Hamilton Field Naturalists Club's proposal to remove *Acacia paradoxa* and *Acacia longifolia* from the Wannon Flora Reserve

Rod Bird April 2019

The Hamilton Field Naturalists Club (HFNC) has an objective to restore the indigenous botanic diversity of the Wannon Flora Reserve by controlling the spread of *Acacia paradoxa* and *A. longifolia* in that reserve. Both species are native flora and we are aware of the need to have permission to remove them. As the Shire of Southern Grampians is the designated manager of this reserve, this Planning Permit application (with a request for a fee waiver) is being made to the Shire, rather than DELWP or to Parks Victoria, the former managers of the reserve.

Historically, part of the reserve had been stripped of gravel and sand before it was acquired by the Dundas Shire in 1959 and given to the then Wannon Falls Committee of Management to manage. That committee entrusted the Hamilton Field Naturalists Club to manage what was then called the '18-Acre Reserve'. HFNC has had a vital interest in this reserve since 1959 and has carried out botanic surveys since that time, as well as providing the original rabbit-proof fencing, removal of truck loads of rubbish and control of weeds. Much effort was made from 1963-1980 to control emerging Hedge Wattle (*Acacia paradoxa*) seedlings – a species that was then a declared agricultural pest because of its thorns. At annual Working Bees, HFNC members pulled out tens of thousands of seedlings over those years. Regrettably, that work ceased after 1980.

The botanic diversity of the Wannon Flora Reserve has been endangered over the last30 years by the dense growth of *Acacia paradoxa* in the area. This has created much difficulty in controlling rabbits and has resulted in suppression of the native flora. Species that were present, and now appear to have vanished, include Blue-spike Milkwort (*Comesperma calymega*), Showy Podolepis (*Podolepis jaceoides*), Shrub Violet (*Hybanthus floribundus*), Greencomb Spider Orchid (*Caladenia tentaculata*) and Plain-lip Spider Orchid (*Caladenia clavigera*). These species and Gorse Bitter-pea (*Davesia ulicifolia*) are not recorded elsewhere on the Wannon or in the district. While the original Gorse Bitter-pea clump and *Allocasuarina pusilla* (Dwarf sheoak) was destroyed by ripping rabbit burrows and or constructing a bulldozed break, there has been a regeneration of the Gorse Bitter-pea species on the heath area but that is now threatened by the invading Hedge Wattle.

The 18-Acre Reserve was designated a Flora Reserve in the late 1980s, following the Land Conservation Council's report of 1982. This significant flora reserve has a historical list of 173 species of indigenous vascular flora, complemented by a further 42 species in the adjacent Wannon Falls Scenic Reserve, bringing the total to 215 species. The Wannon Flora Reserve and the other small reserves on the Wannon River frontages, including Nigretta Flora Reserve and Wannon Rapids Flora Reserve, are the repositories of what remains of the original vegetation of the area before clearing occurred. The LCC Report for SW Area, District 2 (1982) notes that '*…the reserve 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…*'

The EVC for this reserve is *Damp Sands Herb-rich Woodland*, which should only have a Medium shrub cover of 15%, and the list of medium shrubs in the benchmark does not include *A. paradoxa*. There is also a developing problem of intrusion of Sallow Wattle (*Acacia longifolia*) into the heathland. This species is not regarded as indigenous to this area and has seeded there from plantings made many years ago in the Wannon Falls Scenic Reserve. Parks Victoria (Casterton Office) conducted work in 2008 to remove the species from the road verge and inside the reserve on the southern side – since then, with no further control, the species has regenerated.

We believe that the best approach would be to cut out the large *A. paradoxa* shrubs and pull out any seedlings, rather than using fire across the reserve, which would generate an enormous number of seedlings from this species. In 1998, NRE or PV lit a fire in the eastern half of the reserve that resulted in the loss of old hollow Manna Gums without achieving its ecological purpose because it did not run well. Although the reserve had roads on 3 sides, a bulldozer had been used to make destructive breaks in this small reserve. Those breaks did not faithfully follow the boundaries on the east or west sides, making new tracks. It included one strip across the heathland some 25 m from the eastern boundary that removed a significant amount of the native vegetation (including the only patch

of *Allocasuarina pusilla*) and opening up the reserve for the introduction of alien species. We fear that similar approaches to the use of fire to restore this reserve would be equally destructive.

Our plan would be to cut out the invasive *A. paradoxa*, working west from the less infested eastern side (Wannon-Nigretta Rd). Removal of the shrubs would be done in stages, since the population is so great. That would also make it easier to deal with the debris. Our approach would be to spread the cut branches on the bare areas were the standing shrubs had destroyed the heath vegetation. That would give regenerating flora some protection from kangaroos and rabbits as well as minimising damage that would result from trying to remove the spiny debris from the site.

The task of cutting out the tall *A. paradoxa* shrubs will be onerous and we envisage that HFNC, now with an aging membership, will need to gain a grant that will support paid labour to do much of that heavy work. Without that support HFNC will only be able to tackle the eastern heath area [stage 1].

Emerging seedlings would be pulled out by hand in following years, to prevent re-infestation from what will be a substantial soil seed bank. Members of HFNC would volunteer to perform that task.

A map of the Wannon Flora Reserve is shown below.

Notes on the SGSC permit to control invasive native vegetation within the Wannon Flora Reserve.

Conditions applying to the permit:

1. A permit is required from DELWP only for *A. longifolia* removal
2. All persons undertaking works have to be briefed on environmental requirements
3. All persons must have a copy of the permit on site
4. Hand tools only are to be used to clear *A. paradoxa* and *A. longifolia*.
5. Clearing of vegetation must not cause damage to non-target vegetation
6. No vehicles are permitted off the existing tracks
7. Activities on the endorsed plan must be adhered to
8. The permit will expire if either the works have not commenced within 2 years of 04Jan 2019 or have not been completed by 04 Jan 2029.

HFNC's application to remove *Acacia paradoxa* & *Acacia longifolia* from the Wannon Flora Reserve

The following steps were required or undertaken to proceed with this project.

1. **Application to Southern Grampians Shire Council (SGSC), as Committee of Management for the reserve.** This request for a Planning Permit (3 Feb 2018) led to discussion about the status of the land, who was the manager, who was to give written permission and what was the Certificate of Title. With that sorted out, DELWP was then involved and advised that HFNC may need to arrange offsets for the work and must sort out that situation with an accredited native vegetation assessor before any action could be taken. All this before anything could be done to protect a valuable conservation reserve that was ultimately the responsibility of DELWP, whose officers should have been undertaking the work anyway or been able to short-circuit the tedious and time-wasting protocols involved by inspecting the site and delivering a verdict.

2. **SGSC Biodiversity Officer** (Dale Templeton) arranged to make a detailed inspection of the site with Rod Bird and he was able to show that there was unlikely to be any negative impacts on other native vegetation at the site, hence no case for an offset (see Appendix).

3. **Planning Permit Application to SGSC for a fee waiver for planning application** for removal of *Acacia paradoxa* and *Acacia longifolia* from the Wannon Flora Reserve.

4. **Application to Department of Environment, Land Water and Planning (DELWP) –** this concerned the status of *A. paradoxa* and *A. longifolia*. It transpired that a permit was required from DELWP for the removal of *A. longifolia*, as it was protected under the Flora and Fauna Guarantee Act. However there was no such requirement for *A. paradoxa.* A permit was applied for on 28 June 2018, but first required the permit from SGSC to conduct the project, forthcoming on 4 January 2019. The Flora & Fauna Guarantee Act Permit (Number **1/07/02 2019/010**) was granted on 12 March 2019 and remains in force until 31/03/2020.

5. **Application for a Community and Volunteer Action Grant –** our application in March 2018 for a $30,000 grant over 3 years was not successful, although noted as being 'of high quality and recommended by the assessment panel for support should further funding become available this financial year'. As a result HFNC decided to proceed with the planning application and necessary permits in case funding was forthcoming. We would also undertake a small pilot project to develop an approach to the task.

Notes on the DELWP permit to clear A. longifolia from the Wannon Flora Reserve

General conditions:

1. Avoid or minimise impacts on remnant native vegetation
2. No works , stockpiling of spoil in adjoining sites of biological significance
3. Vehicles and plant to operate from existing tracks or cleared weed-free areas
4. Vehicles, equipment and people must not cause unnecessary soil disturbance and all activities must prevent spread of weeds and soil pathogens
5. Work must be timed to not spread seed when material is removed and cut vegetation should not be dragged around
6. Burning of cut material should not scorch retained vegetation
7. All operators must have appropriate environmental training and be aware of fauna and flora requirements and obligations in relation to the permit area
8. All contractors must have access to or carry a copy of relevant documents and specific requirements stated in the permit.
9. All work is under the direction of the permit holder who shall keep a record of contractors or agents involved
10. The permit remains in force until 31/03/2020
11. A summary report of collection activities is required and no further permit will be provided without that summary report.

HFNC Plan for the Removal of Invasive Shrubs from the Wannon Flora Reserve

As outlined in our application to remove *A. longifolia* and *A. paradoxa*, our approach for these species is as follows:

Acacia longifolia – compared with *A. paradoxa* there are relatively few (<500) of this invasive species that require removal. The species is not indigenous to this landscape. They are mainly located on the southern fringe of the reserve. The approach would be to cull all that occur throughout the reserve. The removal would be done by lopping large shrubs and hand-pulling small seedlings. Follow-up work would be envisaged in the following years to pull any seedlings that have emerged.

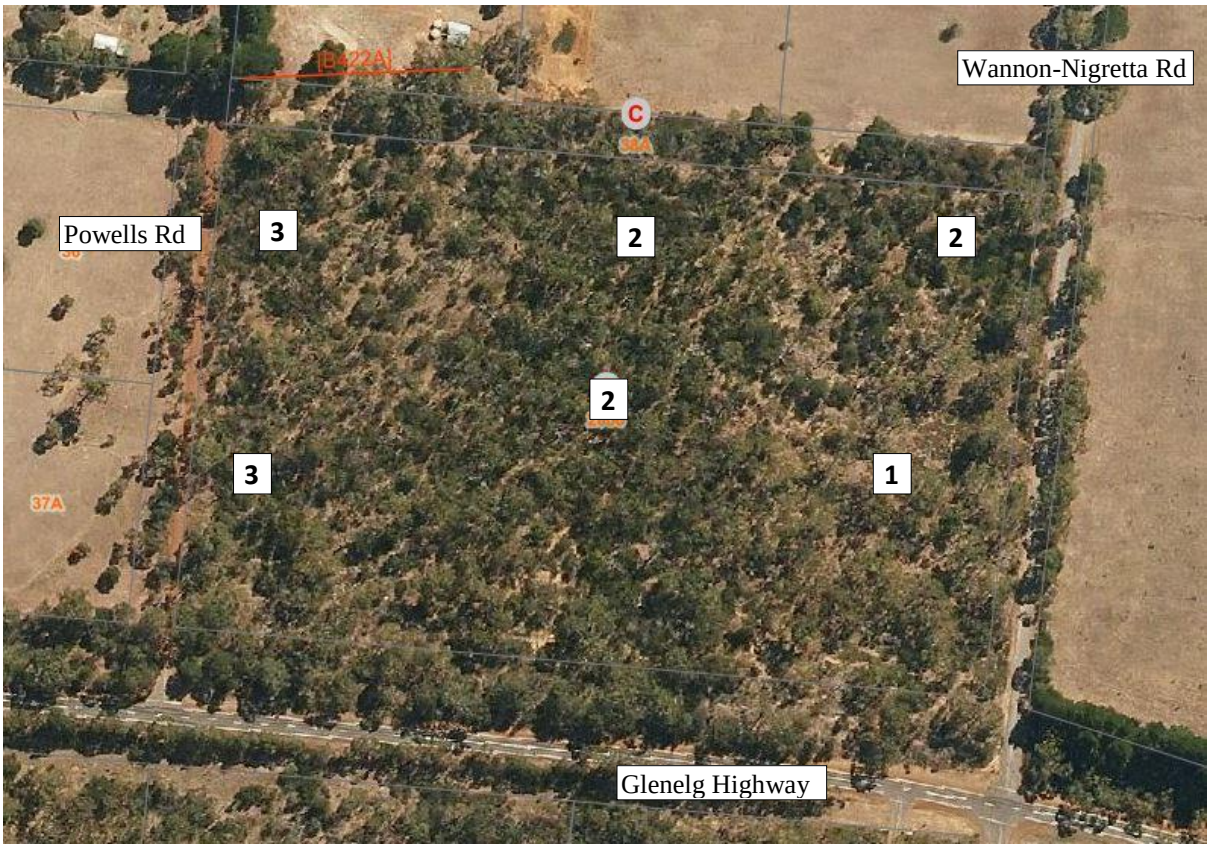
The infestation of *A. longifolia* on the road reserve of the Glenelg Highway would need to be tackled by others, or by us once the objectives for the reserve have been accomplished.

Acacia paradoxa –working from the less-infested NE end of the reserve near Wannon-Nigretta Rd. The <u>first stage</u> involves 2 parts:

- the lightly infested area of heath **[1]** (see photo) will not involve removal of more than about 200 small shrubs. The cut and pulled shrubs in this area can be left *in situ* to degrade since they constitute little biomass and are spread widely across the site.
- this work involves cutting *A. paradoxa* from two 10 m x 10m areas within the Area [2] in the NE corner, painting cut stumps with herbicide in one plot and leaving those in the control plot untreated. This will show whether chemicals are needed to kill the cut shrubs.

The <u>second stage</u> of the work will require the removal of thickets of tall shrubs, mainly in the northern mid-section of the reserve (indicated by **[2]** on the photo). This will substantially contribute to the reduction in required canopy closure for the EVC. As with the first stage, the cut branches will be spread on bare areas and left to degrade, rather than disturbing the site by attempting removal.

The <u>third stage</u> **[3]** would move to the western fringe adjacent to Powells Rd where thickets also occur. This will substantially contribute to the reduction in required canopy closure for the EVC.
The cut shrubs in stage [3] could best be heaped in small piles and burned in winter in bare spots within the reserve. Extensive fires are not desirable since that would remove other vegetation and promote acacia regeneration. Emerging seedlings would be pulled by hand in the years following the cutting out of tall acacia shrubs.



Appendix - Vegetation Quality Assessments for the proposed removal of Hedge Wattle *Acacia paradoxa* from the Wannon Flora Reserve

Background

The Hamilton Field Naturalists Club has been long-term advocate and stakeholder in the protection and management of the Wannon Flora Reserve. Early in 2018 the Club proposed to Southern Grampians Shire Council (as Committee of Management for the land) that they seek a grant to remove areas of Hedge Wattle from the Reserve, particularly areas threatening the most intact areas of heathy understorey vegetation.

DELWP required that a Vegetation Quality Assessment should be applied to those areas planned for initial treatment, and that these inform the scoring of likely losses/gains in vegetation quality as evidence that offsets would not be required as a consequence of the removal of the Hedge Wattle.

Approach

Scoring was undertaken by Dale Tonkinson (SGSC) and Rod Bird (HFNC) on April 24 2018. Three areas were scored, viz. (1) better quality vegetation with heathy understorey, (2) an area previously disturbed by rabbit control works and now being invaded by Hedge Wattle, and (3) a dense thicket of Hedge Wattle. Very low rainfall in the preceding 6 months had allowed few seasonal perennials or annuals to grow, potentially impacting scoring. Accordingly, a 2011 quadrat by Mueck (VBA record 1141132) accurately plotting to the area of good heath understorey was used to verify the recent occurrence of seasonal herbaceous species previously recorded by HFNC; a conservative approach was then used to select a number of the most resilient seasonal perennials for inclusion into the assessment for this area. Where additional species have been included these were shown in parentheses in the "Understorey Life Forms" table on the *VQA Field Assessment* Sheet.

Assessment Results

Table 1 below summarises scoring in that part of the Wannon Flora Reserve proposed for initial treatment (i.e. NE corner of the Reserve)

Vegetation Zone	Site #	Extent (ha)	VQA "scores"		
			Current	Do Nothing	HW Removal
Good heathy understorey	1	1.05	77	69	77
Hedge Wattle Invading	2	0.31	63	59	63
Hedge Wattle Thicket	3	0.24	52	(52)	62

In the VQA sheets for future outcomes (both "do nothing" and "HW removal") changes in scoring indicates where number of species and/or cover of life forms have changed but not influenced the outcome (due to the broad tolerances inherent within the scoring system) or where these changes have led to an altered outcome. The 'Do Nothing' and 'HW Removal' scores in the Table above are based on predicted outcomes 5-10 years hence.

Likely Outcomes of Hedge Wattle Removal

Good ("better") heathy understorey vegetation (the basis of Flora Reserve recommendation by LCC)

This vegetation within the Reserve is predicted to experience a >10% reduction in vegetation quality over the next 10 years if nothing occurs to limit further Hedge Wattle invasion with existing, scattered colonising plants permitted to reach maturity. With a regime of Hedge Wattle removal now (all established plants in this zone through a 'cut and paint' and 2-3 yearly follow up to destroy all new germinants of Hedge Wattle, this vegetation should maintain its existing vegetation quality. We therefore conclude that no loss of vegetation quality would occur as a result of the proposal.

Areas with Hedge Wattle actively invading

This vegetation will almost certainly be of lower vegetation quality (although less than 10% reduction) with no action, but with proposed Hedge Wattle removal would maintain its current quality. We conclude that no loss of vegetation quality would occur as a result of the proposal.

Hedge Wattle thickets (scattered around the NE corner of the Reserve)

These areas are unlikely to degrade significantly over the next 10 years, although lack of recruitment of currently emergent trees and shrub species would likely lead to a reduction in measurable vegetation quality over longer time periods. Proposed Hedge Wattle removal is reasonably anticipated to allow some understorey components to recruit from the few existing individuals or soil seedbanks, or recolonise from nearby areas and therefore lead to a measurable increase in vegetation quality. We therefore conclude that no loss of vegetation quality and most likely an increase in scored quality would occur.

Offset Implications for Planning Permit Application

As no measurable loss in vegetation quality is anticipated, and in some areas a measurable gain is likely, no offset requirement would arise.