

**Rehabilitation of native flora in the Mt.Stuart area of
high biodiversity Knocklofty Reserve**

Envirofund Project 2004 on Knocklofty Reserve

Project No: 43624

4th March 2005

Tony Ault

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Gorse cleared by the Friends near the Mt. Stuart track

SUMMARY

The Friends of Knocklofty Bushcare Group's 2004 Envirofund grant was used to employ contractors to remove gorse, boneseed, and europys from heavily infested areas in the Mt. Stuart end of Knocklofty Reserve. A team from Tasflora cleared two of the five areas targeted for woody weed removal. These were; 2360m² in K13 near the Green end of the Mt. Stuart track covered in heavy gorse among a dry sclerophyll *Eucalyptus pulchella* grassy forest.; 1.41 hectares [14100 m²] consisting of the vulnerable dry sclerophyll *Eucalyptus globulus* grassy forest heavily infested in parts by gorse, boneseed, and europys in MS9 adjacent to the Fiona Allen Memorial track. In addition, blackberry in other recently rehabilitated areas of Knocklofty were sprayed by Tasflora.

Friends of Knocklofty Bushcare [FOKL] volunteers have started clearing a third site MS5 at the junction of the Mt. Stuart and Fiona Allen tracks.

The Friends of Knocklofty Bushcare Group [FOKL] voluntary contribution worth \$68480 for flora and fauna rehabilitation on Knocklofty Reserve was three times the \$22,380 promised in the Envirofund 2004 application. Also the contribution by the Hobart City Council of \$70,487 was over twice the \$29,000 promised. These contributions included primary weeding, site maintenance, fire management, propagation and planting of 1562 seedlings, and trapping surveys of native fauna in the "Green".

Site rehabilitation work was also done by FOKL for Aurora who had erected new power poles under the wayleave. This included propagating and planting 300 of the rare *Rytidosperma procerum* [or tall wallaby grass].

DETAILS

Objectives

In our application for an Envirofund grant, we stated:-

"This project will expand our work of protecting the habitat of threatened species and restoring the native flora by removing environmental weeds in the Mt. Stuart end of the Reserve. Heavy occurrences of gorse remain in this vulnerable grassy *Eucalyptus globulus* forest, particularly along a track recently upgraded by a Greencorp team. The area of concern is home to three threatened plant species, *Lepidium pseudotasmanicum*, *Velleia paradoxa*, and *Vittadinia muelleri*. Primary weeding of this 8.4 hectare area will enable FOKL volunteers and HCC bushland staff to provide future maintenance and in-fill planting. This is a new area within the reserve with new community involvement."

Planning of Contract Work

On receipt of the grant, FOKL volunteers mapped the five areas targeted for weed removal using GPS measurements and marked the perimeter of each area with ribbons. These five areas in order of preferred clearance were as follows. [See map, page 3.]

1. Management Site 32 in K13, an area of 2360 m² covered in heavy gorse among a dry sclerophyll *Eucalyptus pulchella* grassy forest. This area adjoined southern end of the recently upgraded Mt. Stuart walking track.
2. MS9, an area of 1.41 hectares [14100 m²] consisting of the vulnerable dry sclerophyll *Eucalyptus globulus* grassy forest heavily infested in parts by gorse, boneseed, and europys. Most of the weedy area was very inaccessible. This area adjoined the eastern boundary of KL reserve and the Fiona Allen memorial track.

3. MS15 an area of 1.38 hectares [13800 m²] also consisting of the vulnerable dry sclerophyll *Eucalyptus globulus* grassy forest heavily infested in parts by gorse, boneseed, and europys. Most of the weedy area was very inaccessible. This area adjoined both the eastern boundary of KL reserve and the Mt. Stuart walking track.
4. MS6 an area of 3280 m² consisting of dry sclerophyll *Eucalyptus pulchella* grassy forest heavily infested by closely grown <1m high gorse. This area adjoins the eastern side of the Mt. Stuart walking track, and is easily accessible from the Mt. Stuart Lookout.
5. MS5 an area of 2060 m² also consisting of dry sclerophyll *Eucalyptus pulchella* grassy forest with scattered patches of gorse. Two sides of this area are the eastern side of the Mt. Stuart walking track and the southern side of the Fiona Allen track. The area is easily accessible, 5 minutes walking from the Mt. Stuart Lookout entrance to the reserve.

This information was used in conjunction with a tender document, which were given to potential contractors, inviting them to quote the areas they could completely clear of woody weeds with the available Envirofund grant using the “cut and paste” method. It was decided to use this method as it was felt that any more mechanised method which included spraying would result in too much collateral damage to native plants growing amongst the woody weeds.

Four contractors attended a tour of the various areas and were guided over the target areas by the FOKL Co-ordinator and the Envirofund Project Officer. Three contractors submitted quotes. These tenders were assessed on the basis of the areas they could clear, past experience and personnel, standard and warranty, workplan and methodology. Tasflora won the contract by virtue of their promise to completely clear the first two areas outlined above and to guarantee to keep these areas weed free for 12 months. As Tasflora also quoted the lowest hourly rate, they have been given a contract to spray blackberry on previously rehabilitated sites.

The other three areas will eventually be cleared by FOKL and the HCC, with FOKL already working in MS5 with volunteers from the Mt. Stuart suburb.

Outcome of Contract Work

1. Management Site 32 in K13. Removal of gorse. [an area of 2360 m²]

This area was much more heavily infested by gorse than expected. The gorse was cut and left in piles to decompose. A pampas grass was discovered in the middle of the area and this was sprayed by the HCC bush crew. Tasflora expects to return to the area several times to remove any gorse missed during the initial cutting. A photopoint [PP56, Page 4] was taken from the Mt. Stuart track adjoining the site before and after clearing. The photo shows that the gorse was masking a significant understory of native plants.

2. Management Site 9, an area of 1.41 hectares. Removal of boneseed, Europys, and gorse.

The heaviest infestation of weeds was along the eastern KL boundary. This area was very difficult to access. Europys, a South African daisy bush that grows up to 2 m tall was easier to remove than expected. Most plants could be hand pulled with very little soil disturbance. Tasflora was pleased that this reduced the labour required, off setting to some extent the extra time they needed to spend on the first site of MS32. Again, the woody weeds were left in situ to decompose. A photopoint [PP58, page 5] before and after shot shows the effect of removing europys and boneseed in an area heavily infested on the KL eastern boundary.

3. Spraying of blackberry at previously rehabilitated sites.

Spraying of blackberry inaccessible to volunteers was handled by Tasflora. This included the Lookout and along the Poets Road track. At the time of writing, the area at the Lookout had been sprayed with negligible collateral damage to the surrounding bracken fern.

Voluntary Work

1. Weed removal [Photos page 7]

During 2004, the Friends of Knocklofty Bushcare Group volunteers [FOKL] spent 16 half days removing woody weeds from both previously rehabilitated and new sites on Knocklofty or removing bags and stakes from previously planted sites. The new sites were:

- At MS5, the junction of the Mt.Stuart and Fiona Allen tracks. This was an activity advertised widely among the residents of Mt.Stuart on temporary signs in the reserve and in local shops. The purpose was to encourage locals from the Mt.Stuart area to join the group and remind them that our Envirofund grant was being spent in rehabilitating heavily infested areas in the Mt.Stuart area. 15 volunteers attended including 3 new people, 2 from Mt.Stuart. Despite our efforts, there is still not sufficient support from the Mt.Stuart area for them to form their own group. It is planned to conduct two more special work days on the same site in 2005.
- Along the wayleave near the cross over with the Summit Loop fire trail. Two work days were spent in this area, the second with help from the HCC burn crew.
- At the Poets Road entrance site [MS78]. Work started on the mammoth job of removing 3-4 m high broom, gorse, and willow, part of which was infested with blackberry. In two sessions, one of which involved help from the HCC bushcrew and other staff, about 5 truck loads of woody weeds were removed. A major effect will be made to rehabilitate this area in 2005 with help from our Envirofund 2005 grant.

Sites requiring more primary gorse removal were revisited, these included the newly upgraded walking track between the “Green” and the Mt.Stuart entrance [MS site 90], and the area of K21 [MS Site 79] between the Lookout and the Poets Road entrance. In the latter area, FOKL volunteers helped complete the work carried out by Dave Obendorf [see below] and with the bush crew, burned all the gorse which had been collected in piles over the year.

Weed removal was also carried out on numerous occasions in outlying areas away from the rehabilitated sites by groups as part of our “roving weeding” plan or by individuals as their “adopt a patch” plan.

Dave Obendorf made an outstanding contribution to the groups activity by spending 500 hours “cut and pasting” gorse along a sandstone quarried ledge in MS 79. As a result all the area safely accessible to volunteers above the cliff near the Poets Road entrance has been cleared of gorse. This area forms the backdrop to the area targeted in the Envirofund 2005 project, and also dominates the proposed new John Glover track which winds up Salvator Rosa Glen.

2. Plantings [Photos page 8.]

A total of 1562 seedlings, of which 475 were propagated by FOKL members, were planted on Knocklofty by FOKL members during 5 work days between 6th May and 5th August. This included 282 rare tall wallaby grasses [*Rytidosperma procerum*] propagated by FOKL and planted on the wayleave to revegetate areas cleared by Aurora when erecting new poles. In other plantings, FOKL volunteers were helped by children from the Landsdowne Cres Primary School, members of the public on National Tree Planting Day, and Guilford Young College students at the Swan Insurance sponsored planting in May.

See details in Attachment 1 entitled “Completed Planting on KL in 2004”.

Woody weed removal at the Poets Road entrance

Thursday 7th October 2004

**Burning Gorse in Salvator Rosa Glen
Monday 12th July 2004**

National Tree Day Planting →
24th July 2004

Planting at Site 35
6th May 2004
↓

1. Propagation

The 2004-5 programme was carried out at the Australian Plant Society's new Propagation Centre at Kingston Primary School. Bruce was again the main driving force assisted by Tony. Other FOKL volunteers occasionally assisted with preparing cuttings, starting seed propagation, and potting up. Cuttings were obtained from Knocklofty reserve before each session, and seeds were mainly local provenance. Details are shown in Attachment 2 entitled "FOKL propagation 2004". During the year 879 cuttings were started and over 600 seedlings potted up. Strike rate for cuttings was 27%.

3. Native fauna trapping

Fauna Trapping was continued on the reserve under the managing hand of Dave Obendorf following FOKL being granted an extended trapping permit from DPIWE.. Volunteers investigated areas beside the Mt.Stuart track, below the main Lookout, and adjacent to the wayleave in K25. Trapping for antechinus was also carried out near the water tank. Eastern barred bandicoots, potoroos, and both ringtail and brushtail possums were found in the Mt.Stuart end of the reserve, and potoroos and southern brown bandicoots below the main Lookout. Potoroos were also found in the site near the wayleave.

"It was a cold and frosty morning for trapping"

Wednesday 7th September 2004

A potoroo caught near the Lookout
Wednesday 7th July 2004

5. Bird, invertebrate and flora watch

Members of the local community were invited to share these activities with FOKL volunteers during the year.

In September, David Abbot from Birds Australia led a group of 13 on a wonderful walk along the lower slopes of KL reserve pointing out many birds and identifying their calls.

In July, Bruce Champion our FOKL Flora Officer and life member of the Australian Plant Society lead a walk of 30 FOKL and APS members around the reserve, identifying many of the local native plants including numerous orchids. This was an all day excursion. We enjoyed lunch looking over our newly established Bandicoot Corridor of native shrubs and grasses.

In April, Peter McQuillin, a Entomologist from Tasmanian University kept 14 FOKL members in raptures for two hours showing us the large range of invertebrates [weevils, grasshopper, locusts, ants, bees, beetles, and other bugs] that inhabited a small area of Knocklofty near the Forest Road carpark.

6. Frog Watch

Frog watching by Dave Obendorf resulted in the sad discovery that frogs in the permanent ponds on Knocklofty Reserve were found to have the Chytrid fungus. This is a serious global disease that destroys the keratin around the mouth parts of tadpoles and attacks the skin of frogs. It has already had a major impact on frog populations on the mainland and other countries.

The work on Knocklofty was part of a state-wide search for the fungus in frogs and tadpoles. The fungus zoospores are spread through the water in the ponds. As a result, the ponds on Knocklofty Reserve became off limits during the summer of 2004-5 and dogs were banned from all ponds due to the fear of the disease being spread from pond to pond. It was found that tadpoles in ponds which dried out in the summer months were normally free of the fungus.

7. Glover Project

Thanks to the strong support of Rob Mather, the HCC Parks and Reserves Committee voted unanimously to provide the funds for interpretative signs along the Salvator Rosa Glen showing images of the 1831 painting by Glover looking down Salvator Rosa Glen from the reserve. This followed our failure to win a Cultural Grant from the HCC.

A project committee consisting of Dave Obendorf, Tony Ault, Bruce Champion, Di Harris, and Rob Mather, with expert voluntary support from Simon Cuthbert of TMAG and Andrew McGowan of RTBG is working on detailed text and imaging for each of the signs. It is expected that the interpretative signs will be in place before the end of 2005.

8. Prescribed Burn Programme

Vegetation affected by Prescribed Burns on K6 and K10 in 2003 has recovered well. In K10, one area of heavy gorse infestation was burnt as a trial without prior cutting and pasting. 12 months later, the regrowth of burnt bushes and new seedlings is astonishing. The bush crew reports that when the area is sprayed, a lot of native seedlings are likely to be damaged.

A prescribed burn on K25 in November 2004 went disastrously wrong when four sites extensively planted over the past three years were burnt. An apology was made to FOKL members at a joint working bee by the burn crew in December. They have also offered to replant all the sites in the winter of 2005 with up to 476 seedlings in a joint planting with FOKL.

Nine months after the burn on K6

26th August 2004

9. Aurora

FOKL has been involved in site rehabilitation plans, visits, and actions as a result of new poles being erected by Aurora along the wayleave. 12 months after the poles were installed, the native vegetation in areas around each of the sites appear to be coming back and there is no sign of introduced weeds.

FOKL propagated 300 seedlings of the rare Tall Wallaby Grass [*Rytidosperma procerum*] and planted them as part of a site rehabilitation activity on the approach to two poles which had recently been installed. In another working bee, FOKL volunteers revisited these and other sites to water the seedlings, lay slash, and spread grass seeds.

A vegetation management plan was produced by FOKL and sent to Aurora and the HCC with the offer to take over the maintenance of the wayleave under the powerlines that cross the reserve. Aurora is currently drawing up an agreement with the HCC in which FOKL will be paid for work done and the HCC will manage these funds on behalf of FOKL.

Aurora also gave FOKL a donation of \$200 which was used to purchase more tools. In response, FOKL has cleared the gorse under the wayleave between the start of the climb to the summit and the junction of the wayleaves from West and South Hobart.

10. Contribution by volunteers

Total contribution by FOKL volunteers and others to improving the flora and fauna on Knocklofty Reserve was 2996 hours. With material contributions included, this amounts to \$68,480 three times the \$22,380 promised in the grant application. Of this, the Co-ordinators contributed 656 hours, the equivalent of \$15,675 on planning, field visits, and administration. 146 hours or \$3710 were spent on the trapping programme, and 115 hours or \$2710 on propagation activities.

The Hobart City Council contribution of \$70,487 was over twice the \$29,000 promised. This doesn't include administration and management costs. Details of the amount spent on materials such as bags, mats, and operating equipment were not provided in time for this report. In addition, the HCC Nursery supplied 1087 plants at a nominal cost of \$2717.

Attachments

1. "Completed Planting on KL in 2004"
2. "FOKL propagation 2004".

Attachments

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