



HAMILTON FIELD NATURALISTS CLUB

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22 October 2010

Report on Weed Control Work at the Fulham Streamside Reserve in Sept.-Oct. 2010

SUMMARY

Activities – between 17 September to 20 October the HFNC spent 66 hours treating Cape Tulip (CT), *Sparaxis bulbifera* (SB) and some other environmental weeds on the floristically-rich part of the western half of the Fulham Streamside Reserve. We worked along the Entry Track to the river (from about 100 m to the east of Entry Track west to the railway line). We treated the western area (shown on the attached map), except for two areas:

- (1) the mid- and southern part of the degraded area between the river and the second major watercourse that runs from the river to the old railway bridge crossing
- (2) the strip between the western boundary and the railway embankment.

We also treated CT on a strip along East Boundary Track to Boggy Creek, near the corner of the western block, and the southern side of Boggy Creek down to N-S creek.

This year we adopted a different approach. After an initial foray in mid-September to treat the sensitive sites on the western end of the reserve we returned to the same sites 3 weeks later to “mop up” any SB and CT missed, those that had germinated since, or those that had been lying in water. That approach was vindicated upon inspection on our October visits when, despite great care being taken in September, it was apparent that many plants had been missed. A flower also reveals patches of the weed in more remote areas not visited before. That was particularly useful for detecting isolated outbreaks of SB.

We observed that contractors had also failed to treat almost as many CT as they had sprayed on the area towards the old railway bridge – and that many of the plants in their sprayed spots were alive and in flower. We re-treated most of the plants on either side of the track between the first and second watercourse but had no time to go further south in that area where the ineffectiveness of the spraying practice is still obvious. Spraying does not eliminate CT and it creates a huge amount of bare ground.

We recommend that the herbicide-wiping method be used in future for CT control. That ensures that each plant is killed, it minimises ancillary damage to other vegetation, and it gives some hope that CT can be eliminated. The tool that we adapted (by fitting small pads to the rubber cups) is a “Pick up – Reaching Tool” obtained from *The Reject Shop* (imported by TRS Trading Group, 245 Racecourse Rd, Kensington, Vic 3031). The tool has a pistol grip and is cheap (\$3), lightweight, strong, easy to use and very effective since both sides of the leaf are contacted. Contractors and volunteers could use this tool (see photo).

Application of herbicides – *Sparaxis* plants in the dense areas of infestation were spot-sprayed with a solution of *Metsulfuron methyl* (3 g/10 L), *Glyphosate* (150 mL/10 L), Pulse surfactant (50 mL/10 L) and a red vegetable dye marker (40 mL/10 L).

In all other cases SB and CT plants were individually wiped with a more concentrated herbicide solution (*Metsulfuron methyl*, 3 g/3 L, *Glyphosate* 150 mL/3 L, surfactant 15 mL/3 L, dye 10 mL/3 L) using a tool (described above) to deliver herbicide to pest plant leaves without contacting other vegetation.

The objective of both spot-spraying and herbicide wiping is to allow adjacent native species to re-colonise the small areas treated. Herbicide-wiping individual plants is the only way to remove all of the CT and to restore the area to its previous botanic composition and health.

Harlequin Flower (*Sparaxis bulbifera*) SB – The aim is to eventually eradicate SB from the floristically important area south of the River Track and in the far western part of the reserve. To

achieve that we need to prevent any SB from seeding and there must be a defensible “boundary” to work from. Fortunately, SB does not appear to spread long distances from wind-born seed, thus a road or water channel may constitute a boundary. The plants appear to spread slowly from near the parent plant and from seed or corms spread by soil-moving machinery and in the tyres of other vehicles. Thus there is a need to check for new SB appearing along the tracks. There is also an urgent need to close any unwanted tracks and to discourage off-track driving. In the absence of that the present efforts to eradicate SB may be a waste of time.

The presence of flowers on some plants in our October visit was very useful in locating minor sources of infestation. We plucked off the flowers before wiping the plants with herbicide. That practice was intended to minimise any seed-set and, hopefully, increase the take-up of herbicide by the corm.

The degree of infestation from SB was much reduced in areas treated in 2009 but significant infestations remain, resulting from germination of seed held in the soil over many years. This year other major sites of infestation were found in the area west of Entry Track, mostly associated with old tracks.

Cape Tulip (*Moraea flaccida*) CT – this weed was present in appreciable numbers, mostly pre-flowering, often associated with old tracks but also in discrete small spots of a few plants (sometimes several dozen) at random across the landscape. We treated tens of thousands of CT this year and the lethal effect of the herbicide-wiping method was seen on our visit 3 weeks later. We saw, also, how easy it is to miss some CT, especially those very small. We generally removed any flowers and heads on the larger plants to prevent seed from developing and being released.

CT appears to flower only when several years old, dying back to the basal corm each year. CT seeds prolifically and “spots” across the reserve, with a cluster of new seedlings developing there over time. CT is also found along the tracks, no doubt spread by vehicles, the ultimate source of the outbreaks in the southern parts of the reserve. We are hopeful that, with increased vigilance in detection of CT and better control of off-track vehicles, the pest can be reduced to very low levels. However, there will always be a need for monitoring and treatment of CT across the reserve.

Other weeds – Bridal Creeper (*Asparagus asparagoides*), Wild Gladiolus, Cocksfoot, Phalaris, Thistle. These were treated when encountered, the Bridal Creeper being seen only in the NW promontory. One large bush of African Boxthorn (*Lycium ferocissimum*) was found near the Entry Track and one Sweet Briar (*Rosa rubiginosa*) off the E-W Bridge Track.

African Weed Orchid (*Disa bracteata*)(AWO) was seen on the SW boundary area, on the western side of the Railway Embankment and on the eastern side of the embankment. The area of private land adjoining has CT, SB and AWO, therefore there may be little point in trying to rid the strip of reserve between the boundary and railway embankment of these weeds. Hopefully, the embankment will be a buffer.

Birds – 60 species seen or heard (Southern Boobook), including 5 ‘new’ birds in Little Black Cormorant, Crested Pigeon, Spiny-cheeked Honeyeater, Red-tailed Black-cockatoo (4 seen in Brown Stringybarks) and Little Eagle (total now 115 species).

Mammals – 2 Hares, 20 Grey Kangaroos, 1 Red-necked Wallaby and 1 Black Wallaby were seen in the SW section. A Platypus was seen in the river and there were many Echidna diggings.

Flora – a prolific flowering of *Thelymitra rubra* was noted west of Entry Track, along with *Pterostylis nutans* in the treated area near the river (total native flora remains at 324 species).

Other matters – whilst working on the damp heathland west of Entry Track a party of about 30 horses and their riders rode across the heathland from the direction of the SW corner. Since the soil was quite damp, boggy in places, it seemed a most inappropriate action. I suggested that they ought to consider keeping to the recognized tracks, to avoid spreading weeds, pugging the soils and trampling the vegetation. The party did move on to the Entry Track. Continued contamination of this reserve by off-track vehicles and horses will render much of any work on weed eradication of little long-term value. Some signage is needed to advise drivers/riders to keep to the designated tracks, in order to prevent spreading of weeds, disease and destruction of the native vegetation.

DETAIL OF WORKS UNDERTAKEN IN 2010

Areas treated

(1) The East Boundary Track (EBT) north off Edgewood Rd on the Western Block

A few CT were treated 100 m from Edgewood Rd and a few along the track to the 3^d Creek (Boggy Creek) at 37-09-19/141-53-19, near the corner of the western block. There were ~300 plants from near EBT and west of the wet area down to N-S Ck.

(2) Strip adjacent to track from Entry to Glenelg River (Fulham Pool)

Both sides from Entry at Edgewood Rd (37-09-56.4/141-51 23.2) were inspected, up to 150 m both sides of the track. Isolated CT and many small patches of a few dozen CT were treated by herbicide wiping. The SB at the entrance and west along the Edgewood Rd towards the creek were similarly treated.

(3) Old track to the west that is adjacent to Entry Track, about 0.9 km from Edgewood Rd

A previous line on the west side contained several hundred tiny SB, stretching for some 200 m along two old tracks that were crossed in 2005 by the E-W bulldozed fire line over Entry track, 0.9 km from Edgewood Rd (37-09-25.7/141-51-27.9). The N edge was at 37-09-29.7/141-51-24.6, just south of the clump of *A. paradoxa*. Extensive spot-spraying was needed in 2009, because of the density of SB, but the resulting damage to non-target species was not severe. We herbicide-wiped at least a thousand small SB in September this year and followed up in October with a further 350 plants too small to be seen in September. There were also about 20 SB in flower in spots away from the main line of infestation – the flowers were removed and the plants, and any adjacent, treated. These SB would not have been detected had there been no flowers.

(4) The NW river area from the gate on River Rd downstream to the main camp

The gate is at 37-09-04.2/141-51-46.4. The treated area includes the area south of the River Tk that contains Nodding Greenhoods, amongst SB, that was rutted by off-road vehicles and has received previous treatment. The area was treated again to mop up SB, many dozens of plants being treated. Areas previously treated now contain many Nodding Greenhood.

(5) River area from main camp on river downstream to second bend camp area – this is the most southerly bend. Bridal Creeper was treated in the “peninsula”, several plants being found. CT was found on both sides of the track approaching the camp area at the second bend. Prolific Wild Gladiolus and a few SB were found at the bend.

(6) From second bend camp to second watercourse crossing downstream – we concentrated on the area between the river, the first watercourse and the E-W Track to the old railway bridge crossing. Few SB were seen in the northern half (one spot near the creek) but there was a moderate infestation of CT throughout the area. We also herbicide-wiped many live CT on both side of the track leading from the first watercourse to the second (and major) watercourse crossing. Contractors had apparently sprayed some CT there (and on the east side of the first watercourse) but with poor success, as many were still green and in flower. Others had not been treated (see comments above on this unsatisfactory situation). We had no time to treat the remainder of this area between the two watercourses. While most of it has been degraded by past spraying, now carrying mostly exotic grasses, it remains a potent source of CT infection for the heathland to the south. We would hope to treat the area in 2011.

(7) From junction of E-W Track and Entry Track (37-09-13.8/141-51-34.0, 1.45 km from Edgewood Rd) the area adjacent on both sides west to the old Railway Bridge crossing – CT was distributed in large numbers randomly throughout the area but the major sites of SB infestation were found in the areas listed below:

- a) North side of the E-W Bridge Track, wet area about half way to the cleared “parking place” (37-09-15.4/141-51-17.5) that lies about 100 m east of the embankment. Of the 10 patches of SB sprayed in October the most westerly patch is at 37-09-15/141-51-22. The patches vary in area from 2 to 50 m². These patches were very heavily infested with SB and only outlier plants could be herbicide-wiped. The aim is to eliminate SB from this site, to prevent it invading the pristine damp heathland to the south and west. Some short-medium term loss of other vegetation will result but the alternative (do nothing) will see the entire area dominated by SB with loss of most of the native ground flora. Remnant SB will be herbicide-wiped in future years, allowing the native flora to re-colonise the sites.

- b) South side of the E-W Bridge Track, opposite the western end of (a), beginning near the track-side post in the boggy section (27-09-15.1/141-51-24.9). The partly flooded areas here were spot-sprayed in September (where not flooded) or in October. There are about a dozen patches of serious infestation (from 2 m² to 20 m²) in this area of about 100 m x 100 m. These were treated as in (a).
- c) North of (a) by about 100 m, near a large River Red Gum (RRG) – a patch 4 m x 3 m (37-09-15.1/141-51-24.9).
- d) South of (a) by about 100 m, around the base of a large RRG – a patch 4 m x 2 m (37-09-18.5/141-51-26.3). This appears to be the only isolated infestation not associated with an old track (or current track) or not in a wet area. Its presence was revealed by white flowers on several plants.

(8) Central area west of the entry Track and south of the track to the Bridge

- e) South of (b) by about 200 m, with RRG and a dead Bulloak around the small patch on an old track (37-09-21.1/141-51-23.3).
- f) SW central area on an old track about 100 m south of a large log and stump (37-09-24.2/141-51-23.1) – a patch of about 4 m².
- g) A small patch 40 m due west of (f) on an old track, about 70 m south of the large log and stump.
- h) Same area, south of the bend on E-W Bridge Track (37-09-16.7/141-51-24.6) – several small areas of heavy infestation of SB. These were either herbicide-wiped or spot-sprayed. CT also adjacent.

(9) East of the watercourse that is adjacent to the railway embankment

- i) On an old track near the watercourse that runs close to the railway line – this site (37-09-19.5/141-51-17.5) contained a few dozen SB and many CT nearby, all of which were herbicide-wiped.
- j) Near the largest River Red Gum in the area near (i) – this site (5 m x 3m) required spraying, because of the density of SB. CT also occurred nearby in numbers.
- k) 70 m south of area (j) at 37-09-17.4/141-51-21.2 – a small area (3 m x 2 m) of dense SB that required spraying. CT also nearby.

(10) Watercourse adjacent to the east side of the railway embankment

The area in the watercourse (on the margins of the pools) was lightly infested with SB and moderately infested with CT. Several dozen very small SB were found on the west side of the drainage line adjacent to the *Melaleuca decussata* that lines the drainage line. A few SB (and many CT) were found on the heathland margin at the top end of the pool, in the same spot as in previous years (37-09-26.0/141-51-18).

(11) Area between the railway embankment and the adjoining freehold, SW end

Parts are heavily infested with CT and SB (particularly dense under *A. paradoxa*). The CT were treated but SB was so dense as to require spraying, which time did not permit. The SB on section of about 250 m above the Bridge is heavily infested with SB and this has not been treated this year or previously. That situation should be reviewed, since it is a potent potential source of reinfection of the block across the embankment to the east. Action may, however, result in the loss of some of the *Melaleuca*. About 10 AWO plants were also found and pulled. Unless action is taken on the freehold land then re-infestation is certain. If no action is forthcoming there then it may be pointless trying to control these weeds on this strip.

Works

Friday 17 Sept. – RB & DL each 4 hr;
 Saturday 18 Sept. – RB 8 hr, DL 7 hr
 Sunday 20 Sept. – RB 4 hr, DL 3 hr, DM & LM each 1.5 hr
 Monday 11 Oct. – RB & DL each 7.5 hr
 Tuesday 19 Oct – RB 8.5 hr
 Wednesday 20 Oct – RB 9.5 hr
 Total = 66 hrs



Herbicide-wiping tool

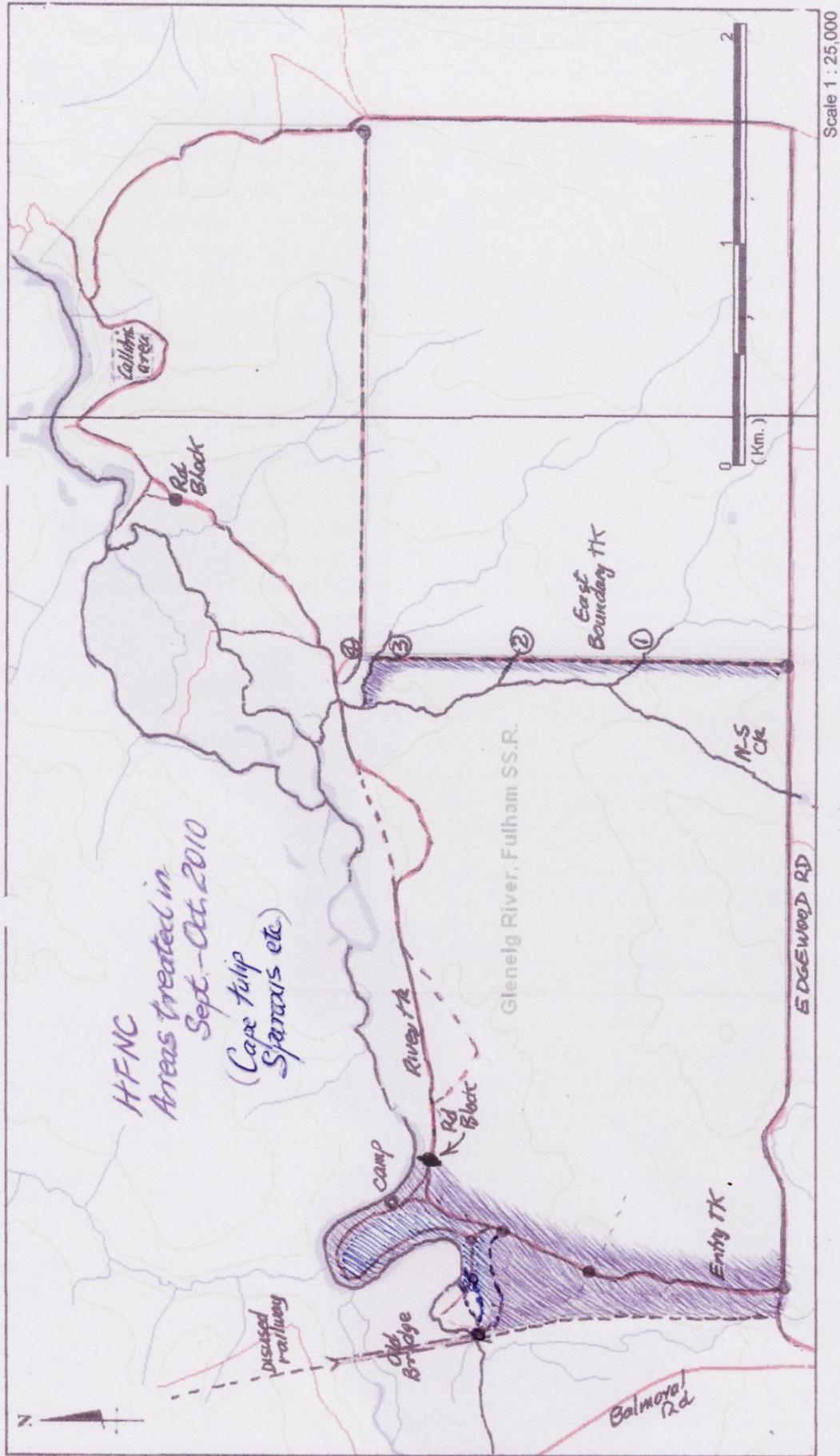
The tool that we adapted (by fitting small pads cut from kitchen sponges to the rubber cups) is a “**Pick up – Reaching Tool**” obtained from *The Reject Shop* (imported by TRS Trading Group, 245 Racecourse Rd, Kensington, Vic 3031).

The tool has a pistol grip and trigger to operate the jaws. It is cheap (\$3), lightweight, strong, easy to use and very effective since both sides of the leaf or stem are contacted. No bending is required and many thousand plants can be treated quickly without strain to the back or hands.

The pads are dipped into a container that holds the herbicide-wetter-dye mixture. We use plastic containers that originally held produce (honey or rice), obtained from supermarkets. The opening of the container need not be great but must allow the pads to be inserted (use the trigger to press the pads together to allow this, then releasing the trigger to allow the springs to enter). We attach the lid to the container by a cord so that it can be closed for transport.

Sparaxis and Cape Tulip plants are individually wiped with a concentrated herbicide solution (*Metsulfuron methyl*, 3 g/3 L, *Glyphosate* 150 mL/3 L, surfactant 15 mL/3 L, dye 10 mL/3 L) using this tool to deliver herbicide to the pest plant without contacting other vegetation. Glyphosate may be left out if the situation is such that the chemical cannot be used (no Chemical Users Permit is needed for *Metsulfuron Methyl*) or there are certain species (e.g. most native grasses) that would be affected.

The objective of herbicide-wiping is to kill all of the pest plants without killing adjacent native species. Broad-scale spraying of Cape Tulip cannot do that. Nor does it actually kill all of the Cape Tulip plants in the spray area because these plants are difficult to hit with spray and the stem/leaf surface does not wet easily. However, all of the native species are killed, thus creating a vast amount of bare ground that grows only Cape Tulip and other weeds in the following year.



Glenelg River, Fulham SS.R.