HFNC weed control work at Nigretta Falls Scenic Reserve – update Nov. 2011

Rod Bird

Background

The Wannon Falls Scenic Resave (65 ha) and Nigretta Falls Scenic Reserve (8 ha) were specified to be Scenic Reserves in the Final Recommendations of the State Government's Land Conservation Council's report for the South-western Area, District 2, in 1982. Prior to that they were Reserved for Public Purposes.

This designation came after a long period of public consultation. The first step was the release of base information on climate, landforms, vegetation, fauna, recreation, agriculture, other commercial activities and history. Public input was then sought. HFNC made representations to LCC in 1979 for reservation of these reserves, and others along the Wannon. A draft proposal was then published by the LCC. Further public comment was called for and then the Final Recommendations were published. These were subsequently acted on by the government.

The Final Report (which included reserves such as Dundas Range, Eastern Black Range, Mt Talbot and Giant Rock) specified the following:

- "Scenic Reserves are set aside to preserve scenic features and lookouts of particular significance".
- "Aims of management of these areas should be to maintain the character and quality of the landscape, to maintain the native vegetation and where necessary to protect water quality".
- "Both Wannon and Nigretta Scenic Reserves include parts of the Wannon River Valley which contains representatives of the native plants of the Dundas Tablelands, where public land is now of very limited extent. The management authority should protect the native flora and the streamside environs of these areas".

Several members of HFNC (notably Lionel Elmore and Bill Larmour from 1965 and Rod Bird in the mid-1970s) served on the Wannon & Nigretta Committee of Management until it lapsed when the management reverted to the Dept. of Conservation, Forests and Lands.

The native flora of the Nigretta Scenic Reserve numbers some 107 species (see attached list).

Works conducted

In Sept. 1959 members of HFNC assisted with the planting of "*a variety of trees and shrubs, including honey-myrtles, bottlebrush, casuarinas and acacias in the area around Nigretta Falls*" (Club Minute Book).

The southern side (now the Nigretta Scenic Reserve) was part of Nigretta Station until after 1900. The weeds of most concern are Blue Periwinkle (*Vinca major*), Iris, Phalaris, Paspalum, Cocksfoot, Bent Grass and Gorse. There are also several native plants established by a misguided member of the Committee of Management in the 1970s & 1980s that need to be removed. These include *Grevillea rosmarinifolium* and *Pittosporum undulatum.* The garden plants originated from a house that was built near the present toilet block; a report in 1930 indicated that Periwinkle and Iris grew over the ruins of the bluestone and sandstone house (Spectator 14 July 2005).

John Cayley and Rod Bird have worked on control of garden and pasture weeds, using *Glyphosate*, Ally (*Metsulfuron methyl*) and Pulse wetter. In all, 22 visits were made between 2004 and 2011 in an effort to eliminate *Vinca* (in particular), Iris, *Sparaxis* and weeds other than African Weed Orchid (AWO) from the reserve. Over 65 hours of work, with 380 L of spray been applied with back-pack sprayers, but the battle with *Vinca* is not won! The Blue Periwinkle initially blanketed a 150 m x 10 m strip on the west side of the track and 50 m x 5 m area on the east side; it is now substantially reduced in area but an extensive re-infestation continues. We will need to monitor the area for perhaps-10 years to remove *Vinca* germinants. We expect natural regeneration from adjacent natives to fill any denuded spaces.

Our efforts at this reserve are outside the central picnic area where all of the vegetation is exotic. Rod & John recorded work done using Glyphosate and Ally or Glean (Pulse wetter was added later):

- 19 Nov 2004 – applied 15 L on W side (50 m x 5 m) and E side of track near toilets (no wetter applied then)
- 26 Nov 2004 – 15 L applied NE of toilet block – bulbs, Periwinkle (*Vinca*), Phalaris, 'Snowdrops' at Lookout (no wetter applied then)
- Oct 2005 – 30 L applied around toilet area and across the track on NW area (no wetter used)
- 14 Oct 2005 – 15 l applied on E side to *Sparaxis*, *Vinca*, Gladiolus and to *Vinca* on W side (no wetter used)
- 17 Nov 2005 – RB applied 30 L on W side and S boundary (*Vinca*, Cocksfoot, Phalaris, Bent Grass) –wetter used here & thereafter
- 13 April 2006 – RB applied 33 L applied on W side, *Vinca* & Cocksfoot
- 21 April 2006 – JC applied 10 L to *Vinca* on W side (a shower fell later)
- 25 April 2006 – RB applied 17 L on E side, *Vinca*, Phalaris, Paspalum & gladiolus – last spray reduced problem area by ~ 66%
- 11 Jan 2007 – RB applied 41 L (4 hr) on all of W side & part of E sides – *Vinca*, Paspalum, Phalaris, Cocksfoot

- 28 Nov 2007 – applied 22 L (3 hr) to W side (Glyphosate+Ally+Pulse) to Cocksfoot, Phalaris, Bent Grass, Paspalum and *Vinca* (massive infestation originally 150 m x 10 m on W side of entrance track, reduced to 40 m x 10 m by previous attack over last 2 years). The area around toilet block still needs attention.
- 30 Nov 2007 – RB applied 18 L (1.5 hr) in completing spraying on W side of track, *Vinca* and Cocksfoot. Also found 2 AWO.
- 22 Jan 2008 – RB applied 30 L (4 hr) spray to *Vinca*, treating new germinants and plants missed in Nov.
- 6 April 2008 – RB applied 10.5 L on W side of track spraying *Vinca* (new germinants and some unsprayed plants) and 0.5 L on E side (only a few *Vinca* remaining there, plus some bulbs to N (1.5 hr)
- 26 June 2008 – RB applied 8 L (Ally, Glyphosate & Pulse) sprayed on *Vinca* & Cocksfoot on west side of entrance rd and 2 L on east side (Phalaris and some Gorse and Vinca) – 2 hr
- 18 Nov 2008 – RB sprayed a few dozen *Vinca* near Toilet Block and Iris to the north. Also, about 12 *Ixia* at the lookout above the Falls. Also sprayed (4 L Ally & Pulse spray) several hundred new *Vinca* plants to the west of the entrance road, amidst area infested previously (2 hr)
- 25 Nov 2008 – RB applied Ally & Pulse spray (7 L) to *Vinca* on west side of the entrance track (thousands of new germinants) and a few dozen plants near the toilet block (previous spray seemed ineffective). Applied 3 L to Iris plants to north of toilet block. – 3 hr
- 22 April 2009 – RB applied 6 L (Ally + Roundup + Pulse) to *Vinca* west of entrance rd (several hundred new seedlings) and 1 L on east side of rd near toilet block (a few dozen plants) – 2 hr
- 15 Sep 2009 – RB sprayed bulbs near the lookout above the Falls, 10 small *Grevillea rosmarinifolia* plants and thousands of new germinants to west of entrance rd, in the usual area. Worked around the area trying to compact it to about 30 m x 5 m (10 L Ally & Pulse spray) – 2.5 hr
- 20 Oct 2009 – RB applied Ally & Pulse (20 L, 3 hr) to *Vinca major* area west of entrance rd (virtually the entire area treated previously) – massive germination of seedlings.
- 30 Oct 2009 – DL (1 hr) dug 50 & pulled 44 AWO
- 2 Nov 2009 – RB & DL (each 1 hr) pulled 167 AWO and 40 Wild Gladiolus.
- 18 Nov 2009 – JC & RB pulled 60 AWO
- Nov 2009 – Julian Cook (SGSC) has sprayed some Gorse and *J. acutus* along the river.
- 17 Feb 2010 – RB applied Roundup, Ally, Pulse & dye (2 hr, 10 L) on *Vinca* and clumps of Cocksfoot & Bent Grass
- 16 Sep 2010 – RB applied Roundup, Ally, Pulse & dye (1.5 hr, 5 L) to Vinca and clumps of Cocksfoot; about 30 exotic *Ixia* near the rocks overlooking the falls were wiped with Roundup+Ally+Pulse+Dye.
- 18 Oct 2010 – RB applied Ally, Pulse & dye (0.75 hr, 6 L) on new *Vinca* germinants.
- 18 Oct 2010 – DL, KG, JS & RB (10.00-12 noon)(8 hr total):
    - 180 AWO dug up
    - 465 Wild Gladiolus pulled
    - 25 Wild Iris pulled
    - 45 *Ixia* pulled
    - 30 *Grevillea rosmarinifolia* pulled
- 9 Dec 2010 Julie S & Ainslie W pulled ~300 AWO
- 30 Dec 2010 – RB pulled 315 AWO & 12 *G. Rosmarinifolia*
- 15 Oct 2011 – RB, DM & LM, with Jenny Hurst from SGSC & M Lemmey from Wannon (10.30-12 noon)
    - dug 50 African Weed Orchids (AWO). The AWO tally this year was much less than in previous years.
    - pulled 12 *Grevillea rosmarinifolia* seedlings
- 15 Oct 2011 – RB sprayed *Vinca major* (12 L Ally + Pulse) west of the entry track. A few had flowers. The plants on the periphery were treated first. A shower at 12 noon may have reduced the effectiveness of the work. The appearance this year of many thousands of seedlings is more evidence that control of this pest is very difficult – the seed bank must be immense because our control measures are now in the 7th year, and every year we have destroyed the entire crop.
- 17 Oct 2011 – RB sprayed *Vinca major* (1.5 hr & 12 L Ally + Pulse spray) west of the track as well as around the toilet block (small patches with ~ 50 plants) and 2 trees opposite (a few plants). The infestations west of the track are very dense but intimately mixed with grass. Plants are also still germinating. Further treatment will be needed in summer to achieve a better control.

Two AWO were seen in the reserve in Nov 2007. In 2009 we dug up 50 plants and pulled up another 270. In 2010 the tally was 180 dug and 615 pulled. In 2011 the number of AWO seen and dug was 50. Progress?

The *Vinca* (Periwinkle) is very difficult to eradicate and repeated spraying over 8 years has not been kind to the few residual native plants that survive in the affected area. Our current use of ample wetter (Pulse, 50 mL/10 L) in the spray mix with Metsulfuron Methyl (Ally, Aim or Brushoff, 3 g/10 L) was much more effective in killing *Vinca*. Glyphosate (200 mL/10 L) is included for dense patches of Vinca. To do nothing would see a thick weed blanket over the entire reserve – as it was on the 150 m x 10 m strip W of the track and 50 m x 5 m area E of the track when we started. We will rely on natural regeneration from adjacent native plants to fill the denuded space, but will need to constantly monitor the area to remove later germinants of *Vinca* because there is a heavy seed bank to deal with.

Nigretta Falls Scenic Reserves Indigenous Native Vascular Flora

Surveys by Rod Bird & Cliff Beauglehole from 1975-1985
with further records from 1986-95 (#), 1996-05 ($), 2006-10 (∆) & 2011-2015 (†)
Rod Bird, November 2011

GENUS	SPECIES	VERNACULAR	N3
Acacia	paradoxa	Hedge wattle	#
Acacia	verticillata	Prickly moses	f
Acaena	echinata	Sheep's burr	m
Acaena	novae-zelandiae	Bidgee-widgee	m
Allocasuarina	verticillata	Drooping she-oak	f
Alternanthera	denticulata	Lesser joyweed	p*
Amyema	pendula	Drooping mistletoe	r
Arthropodium	fimbriatum	Nodding lily	m
Arthropodium	strictum	Chocolate lily	m
Austrodanthonia	geniculata	Kneed wallaby-grass	∆t
Austrostipa	hemipogon	Spear grass	f
Baumea	juncea	Bare twig-rush	∆t
Bulbine	bulbosa	Bulbine lily	r†
Burchardia	umbellata	Milkmaids	r
Bursaria	spinosa	Sweet bursaria	f
Caesia	calliantha	Blue grass-lily	p
Caladenia	carnea	Pink fingers	r
Carex	appressa	Tall sedge	∆t
Carex	inversa	Knob Sedge	∆t
Carpobrotus	modestus	Inland pigface	f
Chaemaescilla	corymbosa	Blue stars	p
Cheilanthes	austrotenuifolia	Rock fern	r
Chenopodium	glaucum	Glaucous goosefoot	∆t
Chrysocephalum	apiculatum	Common everlasting	∆t
Clematis	microphylla	Small-leaved clematis	p
Convolvulus	angustissimus	Pink bindweed	m
Crassula	helmsii	Swamp crassula	∆t
Cynoglossum	suaveolens	Sweet hound's-tongue	∆
Cyperus	lucidus	Leafy flat-sedge	r
Dianella	admixta/revoluta	Black-anther flax-lily	m
Dianella	brevicaulis	Small-flower flax-lily	$
Dichondra	repens	Kidney-weed	m
Dillwynia	hispida	Red parrot-pea	r
Distichlis	distichophylla	Australian salt grass	∆t
Diuris	chryseopsis	Golden moths	∆
Drosera	glanduligera	Scarlet sundew	#
Drosera	peltata s auric.	Tall sundew	m
Einadia	nutans	Nodding saltbush	f
Elymus	scaber	Common wheat-grass	∆t
Eragrostis	brownii	Commom love-grass	∆t
Eriochilus	cucullatus	Parson's bands	p
Eucalyptus	camaldulensis	River red gum	f
Exocarpos	cupressiformis	Cherry ballart	r
Ficinia	nodosa	Knobby club-rush	∆t
Geranium	retrorsum	- Crane's bill	m
Geranium	solanderi	Austral crane's bill	#
Glossodia	major	Wax-lip orchid	r∆
Gonocarpus	tetragynus	Raspwort	∆t
Goodenia	geniculata	Bent goodenia	f
Goodenia	humilus	Swamp goodenia	m
Goodenia	lanata	Trailing goodenia	∆t
Goodenia	pinnatifida	Cut-leaf goodenia	r*
Hypericum	gramineum	Small St John's wort	∆t
Hypoxis	glabella	Yellow star	#
GENUS	SPECIES	VERNACULAR	N3

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Hypoxis	glabella v glab.	Tiny star	†
Isolepis	cernua	Nodding club-rush	Δt
Juncus	kraussii	Sea rush	Δt
Juncus	pallidus	Pale rush	Δt
Juncus	pauciflorus	Loose-flower rush	f
Juncus	subsecundus	Finger rush	Δt
Kennedia	prostrata	Running postman	f
Lachnagrostis	filiformis	Common blown-grass	Δt
Lepidosperma	longitudinale	Pithy sword-sedge	Δt
Leptorhynchos	squamatus	Scaly buttons	m
Leptospermum	continentale	Prickly tea-tree	r
Leptospermum	lanigerum	Woolly tea-tree	f
Leptospermum	obovatum	River tea-tree	f
Linum	marginale	Native flax	Δt
Lobelia	anceps	Angled lobelia	Δt
Lomandra	filiformis	Wattle mat-lily	f
Lomandra	longifolia	Spiny mat-lily	f
Lomandra	longifolia	Spiny-headed mat-lily	f
Lomandra	nana	Dwarf mat-lily	Δt
Melicytus	dentatus	Tree violet	f
Microlaena	stipoides	Weeping grass	$
Microtis	unifolia	Common onion-orchid	#
Mimulus	repens	Creeping monkey-face	m
Oxalis	perennans	Grassland wood-sorrel	m
Pelagonium	rodneyanum	Magenta stork's bill	m
Phragmites	australis	Common reed	m
Pimelea	curviflora	Curved rice-flower	#
Pimelea	humilus	Common rice-flower	m
Poa	labillardierei	Common tussock grass	m
Pteridium	esculentum	Austral bracken	f
Ptilotus	macrocephalus	Feather-heads	r
Rumex	brownii	Slender dock	Δt
Schoenoplectus	tabernaemontani	River club-rush	Δt
Schoenus	apogon	Common bog-sedge	Δt
Selliera	radicans	Swamp weed	m
Senecio	glomeratus	Annual fireweed	Δt
Senecio	minimus	Shrubby fireweed	Δt
Senecio	quadridentatus	Cotton fireweed	f
Solenogyne	dominii	- Solenogyne	Δt
Stylidium	graminifolium	Grass trigger-plant	#
Thelymitra	pauciflora	Slender sun-orchid	m
Thelymitra	rubra	Salmon sun-orchid	Δ
Themeda	triandra	Kangaroo grass	m
Tricoryne	elatior	Yellow rush-lily	m
Triglochin	procera	Water ribbons	m
Triptilodiscus	pygmaeus	Common sun-ray	m
Typha	domingensis	Bulrush	Δt
Viminaria	juncea	Golden spray	r
Vittadinia	cuneata	Common New Holland daisy	m*
Vittadinia	gracilis	Woolly New Holland daisy	m
Wahlenbergia	multicaulis	Tadgell's bluebell	m
Wolfia	australiana	Tiny duckweed	†
Wurmbea	dioica	Early nancy	m
GENUS	SPECIES	VERNACULAR	N3
	Number of native species		107

m = many (>100), f = few (>10), r = rare (<10), p = present; * = specimen collected

= incidental new records from Rod Bird, 1986-1995; $ = incidental new records from Rod Bird, 1996-2005
Δ = incidental new records from Rod Bird, 2006-2010; † = incidental new records from Rod Bird, 2011-
Δt = botanical survey by Tim D'Ombrain *et al*. in April-May 2010