



Bilarabyn Reserve

Restoration Management Plan

July 2008

VERESDALE SCRUB



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The *Bilarabyn Reserve Revegetation Management Plan July 2008* is made up of this document and the accompanying map.

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- Flora Species List of the Veresdale Scrub
- Fauna Species List of the Veresdale Scrub
- Reduced copy of Site Plan

Introduction

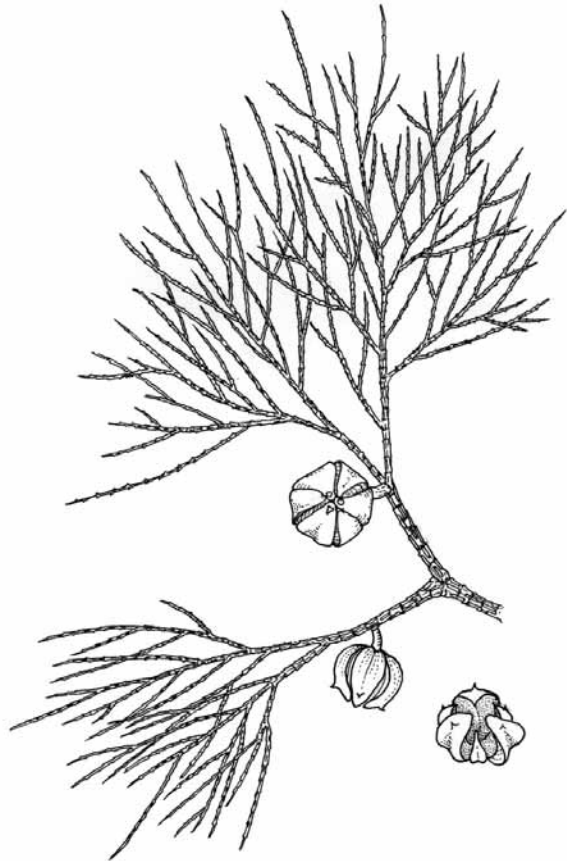
Bilarabyn Reserve is accessed from Panicum Close and Worip Drive, Veresdale. It is an environmental reserve owned by Beaudesert Shire Council.

This report provides a plan to guide the community groups who operate in this Reserve now and in the future. The report includes a description and analysis of the site, a detailed mapped plan for the potential future development of the Reserve and recommendation for the continued rehabilitation and conservation of the Reserve.

This management plan seeks to protect the remaining vegetation and actively revegetate the area, to maintain/enhance biodiversity and enhance the opportunity to sustain the remnants of the flora of this area.

The plan addresses the usage demands of current and anticipated future user groups and the integration of recreational and conservation values of the site.

This *Bilarabyn Reserve Revegetation Management Plan July 2008* has been produced by the Logan and Albert Conservation Association Inc. with the support of a 2005 – 2006 Community Environmental Activity Grant provided by the former Beaudesert Shire Council.



Callitris baileyi – Bailey's Cypress
Artwork - Janet Hauser

Background

Bilarabyn Reserve was originally part of a dairy and grazing property until the property was subdivided for low density residential development by QM Properties under the promotional name of Dairy Pastures Estate.

The reserve includes an old large landslip site. The slip occurred in the 1950's resulting in an unstable slumped area which is mainly covered by grass and scattered wattles and various Veresdale Scrub species. One cluster of remnant vegetation contains the endangered Veresdale Plum – *Pouteria eerwah* on a knoll land formation below the landslip area. This remnant is vulnerable to damage or loss from wild fires due to the surrounding now ungrazed pasture grass.

It was decided to include the reserve as one of the ten sites of the Veresdale Scrub that have been identified in the ten year *Rescue action for the Veresdale Scrub - Strategic plan 2006 – 2016 - Version date 13 March 2006*". The aim of the Strategy is to encourage communities of the Veresdale Scrub to value their natural heritage. Mission of the Logan and Albert Conservation Association (LACA) as part of this strategy is to work with local residents to restore and maintain the Veresdale Scrub for the long term.

LACA proposed the development of this plan as one of the outcome of the 'Rescue action for the Veresdale Scrub – Dairy Pastures Reserve' Community Environmental Activity Grant Project.

The Veresdale Scrub covered a large tract of Mulunjali country before European colonisation stretching from the outskirts of Beaudesert through the areas of Gleneagle, Veresdale, Woodhill and Cedar Vale. The areas of dry vine scrub grew in thick patches intermingled on drier ridges and poorer soils with Eucalypt forests along the western slopes of the Birnam Range down to the Logan River and formed part of a matrix of lowland dry vine forests that occurred throughout South East Queensland and other bioregions along the east coast of Australia.

LACA commenced the project at Bilarabyn Reserve in April 2006 with support from the former Beaudesert Shire Council and assistance with site preparation from the second Beaudesert Greencorps Team (funded by the Australian Government).

Purpose of the plan

LACA has developed this plan in consultation with staff from the former Beaudesert Shire Council (Keith McKosh and Luke Vogler), to provide a cohesive guide for current and future community groups and council to achieve the conservation and restoration of this section of the Veresdale Scrub.

Research

The site was visited on a number of occasions by LACA project team members and former Beaudesert Shire Council staff during 2006 -2007. Aerial maps of the site were obtained and site flora and fauna surveys were carried out by consultants (see attached species lists).

Site Analysis

Bilarabyn Reserve is a large council reserve between Worip Drive and Panicum Close, at Dairy Meadows, Veresdale. The reserve includes an old landslip and small clusters of remnant Veresdale Scrub. The eastern side of the site rises up to form the ridge of the Birnam Range and is comprised of relatively intact Eucalypt forests that continue across Worip Drive to another council reserve. The western lower parts were originally covered by Veresdale Scrub. The park is partly fenced to delineate boundaries and control domestic stock but does not exclude the migration of wildlife. There is an existing walking track along the summit of the park with some seating.

Summary of Vegetation

by Janet Hauser

The Queensland Herbarium Regional Ecosystem mapping shows this parkland area as R.E. 12.9/10.2. *Corymbia citriodora*, *Eucalyptus crebra* open forest/regrowth on sedimentary rocks. This vegetation type does exist on the site to some extent particularly on the highest eastern boundary and slopes. However, there are a number of other species present which indicates differing areas of geology within the survey area.

These species include *Eucalyptus moluccana*, *Corymbia tessellaris*, *Angophora subvenlutina* and *Angophora woodsiana*, with a grassy understorey of *Poa labillardiera*/ *Themeda triandra*.

The grass species, *Austrostipa ramosissima* is present in well drained, shaded, higher slopes and sheltered gullies with a canopy of eucalypts, and mid strata of hardy rainforest species such as *Mallotus philippensis*, *Toechima tenax*, *Notelaea longifolia*, *Flindersia australis*

The lower gully areas contain a number of small isolated patches of regrowth and hardy remnant rainforest species dominated by *Ficus fraseri*, *Elaeocarpus obovatus*, *Hymenosporum flavum*, *Mallotus philippensis*, and vines such as *Austrosteenisia blackii* and *Trophis scandens*. These are remnants and/or regrowth plants of the original Veresdale Scrub (*araucarian microphyll to Notophyll vine forest on sedimentary rocks*. R.E. 12.9/10.16).

The *Araucarian microphyll to notophyll vine forest* - Regional Ecosystem RE 12.9-10.16 has Endangered status under both the Environment Protection Agency,

Biodiversity classification and the *Vegetation Management Act 1999* (under the Department of Natural Resources and Water).

There is one endangered tree species present on site *Pouteria eerwah* – The Veresdale Plum. *Callitris baileyi* which is considered rare is also present in a gully on the southern side of the parkland.

Much of the central area of the park is cleared with a dense grass cover and scattered *Acacia* species, mainly *Acacia maideni*, and *A. disparrima*. An existing dam on site that does not hold water for any length of time is dominated by *Persicaria* species with *Hydrocotyle*, *Pratia* and *Geranium solanderi*.

The introduced legume *Neonotonia wightii* (*Glycine javanica*) is by far the most invasive of the weed species present. However, there are also some areas of *Asparagus africanus* (Asparagus fern) and to a lesser extent *Macfadyena unguis-cati* (Cat's claw creeper).

From the analysis of the site and information provided by the previous owner of the site Mr Robert Harrison, whose family originally cleared and worked the property, this site represents an example of the ecotone and matrix of the upland RE 12. 9/10. 2 open forest and the midslope RE 12.0/10.16 vine forest

An existing walking track and seating is present along the ridge of the Reserve. This track is also frequently used for recreational horse riding.

In sheltered gullies a number of small water holes trap seasonal rainwater providing a vital drinking source for fauna. The site also reveals the remains of a former dam which was damaged by the landslip. The I

Environmental values

The site has significant nature conservation value owing to the presence of the both endangered and rare species present and small remnants of an endangered regional ecosystem. Reversing the decline and progressively restoring the condition of the remnant vegetation will protect these values

The location along the sub-regional wildlife corridor of Birnam Range, the largely intact upland native forest, some vine forest remnant and the relatively large size of the reserve provides important habitat for native fauna.

The large old landslip and resultant churned slump below demonstrate the vulnerability of the site and the surrounding area. There is now a significant amount of low density residential development below the reserve. Increasing the amount of vegetation and large trees on the site will increase the stability of the site and reduce the potential for downstream.

Social values

The Bilarabyn Reserve is named after the Harrison family homestead which take its name from 'Belar', the name the Mulunjali (traditional owners of the area) gave to a local sheoak tree probably *Allocasuarina littoralis*.

The reserve has has high recreational and scenic amenity value. It has an established walking and riding track that connects the end of Panicum Close with Worip Drive. This track receives regular use by walkers and horse riders. The track rises up along Birnam Range and offers spectacular 270 degree views over the Logan valley towards Mt Lindesay and Flinders Peak.

Restoration activity 2006 - 2007

This site reveals a degraded grazing/pastoral landscape showing erosion, weed infestation and regeneration of local endemic species.

Some weed control measures have been undertaken during 2006 and early 2007 since site work began, and despite drought conditions a revegetation program of scrub species tube stock was commenced in the landslip area and knoll area. The low rainfall has held back revegetation growth and work progress, however, given this adversity the results are fair.

A waterline has been laid underground from the top entry of the Reserve down to the revegetation site to assist with ongoing maintenance.

The combination of natural regeneration and revegetation plantings will ultimately provide shelter and sustainability for wildlife in and around the Reserve.

This is currently a project site (Site 2) for the Veresdale Scrub Project team of LACA. LACA requests that you consult with LACA if other activities are proposed for the reserve.

Management recommendations

Goals of the revegetation plan

- 1) To increase the physical area and improve the condition of the Veresdale Scrub and other native vegetation natural to the site*
- 2) To allow for public access to the site for passive recreational purposes*
- 3) Significantly increase the ability of our community to undertake on ground action and management of the Veresdale Scrub*
- 4) Significantly increase the public awareness and understanding of the natural and cultural values of the Veresdale Scrub*

Restoration approach

It is recommended that the restoration of the reserve uses a modified version of the Bradley Method. The Bradley Method advocates that restoration efforts:

- a. Start with knowing where the most intact area of the site;
- b. Improving the condition of these areas if required; and
- c. Progressively working from these areas to connect with and build larger more intact areas.

The reserve has a number of features that modify this approach:

- d. Is predominantly a cleared site;
- e. Has only small patches of original and desirable regrowth vegetation;
- f. Some areas of strongly competitive introduced Kikuyu grass and leguminous vines;
- g. Some relatively isolated and vulnerable seed source trees of an endangered species;
- h. Risk of fire damage to remnant vegetation; and
- i. Lack of closed rainforest microclimate of both dense cover and closed sides.

The recommended restorations priorities therefore are:

- 1) The **general restoration** approach should be:
 - a) To protect and improve existing remnants areas;
 - b) Then progressively by defined stages build upon these areas working along the more protected gullies first.
 - c) Do not remove habitat provided by weed trees and shrubs until adequate alternative nearby vine scrub areas are established.

- d) Manage weed threats in areas still to be restored – treat re-infestations of known key weed species of vine forests - vines, trees and shrubs (eg cats claw creeper, lantana, camphor laurel, Chinese elm etc.)
 - e) Do not move onto new areas until the first defined areas are completed.
 - f) Completed means:
 - i) all invasive weed species removed,
 - ii) the areas has existing or newly established plants growing at a density of approximately 3m spacing
 - iii) exotic grass species are completely control for at least one year to allow vine forests tree and shrub species to dominate.
 - iv) the perimeter of the defined areas are maintained as smaller fire breaks - grass kept low cut and weed trees and shrubs are removed.
 - g) The reserve has a south westerly aspect and receives strong hot winds – only attempt replantings if:
 - i) soil moisture levels are high and volunteers and equipment and labour for at least two follow up waterings are available
 - ii) area is well prepared areas – weed free, at least 1m radius free of grass.
 - iii) Fertilize, use water crystals and weed mats or if grass is nearby mulch well
 - iv) Ensure volunteers and equipment for at least two follow up weeding are available
- 2) **Area A** - Aim to improve the growing conditions and protection of the seed source tree of the endangered *Pouteria eerwah* and surrounding other remnant trees at Area A and canopy closure with vine forest species.
- a) Maintain a fire break track around the area
 - i) Maintain the planted areas free of grass for at least one year for at least one year to allow vine forests tree and shrub species to dominate
 - b) Remove any new weed trees and shrubs as they emerge
 - c) Continue the revegetation of this area with vine forest trees and shrubs
 - d) Replace unsuccessful plantings first
 - e) Harvest and propagate fruit from *Pouteria eerwah* under licence from the EPA and establish seedlings in other restoration areas in the reserve and other sites identified in the *Rescue action for the Veresdale Scrub - Strategic plan 2006 – 2016*.
- 3) **Area B** (partially restored location) – Aim to achieve canopy closure with vine forest species.
- a) Maintain a fire break track around the location
 - b) Maintain the grass within the location at a short length and remove grass completely for at least 1m around plants selected for retention and mulch where possible.
 - c) Continue removal of weed tree and shrubs as the emerge
 - d) Continue the revegetation of this location with vine forest trees and shrubs
 - e) Replace unsuccessful plantings first
 - f) Plant *Pouteria eerwah* seedlings only from parent trees within the overall Veresdale Scrub area from authorized growers.

4) Additional areas using volunteer labour

- a) Only proceed to additional areas once preceding areas are completed and adequate volunteers and seedling and other resources are available for all stages – site preparation, planting and most importantly watering and weeding follow ups.
- b) Establish a fire break track around the area.
- c) Assess whether there is adequate nearby habitat to allow removal of weed tree and shrubs.
- d) Exotic grass species are completely control for at least one year to allow vine forests tree and shrub species to dominate
- e) Replant location with vine forest trees and shrubs only when soil moisture levels are high and volunteers and equipment for at least two follow up watering and weeding sessions are available.
- f) Only plant seedlings from seed collected from plants within the overall Veresdale Scrub area.
- g) Replace unsuccessful plantings first and progress to other parts of the location.

5) Additional areas using fully funded external organizations

- a) Use this option when fully funded external organizations are prepared to work to the goals of this plan and the following approach.
- b) Do not damage existing remnants areas and individual plants;
- c) Manage weed threats in areas to be restored.
- d) Do not move onto new areas until the first areas are completed.
- e) Completed means:
 - i) all invasive weed species removed,
 - ii) the areas has existing or newly established plants growing at a density of approximately 3m spacing
 - iii) exotic grass species are completely control for at least one year to allow vine forests tree and shrub species to dominate
 - iv) the perimeter of the defined areas are maintained as smaller fire breaks - grass kept low cut and weed trees and shrubs are removed.
- f) The reserve has a south westerly aspect and receives strong hot winds – only attempt replantings if:
 - i) soil moisture levels are high and equipment and labour for at least two follow up waterings are available
 - ii) area is well prepared areas – weed free, 1m radius free of grass.
 - iii) Fertilize, use water crystals and weed mats or if grass is nearby mulch well
 - iv) Ensure labour and equipment for at least two follow up weedings are available

Recreation

The establishment of additional minor walking tracks will improve the passive recreational value of the reserve. The steep terrain of the site however will dictate that the number of these tracks will be limited and similar to the established will only be graded as difficult and suitable for less able walkers.

The recommended recreation priorities therefore are:

- 1) Maintain the existing main track in a safe condition for walkers and horses
 - a) Consider a safety advisory sign – likely hazards - rough terrain, loose rocks, steep cliff along landslip, galloping horses, pedestrians etc.
- 2) The lower boundary of the reserve is poorly defined.
 - a) Establish a walking, maintenance access and fire break track along the lower western boundary of the reserve that will also clearly indicate the boundary
- 3) Minor tracks should be maintained as fire breaks
- 4) As funds and other resources allow upgrade some of the minor tracks for easier management and safer visitor walking and volunteer access.
 - a) Maintain as unsealed tracks
 - b) Reduce very steep unsafe section of track
 - c) Reduce any eroding sections of track
 - d) Fill or simply bridge low/wet sections of track
- 5) Install an information sign at the Panicum Close entrance to the reserve that provides an overview of the site and the planned restoration process.
- 6) As funds and other resources allow, install existing and/or develop small interpretative signs on the flora, fauna and other features of the reserve

Fire management

The reserve contains fire intolerant endangered vegetation and species and the high fuel load of mainly pasture grasses. Fire is a major risk for both the nature conservation values and nearby properties and visitors to the reserve.

The recommended fire management priorities therefore are:

- 1) That Scenic Rim Regional Council, Woodhill Rural Fire Service, LACA in consultation with the SEQ Fire and Biodiversity Consortium and local residents develop a Bilarabyn Reserve Fire Management Plan that:
 - a) Effectively minimizes threat to neighbouring properties
 - b) Effectively excludes any fire from established and developing vine forest areas including:
 - i) Maintenance regime for restoration area fire breaks
 - ii) Actions to be taken in preparation for and during extreme fire risk periods
 - iii) Actions to be taken if fire threatens vine forest areas
 - c) Establishes fire management regimes appropriate for the vegetation communities in the non vine forest areas using planned program including:

- i) Long term schedule of matrix for burning
- ii) Clearly indicates how planned burning will exclude fire from the vine forest area including condition under which burning must not occur
- d) The fire management plan should clearly communicate the priorities for managing of unplanned fire outbreaks and the role of interested organizations.
 - i) The plan should made available to all neighbours and interest parties and be available on the web
- e) A permanent record including GIS based maps of fire management actions and fire history should be established
 - i) This record should include monitoring of the short and long ecological outcomes of the fire regime
- f) The plan should be reviewed at least every two years and all interested parties should be informed of any activities on the site that will require modification of the management plan or agreed actions.

Infrastructure

The reserve has the following infrastructure:

- look out seating area
- access gates and bollarding or fencing at both entrances
- some limited signage
- a water line from the Panicum Close entrance down to the restoration Area A.

As the reserve is not suitable for high volume recreational use there is little need for significant infrastructure investment in the reserve.

- There is an opportunity to establish a suitably designed low visual impact seating and sun shelter at the Panicum Close entrance.

Lack of access to water is a key restriction to establishing new plants with a high degree of success. As already indicated the reserve is a high fire risk area, access to a reliable water supply would assist in fire management activity. It is recommended that:

- A water tank is established at high but discreet location along the main track.
- The installation of a solar powered bore to feed the water tank be investigated.