guards for the planted seedlings.

In all, at least 213 hours of voluntary labour has been devoted to work on the reserve in 2019, not including other time involved in nursery management of the trees that were to be planted. The work has included site preparation (spraying and then crow-barring planting spots), planting and fitting plastic guards over 306 seedlings (incl. 17 replacements from 2018 planting), hand-weeding around the plants, spraying grass around the plastic guards and also of patches of exotic weeds throughout the reserve, and construction and fitting of wire mesh guards over trees planted in 2018 and 2019. Some mesh guards from previous projects were recycled. In addition, we cut 156 large and 40 small stakes from invasive *A. paradoxa* shrubs at the Wannan that were removed in another conservation project.

Small plants that were available from the 2018 production were used for planting in 2019. The species were *Banksia marginata* (Pierrepont & Yatchaw rail reserves sources), *Bursaria spinosa* (Hensley Park Rd and Lake Linlithgow sources), *Allocasuarina verticillata* (Old Reservoir & Tarrington area sources).

Site preparation, planting, guarding and weeding in 2019

22 May 2019 – sprayed 50-60 spots S side east of old cypress block (G), weeded many of the 2018-planted trees (2 & 3) and spot-sprayed phalaris and cocksfoot clumps [5 hr, 10 L spray]

23 May 2019 – sprayed 70 spots on NE corner (G) and weeded remaining 2018-planted trees (1). Only 17 trees of the 166 planted in 2018 died, mostly *B. marginata* – rainfall for 2018 was 565 mm cf. long-term 680 mm, and from Aug to April was 320 mm cf. 548 mm [5.5 hr, 5 L spray]

11 June 2019 – replaced 8 *B. marginata* (4 from Yatchaw & 4 from Pierrepont) and 9 *Al. verticillata* (Old Res) lost from those planted in 2018 [2 hr]

13 June 2019 – planted & guarded 14 Pierrepoint *B. marginata* just S of junction of Station Ground and narrow reserve (D). Fitted wire mesh guards. [5.5 hr]

17 June 2019 – planted & guarded 16 Yatchaw *B. marginata* at N end of area D and fitted mesh guards [5.5 hr]

20 June 2019 – crow-barred 27 holes on E side of track (H) running S from the HPk Rd gate [4 hr]

21 June 2019 – crow-barred 23 spots on N edge (G) of old cypress block [4 hr]

22 June 2019 – HFNC Working Bee (RB, DL, PH, RZ, YI, GC, SP) – 130 trees planted, plastic guards fitted and 68 mesh guards installed [32 hr]

2 rows of <i>Al. verticillata</i> S on E side of track (H)	26 HPk <i>B. spinosa</i> E of old cypress block (G)
26 Old Res. <i>Al. verticillata</i> N of old cypress block	15 LLIN <i>B. spinosa</i> in/around old cypress block
9 Tarrington <i>Al. verticillata</i> E of old cypress block	30 Pierrepoint <i>B. marginata</i> about old cypress block

24 June 2019 – watered in 30 trees not done on 22 June and crow-barred 10 more spots in NE (G) [2hr]

26 June 2019 – planted 6 Old Res *Al. verticillata* and 4 HPk Rd *B. spinosa* at NE corner (G) and watered last 30 trees on S side of old cypress area (G) not watered in on 22 June [3 hr]

27 June 2019 – marked out and spot-sprayed 75 more spots to plant S of the 2018 planting, W of the track (H). Also spot-sprayed Phalaris plants encountered [3 hr; 20 L spray]

28 June 2019 – spot-sprayed about 100 small patches of *Oxalis purpurea* along the E fence S of the junction. Also marked out and sprayed 67 more planting spots in SW corner of Station Ground at the junction (E) [4 hr, 10 L]

03 & 06 Jul 2019 – cut 128 *A. paradoxa* stakes at Wannan [6 hr]

09, 13 & 14 Jul 2019 – prepared and fitted 90 mesh guards on trees [13 hr]

16 Jul 2019 – crow-barred 50 spots sprayed earlier [5 hr]

21 Jul 2019 – cut 40 smaller *A. paradoxa* stakes at the Wannan and pointed them [2.5 hr]

28 Jul 2019 – HFNC Working Bee (RB, PH, RZ) – 87 holes crow-barred, 137 trees planted and plastic guards fitted [18 hr].

52 Tarrington area <i>Al. verticillata</i>	32 Pierrepoint <i>B. marginata</i>	13 HPk Rd <i>B. spinosa</i>
35 Yatchaw <i>B. marginata</i>	5 LLIN <i>B. spinosa</i>	

20 Yatchaw Banksia were planted in 2 rows on W side of track, 100 S from the HPk Rd gate (A).

25 Pierrepoint Banksia were planted in 2 rows along the W fence, 300 m S from the HP Rd gate (C).

28 Tarrington area Sheoak & 3 LLIN Bursaria planted in the block W of the track (B), S of 2006 planting.

16 Banksia, 14 Bursaria & 14 Tarrington Sheoak were planted near the track at the junction (J).

6 Yatchaw Banksia & 10 Tarrington Sheoak were planted on the W fence at the junction (E).

29 Jul 2019 – crow-barred 12 holes, planted & guarded 2 LLIN *B. spinosa* and 10 Yatchaw *B. marginata* along the W fence, near the power line (F) that crosses the rail reserve S of the junction [2 hr]

31 Jul 2019 – 10 Cyclone Ringlock (8-90-30) guards prepared (2 ‘cylinders’ overlapped to reduce the gap spacing) and installed on trees near power line (F) [3 hr]

03 Aug 2019 – 12 Cyclone (8-90-30) guards prepared and installed on trees near the junction (D) [3 hr].

04 Aug 2019 – sprayed *Fumaria* & *Galium* at the embankment, some *O. purpurea* near the E side and phalaris elsewhere at N end, incl. part of roadside and along the track to the ramp. Also sprayed around some of the planted trees S from the gate (2). Installed 3 more Cyclone Ringlock (8-90-30) guards. [4 hr, 25 L spray]

03 Sept 2019 – cut 28 *A. paradoxa* stakes from the Wannan and prepared 12 Cyclone [8-90-39] guards [5 hr].

04 Sept 2019 – fitted 11 Cyclone (8-90-30) guards to trees at the junction (D) [2 hr]

07 Sept 2019 – prepared 11 Cyclone (8-90-30) guards and stakes and fitted them to trees at the junction [5 hr]

09 Sept 2019 – prepared 11 Cyclone (8-90-30) guards and fitted them to trees on W fence (C) [4 hr]

11-12 Sept 2019 – prepared 11 Cyclone (8-90-30) guards and stakes and applied them to HPk Rd area trees. Replaced 1 dead Pierrepoint *B. marginata* there (B) and 1 HPk Rd *Bursaria* at the junction site (J). Hand-weeded 170 *Fumaria* plants at Cherry Ballart site at the ramp and 200 plants at the log 25 m north [7 hr]

13 Sept 2019 – prepared 11 Cyclone (8-90-30) guards and fitted them on trees at HPk Rd area (B) [3 hr]. One 200 m roll of mesh gave 82 guards (80 were used), each prepared from 2 overlapping layers of mesh, each 1.2 m long.

20 Sept 2019 – the rail track was sprayed (width of wheel tracks) [2 hr; 12 L spray]

11 Oct 2019 – Cyclone Ringlock (8-90-15) provided by the grant from SGSC was cut to lengths 1.35 m long (9 x 15 cm panels) and 10 guards were constructed, each a double ‘cylinder’ of overlapping mesh. This mesh gives smaller gaps that should make it harder for macropods to penetrate. The diameter of the guard is enough to fit easily over the conventional bamboo and plastic guard. A 100 m roll provides 36 guards. The guards were then fitted at Kanawalla [5 hr]

01 Nov 2019 – constructed 10 Cyclone (8-90-15) guards and fitted them at the HPk Rd area (B). Also hand-weeded a few *Fumaria* plants and about 20 plants of *Galium* from the ramp area [5 hr]

05 Nov 2019 – constructed 10 Cyclone (8-90-15) guards and fitted them at the HPk Rd area (B). One guard was placed over 7 of 20 plants of *Velleia paradoxa* found flowering just N of the ramp [4.5 hr]

12 Nov 2019 – constructed 10 Cyclone (8-90-15) guards and fitted them at the W fence area (C) [4.5 hr]

15 Nov 2019 – constructed 10 Cyclone (8-90-15) guards and fitted them at the W fence junction (E) [4.5 h]. Wallabies or Kangaroos had pulled 4 trees from plastic guards. That finding confirmed the need to finish the job.

17-18 Nov 2019 – RB & PH constructed and fitted 25 Cyclone (8-90-15) guards on plants near the junction (E) and replaced 2 Pierrepoint *B. marginata* and 2 Tarrington-area *Al. verticillata* lost to macropod damage. Weeds around the trees in the junction site and those near the fence at the HPk Rd area (C) and along the track (H) were sprayed. Weeds within those guards were also removed [20 hr, 5 L spray].

19-20 Nov 2019 – sprayed weeds at McFarlanes Rd end, around tree guards at the power line crossing (F) and near the HPk Rd gate (2). Removed luxuriant weeds from within the guards at the HPk Rd end – 3 trees Sth from the gate (2) were dead and were replaced with 2 Sheoaks and 1 HPk Rd *Bursaria*. These were copiously watered, as well as a few seedlings from the August planting that suffered the worst from weeds and had roots perhaps disturbed by weeding. The September planting had far less weed problems [11.5 hr]

22 Nov 2019 – weeded all trees in the NW corner area (I) and sprayed around all of the trees there and in the NE area and in and around the old cypress area (G). Clumps of phalaris and cocksfoot in these areas and a new patch of St John’s Wort in the NW corner and about 20 plants in the NE corner and road reserve were sprayed. A large patch of *Galium* in the NE corner and *Oxalis pes-caprae* 30 m to the south was sprayed [5.5 hr, 20 L spray]

27 Nov 2019 – finished weeding inside the guards of trees in and around the old cypress block (G). Hand-pulled a patch of *Galium* near the fence there. Installed Cyclone (8-90-15) guards on several trees that had been unguarded. A small patch of *Oxalis purpurea* was seen on either side of the track near the fallen tree Sth of the junction – to be dealt with next year [3.5 hr]

05 Dec 2019 – single cylinders of Cyclone (8-90-15) were prepared and fitted over 20 of the 90 Bunnings 10 cm x 10 cm light wire guards (in Area G), in order to give greater rigidity and reduce the ability of macropods to penetrate the guard [5 hr]. That extra protection will be given to the other guards if it is shown to be necessary.

Seed collection in 2019 and plant propagation

27 Nov 2019 – some cones were collected from the only original *Al. verticillata* surviving just Nth of the junction. Capsules were also collected from the only 2 surviving original *E. viminalis* – one very large healthy specimen about 250 m Sth of the junction on the E side, and a large very old tree about 200 m Sth of the power line on the W side. Only a few capsules could be collected from that tree.

03 Dec 2019 – the collected cones and capsules were dried and seed collected and sown in a 50% coarse sand/50% pine bark potting mix in ‘Forestry Tubes’. To ensure replacements for 2020, seeds of *B. marginata* from Yatchaw, Pierrepoint and Old Reservoir, and seeds of *Al. verticillata* from the Old Reservoir were also sown. If the Manna Gum seed is viable the seedlings will be preferred as replacements. There are a few places left where sheoaks, banksias and Manna Gum can be planted (particularly with sheoaks at the edges and fertile places where exotic grasses are often a problem). Care will be taken to maintain the integrity of the open native grassland areas. That could include culling Black Wattle (*A. mearnsii*) seedlings that invade such areas.

Bird list – the list so far is 60 species (Brown-headed Honeyeater, Crested Pigeon, Grey Currawong, and Rainbow Lorikeet were added this year).

Flora List – the native plant list stands at 86 species.

Planting areas in 2018 (1-3) and 2019 (A-J)

