ATTACHMENT TO AGENDA ITEM

Ordinary Meeting

17 February 2015

Agenda Item 9.5 **Crouching Emu Revegetation Project - Final Report and Handover Report 2014**

Crouching Emu Revegetation Project – Roadside revegetation assets

Handover Report from Sustainability and Environment Branch - 2014

Project managed from 2006 to 2013 by Sustainability and Environment Branch Officers

- Tracy Taylor
- Marisa O'Halloran
- Ann Roberts
- Travis Turner

This report provides a description of the revegetated areas of the Dhurringile Road, Tatura roadside and identifies ongoing management activities and recommendations. A list of relevant TRIM documents to assist those managing the site is provided on page 6. Please contact Travis Turner, Sustainability and Environment Officer (extension 816) for any further queries or assistance.

1. Project Background

The Crouching Emu Revegetation Project was a Council managed (Sustainability and Environment Team), Tatura community driven project that commenced in 2006 and concluded at the end of 2012. The project was officially launched on 6 December 2006 with an ongoing commitment from Council to contribute $12,000 per year for five years.

The Project's mission was to establish an environmental corridor containing indigenous species along Dhurringile Road, Tatura. Key components of the Project were to protect and enhance the remnant native vegetation present along Dhurringile Road through extensive revegetation activities and a community engagement process to increase environmental awareness.

The project's major stakeholders formed the Crouching Emu Revegetation Project Committee to ensure that all the projects objectives were achieved. This committee contained representatives from:

- Greater Shepparton City Council, Sustainability and Environment staff
- Goulburn Murray Landcare Network (GMLN)
- Dhurringile and District Local Area Plan/ Dhurringile and District Landcare Group
- The Department of Primary Industries (DPI)
- Tatura Revitalisation Committee
- Generations Church ACC, Tatura
- Transition Tatura.

Between 2006 and 2012, this committee (and the organisations and groups they represent) contributed project management, site management, planting and site maintenance, coordination of school and community planting days, and other school and community education activities.

2. Ongoing management responsibilities

The Project is now complete and the committee disbanded. Council Officers and the Project Committee have finalised this handover report to officially handover the management of the revegetated roadside areas from the Crouching Emu Revegetation Project Committee to Greater Shepparton City Council's Landscaping and Native Open Space Team. Figure 1 outlines the extent of revegetated roadside and indicates which sites the Landscaping and Native Open Space Team is responsible for maintaining.

Tatura community groups may occasionally perform maintenance activities along the Dhurringile Road roadsides if and when they have the capacity to do so. Council will be notified when this will occur.

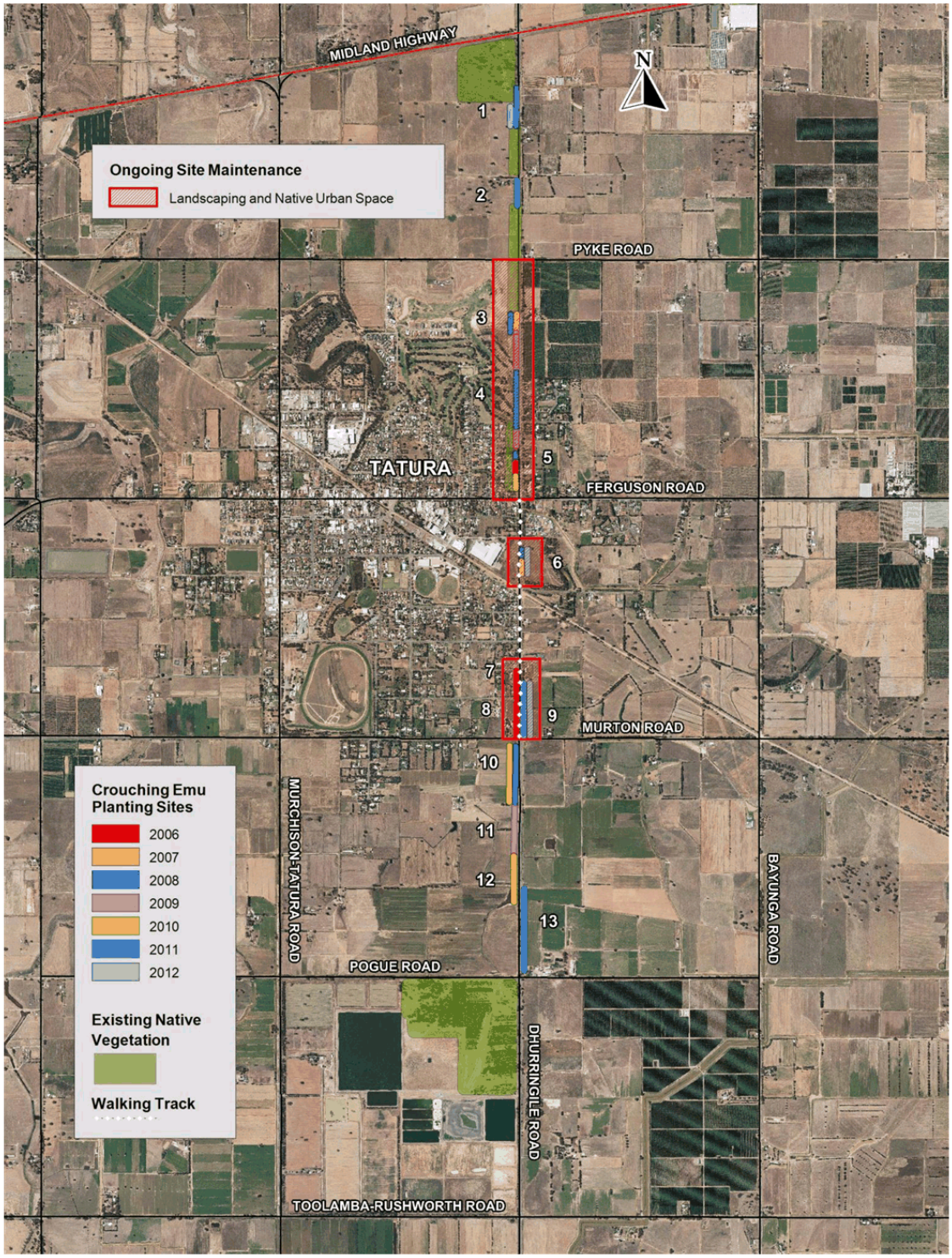


Figure 1: Crouching Emu roadside revegetated sites and walking path location

3. Site management recommendations

These management recommendations were current during the development of this report. It is expected that some adaptive management will need to be adopted if management priorities change over time. The Crouching Emu Project Committee and the Sustainability and Environment Team have developed these recommendations.

3.1 Roadside verge slashing

During the life of the project, Greater Shepparton City Council staff have slashed the roadside verge along Dhurringile Road between the town entry signs.

Recommendation: *Continue roadside slashing along this length of the roadside verges.*

3.2 Weed management

It is very important that best practice weed control continues at Site 5 (north of Hogan St, opposite the Generations Church) to prevent weed species from outcompeting the significant native species present. This site contains the most significant patch of native vegetation along Dhurringile Rd. This highly valued site contains remnant vegetation including Twining and Variable Glycine (*Glycina clandestina and G. tabacina*), several species of Spear (*Austrostipa spp.*) and Wallaby Grasses (*Austrodanthonia spp.*), Wattle-mat Rush (*Lomandra filiformis*), Black-anther Flax-lily (*Dianella revoluta*), and a stand of Yellow Box (*Eucalyptus meliodora*) and River-red Gums (*Eucalyptus camaldulensis*). This is the only known location in the wider Tatura landscape where these species occur naturally together.

The native vegetation at some of the older sites is very well established and regeneration of hop bush and wattle species have been occurring (ie. sites 7 and 8). Many of the sites also have well establishd patches of groundcovers (such as dianella and a variety of saltbush species). Care needs to be taken to avoid any harm to these groundcover species or seedlings where possible.

Non-woody weeds

The plants along Dhurringile Road will continue to be threatened by weeds smothering and outcompeting them for water and nutrients, especially where the plants are young and small (Sites 1, 2, 6, 9 and 13 have plantings less than two years old).

Recommendations:

- *All sites require ongoing weed management. Brush cut around the younger plants and control declared noxious species as required.*
- *Site 1, 2 (near the gas substation driveway) and 6 require vigilant control of Caltrop and Paterson's curse.*
- *Site 5 and 6 (particularly in the grassy areas) need to be monitored for Chilean Needle Grass.*
- *The walking path runs through sites 6, 7 and 8. These sites require mulching and spot weed application.*
- *Careful weed management needs to be conducted by staff with native vegetation identification experience, especially at Site 5.*

Woody weeds

Although woody weed control has been ongoing, many woody weeds will continue to invade the revegetated roadsides.

Recommendation: *Continue to monitor the revegetated areas for woody weed species such as Desert Ash, Briar Rose, Cotoneaster, Privet, Olive and Boxthorn and control utilising the appropriate control method.*

3.3 Removal of tree guards

Several sites contain plants that are young and small that still have guards attached (particularly from sites planted within the last two years (Sites 1, 2, 6, 9 & 13)).

Recommendation: *Sleeve guards will need to be removed as plants become established.*

3.4 Pruning and removal of dead plants within town boundary

It is important to keep aesthetic appeal and reduce incidences of scratches to path users where there is path access (Sites 6, 7 and 8) within the town boundary.

Recommendation: *Prune shrubs as they mature and encroach upon the path and remove dead shrubs annually. Replant the gaps with groundcovers or low growing shrubs to allow visual breaks in the plant corridor for pedestrians. This applies to Site 6, 7 and 8.*

3.5 Significant site management

Site 5 is the most significant site along Dhurringile Rd due to high species richness and the presence of protective act listed species that are only located at this site.

Recommendation: *The Sustainability and Environment Team will organise the placement of significant roadside vegetation signage at each end of the site during the 2013/2014 financial year.*

3.6 Other recommendations for future activities

Recommendations from the community for further enhancement of Dhurringile Rd have arisen from the final report community survey and personal communications with landowners and Tatura residents.

Extend walking paths

Extension of the walking paths to the North and South of Tatura and providing links to other walking/bike path networks in Tatura was the most common request or suggestion received by the community during the community survey. This has also been raised during Tatura Community Plan Implementation Committee meetings.

Recommendation: *The Tatura community should discuss opportunities for this with Council via the Tatura Community Plan Committee. If Council decide to invest in the extension of the walking paths, the construction of a walking path to the north of Hogan St would need to be located along the edge of the plantings, not through them. The path at Site 5 would need to be carefully placed to ensure little disturbance occurs to the remnant vegetation. Any activities at this site need to be carefully managed to ensure that disturbance is kept to an absolute minimum. Council's Sustainability and Environment Team will need to be included in the consultation process during the planning stage for any activity planned for the site.*

Seating

Community survey respondents also requested the installation of seats at a number of places along the path for walkers to rest or be able to sit and enjoy the ambiance of the plantings. Many walking path users are elderly residents of Moyola cottages who have expressed their interest in having seats available for a rest along the path.

Recommendation: *The Tatura community should discuss opportunities for this with Council via the Tatura Community Plan Committee. If Council decide to install seating, Site 6 in particular would be an ideal location.*

Horse riding and dog droppings

Path users have raised concerns about horse riders digging up the gravel path and dog droppings spoiling the walk (particularly at Site 7 and 8).

Recommendations:

- *Explore the feasibility of installing dog dropping bag dispensers to improve the cleanliness of the area.*
- *Explore the feasibility of installing signage to discourage horse-riding activities to help reduce path maintenance and increase the paths appeal to walkers.*

Community awareness and education about weed invasion

The Sustainability and Environment Team will investigate opportunities to undertake an information and awareness campaign about problematic woody weed species (in particular garden escapees) and the impact they are having on our environment and revegetated sites.

Recommendation: *This lies within the scope of the Environmental Sustainability Strategy 2014-2030.*

Safety concerns at road and train crossings

The community has raised safety concerns relating to the gutter where the walking path crosses the road at Dhurringile Rd and O'Reilly Rd. Both roads have heavy local traffic and are used by trucks coming to and from local industries.

Recommendation: *Investigate the feasibility of installing of an easy ramp for prams, the elderly, and children on bikes to negate the gutter.*

Safety concerns were also raised regarding the lack of path at the train line crossing. The path currently leads users onto the road at the crossing and commences again on the other side, perhaps because all vehicles must come to a complete stop at the crossing the safety concern was reduced.

Recommendation: *Investigate the potential to construct a path between the tracks so pedestrians, prams and cyclists do not need to walk on the road.*

4. TRIM numbers:

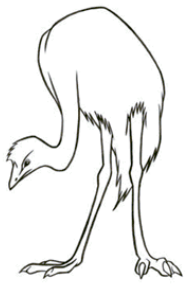
Container:	31/652/0002	Environmental Management - Projects – Crouching Emu Project	
Reports:			
Final Project Report (2013)	M13/69834	Initial Vegetation Survey Report (2006)	M13/58235
Strategic Plan (2011-2015)	2011/8342	Brochure (2013)	M13/70204
Mid – Project Assessment Report (2009)	M09/14984		

Please note: Crouching Emu site numbers are listed in this report in numeric order from north to south (for ease of communication) but they do not match with the historic site numbers as listed in the Final Report. Please refer to Table 1 below for the list of sites in this handover report and the corresponding site number in the final report.

Table 1: Crouching Emu site numbers

Handover Report	1	2	3	4	5	6	7	8	9	10	11	12	13
Final Report	3	14	2	4	1	5	9	7	13	8	10	11	12

THE CROUCHING EMU REVEGETATION PROJECT FINAL REPORT



A HIGHLY SUCCESSFUL COMMUNITY DRIVEN ENVIRONMENTAL PROJECT

Written by Travis Turner (Greater Shepparton City Council) and Wendy D'Amore (Goulburn Murray Landcare Network) on behalf of the Crouching Emu Revegetation Project Committee

GREATER SHEPPARTON

Goulburn Murray Landcare

GOULBURN BROKEN CATCHMENT MANAGEMENT AUTHORITY

generations CHURCH ACC

State Government Victoria

transition town TATURA

Acknowledgements

The Crouching Emu Revegetation Project Committee would like to take this opportunity to thank and acknowledge the following people and organisations, both past and present who contributed an enormous amount of time and effort to ensure the success of the Crouching Emu Revegetation Project.

The following community Committee members oversaw the realisation of the project from start to finish: the Goulburn Murray Landcare Network and the Dhurringile and District Landcare group members John Laing and Wendy D'Amore; Terry Court and the Tatura Revitalisation Committee (the Tatura Revitalisation Committee was instrumental in starting the project); Ron Mallon, Minister at the Generations Church ACC, Tatura. Transition Towns Tatura (Ross Musolino in particular) also sat on the Committee and contributed to the outcomes of the project over the final few years. This knowledgeable, committed, passionate group of people voluntarily donated a great amount of their time to improve their local environment and community.

The following organisations had several Committee members involved along the journey. The Greater Shepparton City Council project managers were Sustainability and Environment Officers Tracy Taylor, Marisa O'Halloran, Ann Roberts and Travis Turner with support from their manager, Greg McKenzie (Manager, Environment). Department of Primary Industries Officers Gemma Beard, Chelsea Nicholson, Nickee Freeman and Jen Pagon, were also important contributors.

Students and teachers from all three Tatura Primary Schools (Tatura Primary School, Sacred Heart School, Bethel Christian College) and Mooroopna Secondary College, along with Dhurringile Road residents and the wider Tatura community are thanked for their involvement in annual National TD plantings, watering and site maintenance. Joe Masters and the Mission Australia National Green Jobs Corps youth work crew (formerly the GV REEP work crew) also provided countless hours of labour at no charge.

The Goulburn Broken Catchment Management Authority (GB CMA) contributed financial support via several community education and awareness grants. Thanks in particular to Chris Norman (CEO), Tony Kubiel and Rachael Spokes for their support. The Tatura Guardian and Tatura Area Community Bulletin provided continuous publicity to raise the community's awareness of project activities.

The committee would finally like to thank Don Roberts from BirdLife Australia, Michael Lea-Whyte, Craig Tuhan, Phil Hunter, Graham Donaldson and Bernie Hughes for their ongoing involvement and contribution to the project's successes.

Contents

1 Executive Summary

The Crouching Emu Revegetation Project (the Project) was a Tatura community driven project that commenced in 2006 and concluded at the end of 2012. The Project's mission was to establish an environmental corridor containing indigenous species along Dhurringile Road, Tatura. Key components of the Project were to protect and enhance the remnant native vegetation present along Dhurringile Road through extensive revegetation activities and a community engagement process to increase environmental awareness.

This Final Project Report has been written to outline the Project's original objectives and explore how successful the project has been at achieving them.

By the end of 2012 the Crouching Emu Revegetation Project had accomplished the following major achievements:

- The density and diversity of native species has been greatly increased with over 13,000 indigenous plants planted over the last seven years.
- Approximately 8km of environmental corridor containing indigenous vegetation will have been established linking the pre-project patches of remnant native vegetation.
- Weed species are greatly reduced in numbers and woody weeds such as willow and peppercorn are now largely absent from the roadside.
- Walking paths have been constructed through the planted vegetation to encourage pedestrian and bicycle use and will allow for increased accessibility and appreciation of these enhanced areas.
- Aesthetics of town entrances have been greatly enhanced.
- The Project was nominated for two Tidy Towns Sustainable Communities 2011 Awards (State finalist in the Community-Government Partnership category).

The substantial achievements of the Crouching Emu Revegetation Project are proof that the community can make extensive improvements to their local environment over very short time periods. The key to achieving these successes has been a strong emphasis on community engagement and establishing strong partnerships between state and local government, community groups and the community themselves. Other important components of the Project were monitoring the success of revegetation activities across the sites and evaluating the community's awareness of the Project over time.

Now that the Project is complete and the committee disbanded, it is time to hand over the management of the revegetated roadside areas from the Crouching Emu Revegetation Project Committee (the Committee) to Greater Shepparton City Council's Landscaping and Native Open Space Team.

This document contains management activities and recommendations to guide the management of the revegetated sites into the future. It is hoped that the contents of this report will assist other environmental/community projects to achieve similar successes.

2 Introduction

The Crouching Emu Revegetation Project was officially launched on 6 December 2006 by Greater Shepparton City Councillor Bruce Wilson and concluded at the end of 2012. The overarching aim of the project was to establish an environmental corridor, primarily containing indigenous species along Dhurringile Road, Tatura, between the Midland Highway and Toolamba/Rushworth Road. This corridor would link existing and potential environmental features through revegetation activities involving the local Tatura community.

In January 2006, a comprehensive vegetation survey of Dhurringile Road was conducted to determine the flora species present and assess the quality of the vegetation communities within the project area. The survey concluded that although large proportions of the roadside was highly disturbed, the vegetation communities and significant indigenous species were present which required considerable conservation priority.

2.1 Project mission

The mission of the Crouching Emu Revegetation Project was to establish an environmental corridor that primarily contains indigenous species along Dhurringile Road, Tatura, between the Midland Highway and Toolamba-Rushworth Road.

2.2 Project vision

The vision of the Crouching Emu Revegetation Project was to establish the environmental corridor by protecting the native vegetation present and enhancing it through extensive revegetation activities. Community engagement and increased environmental awareness are key components to the project and community participation is recognised as vital to the success of the revegetation and environmental enhancement activities.

2.3 Project objectives

The following key strategic objectives were outlined to achieve the project's mission:

- Establish an environmental corridor, primarily containing indigenous species.
- Increase the conservation value of the vegetation communities along Dhurringile Rd.
- Conserve areas less affected by disturbance and containing significant indigenous plant species.
- Significantly reduce pest plants through weed management coordinated in collaboration with adjacent landowners.
- Enhance town entrances and encourage pedestrian and bicycle access.
- Increase community awareness and education, especially in regard to indigenous plants and weed management.

2.4 Project management and budget

Greater Shepparton City Council has supported the project for the past seven financial years by both financial and in-kind support. Council's financial contribution was an annual budget allocation of $12,000 from 2006 to 2010 then $6,000 in 2011/12 and $6,300 2012/13. This funding has paid for site preparation activities, weed control, plants, planting and planting equipment, plant watering, buses to transfer school children for planting days and publicity brochures. Council also made in-kind contributions via their Sustainability and Environment Officer in allocated time to co-ordinate the Project. The Goulburn Murray Landcare Network and Department of Primary Industries contributed project coordination through the Local Area Plan facilitator and coordinator positions until 2011. This was then continued by a Goulburn Murray

Landcare Network Project Officer. The Goulburn Broken Catchment Management Authority (GBCMA) also contributed almost $8,000 towards the projects activities via three Small Community Education and Awareness Grants.

2.4.1 The Crouching Emu Revegetation Project Committee

The Project's major stakeholders formed the Crouching Emu Revegetation Project Committee to ensure that all the projects objectives were achieved. Throughout the life of the Project the Committee contained representatives from:

- Greater Shepparton City Council
- Goulburn Murray Landcare Network (GMLN)
- Dhurringile and District Local Area Plan/ Dhurringile and District Landcare Group
- The Department of Primary Industries (DPI)
- Tatura Revitalisation Committee
- Generations Church ACC, Tatura
- Transition Tatura.

For the past seven years members of the Crouching Emu Revegetation Project Committee (and the organisations and groups they represent) have contributed to the Project via project management, site management, planting and site maintenance, coordination of school and community planting days, and other school and community education activities.

2.4.2 Other key project contributors

Along with the Dhurringile Road residents and Tatura community, the following schools and groups have made significant contributions to the outcomes of the project:

- Tatura Primary School
- Sacred Heart School
- Bethel Christian College
- Mooroopna Secondary College
- Tatura Girl Guides
- Mooroopna Girl Guides and Scouts

The successes of the Project would not have been possible without the hard work and commitment from the Mission Australia National Green Jobs Corps work crew (formerly known as the Goulburn Valley Regional Environment Employment Program (GVREEP)), who provided countless hours of labour at no charge. The Goulburn Broken Catchment Management Authority (GBCMA) also provided financial support to the Project via several community education and awareness grants. The Tatura Guardian and Tatura Area Community Bulletin have provided wonderful support by publishing articles on the Project activities.

2.5 Final Project Report 2013 rationale

The purpose of this final report is to provide an overview of the projects major accomplishments, evaluate project successes, outline key project learning's and make recommendations for the future management of the Dhurringile Road roadside. This document contains management activities and recommendations to guide management of the revegetated sites into the future. It is hoped that the contents of this report will also assist other environmental/community projects to achieve similar successes.

This report is also a companion document for the official Council Handover Report for the management of the revegetated roadside areas. From 2014, Greater Shepparton City Council's Landscaping and Native Open

Space Team is responsible for maintaining the revegetated areas between Pyke Road and Murton Road. Figure 1 (below) was sourced from the Handover Report and the site numbers are labelled from the north to the south. Figure 3 (page 11) displays the site numbers that match the descriptions in this Final Report. Tatura community groups may occasionally perform maintenance activities along the Dhurringile Road roadsides if, and when they have the capacity to do so.

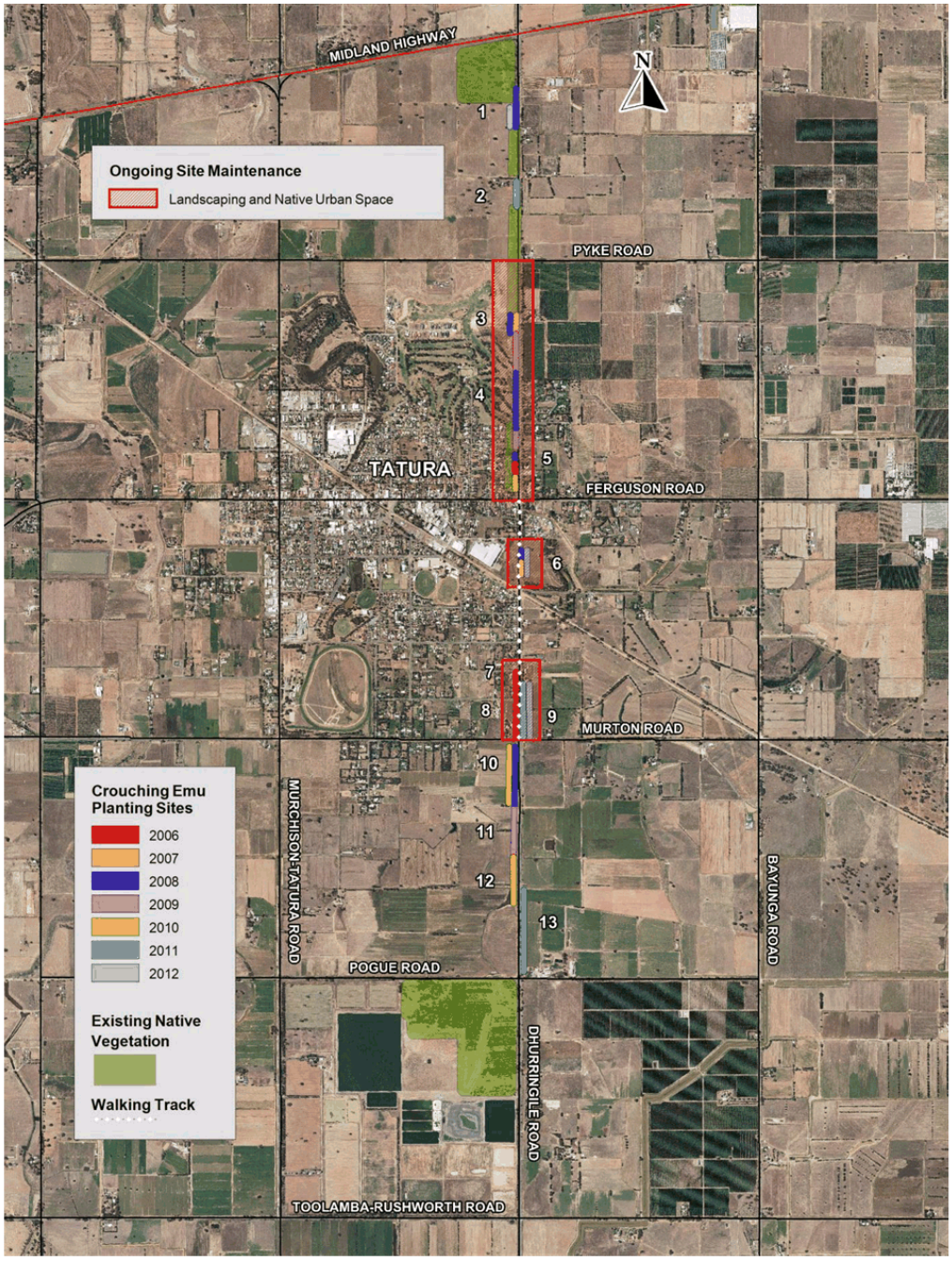


Figure 1: Crouching Emu roadside revegetation sites and walking path location map

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3 Landscape history and pre-project native vegetation present

The Tatura landscape (and wider catchment region) has been subjected to variety of agricultural pressures and the widespread clearing of native vegetation since European settlement. This has resulted in a highly modified landscape containing fragmented ecosystems with limited indigenous shrub and ground layers. Nutrient runoff earthworks and other construction works have degraded natural systems and provide ongoing disturbance from fertilizer overuse, irrigation water runoff, channel seepage, slashing, road works, events that lead to weed invasion. This has led to a shift in the competitive advantage from indigenous to exotic species and reduced the ecological integrity of ecosystems along Dhurringile Road.

Pre-project assessments found that the Dhurringile Road roadside contained scattered remnant vegetation of Ecological Vegetation Class (EVC) Plains Woodland, an endangered vegetation community within the Victorian Riverina Bioregion (and the City of Greater Shepparton). The roadside contained healthy stands of remnant Grey Box (*Eucalyptus microcarpa*) and Yellow Box (*Eucalyptus melliodora*), with an occasional patch of native shrubs or groundcovers. Ground cover species included remnant populations of Spear grasses (*Austrostipa* spp.), Wallaby grasses (*Austrodanthonia* spp.), Black-anther Flax-lily *(Dianella revoluta*), Wattle mat-rush (*Lomandra filiformis*) and the highly significant species, Variable Glycine (*Glycine tabacina*) (Figure 2) and Twining Glycine (*Glycine clandestina*).

The south-west corner of the Dhurringile Road and Midland Highway intersection contains highly significant remnant native vegetation and has excellent biolink potential. The site contains many large, old Grey Box trees but also includes a single Buloke (*Allocasuarina luehmanii*) individual (listed as threatened under the Flora and Fauna Guarantee (FFG) Act) and two white Cypress-pines (*Callitris glaucophylla)*. These were once widespread species but now largely absent from the wider landscape.

It was decided that the remnant native vegetation along Dhurringile Road (as well as the large width of the road reserve) provided an ideal opportunity to create an environmental corridor linking these isolated vegetation communities and fauna species to the north and south of Tatura.

Figure 2: Variable Glycine (*Glycine tabacina*) Photo: Phil Hunter 2006

4 Project reporting

This Final Project Report compliments and builds upon the findings of three other reports produced for the project.

4.1 Vegetation survey of Dhurringile Road (Midland Hwy to Sewerage Farm) 2006

This pre-project roadside vegetation survey report was written by Phil Hunter in June 2006 to identify the native vegetation present along the Dhurringile Road roadside and outline management recommendations for the project committee to undertake. The report summarised a comprehensive vegetation survey of Dhurringile Road (undertaken January 2006) to determine the flora species present and assessed the quality of the vegetation communities within the project area. The report concluded that although large portions of the roadside were highly disturbed, the vegetation communities and the significant indigenous species present required considerable conservation priority. This report slightly preceded the formation of the Crouching Emu Revegetation Project Committee.

4.2 Mid-project Assessment Report 2006 - 2009

The Mid-project Assessment Report 2006 – 2009 was written on behalf of the Committee by Ann Roberts (Greater Shepparton City Council, Sustainability and Environment Officer) & Travis Turner (Natural Resource Management student, University of Melbourne). This report detailed the project's accomplishments for the first three years and discussed how project activities were progressing in the achievement of the key objectives. The environmental improvements of the roadside were measured via ecological assessments across the revegetation sites whilst community surveys were conducted to obtain an understanding of the attitudes of residents and participant schools. This report also contained recommendations for future project activities.

4.3 Crouching Emu Revegetation Project Strategic Plan 2011-2015

The Crouching Emu Revegetation Project Strategic Plan 2011-2015 was written by Travis Turner (Sustainability and Environment Officer, (Greater Shepparton City Council,) and Wendy DÁmore (Project Officer, Goulburn Murray Landcare Network) with input and guidance from the Committee. The strategic plan provided a brief overview of the projects accomplishments then outlined the key strategic directions that remain for the projects objectives to be fully achieved. The plan also listed potential activities to complete if project funding was extended. The report was submitted to Council with a request for continued Council funding with an extension of the project. The result was a continuation of Council support and funding of $6,000 for the 2011/2012 and 2012/2013 financial years.

5 Site selection and revegetation process

Site selection was based on continuity with other revegetation sites, length, ease of site preparation, absence of utility assets (via Dial before you Dig) and consultation with adjacent landowners where possible. Site selection prior to 2009 is outlined in the Mid-Project Assessment Report 2006 – 2009 (A Roberts, T Turner 2009). Sites 10, 11, 12 and 13 (2009 to 2012, Figure 3) were all large sites revegetated north of Pogue Rd and outside the town boundary. Site 1 and Site 4 (north of Hogan St) were extended to further establish linkages. Site 13 (near Hampton Rd) and part of Site 3 near the Midland Highway were replanted in 2012 with a different selection of plants to better suit local conditions.

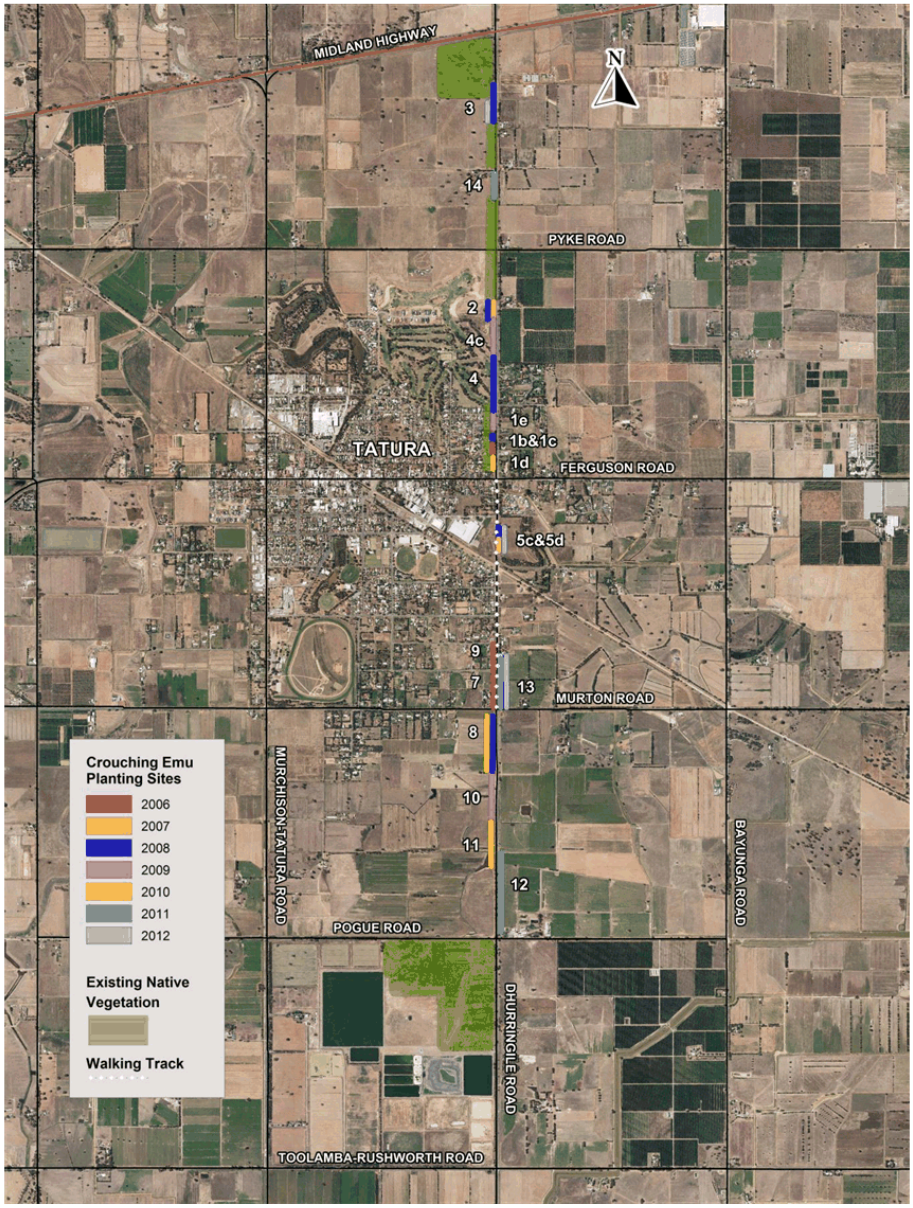


Figure 3: Crouching Emu Site Map

Site preparation followed protocol from the Department of Primary Industries and Landcare which consisted of weed spraying, shallow ripping and rotary hoeing or hand digging in sensitive areas, followed by spraying if timely. Plant selection was determined according to planting site conditions, availability through local native plant nurseries and consisted primarily of indigenous species. Site planting was either through schools or the community in conjunction with National Tree Day or by community work crews (chiefly the Mission Australia National Green Jobs Corps work crew). Committee members monitored sites and conditions and follow up watering and weed spraying was performed by Council staff or local contractors. Dead plants were removed at different stages and tree guards were removed after 12 to 18 months by the committee with assistance from Mooroopna Secondary College students or by the Mission Australia National Green Jobs Corps work crew.

6 Measuring our ecological outcomes (site assessments)

Monitoring, evaluation and assessment comparisons are critical to measuring project progression and success. Although length of road revegetated or number of individual plants planted are great qualitative figures that demonstrate project ecological activities, the Crouching Emu Revegetation Project Committee felt that the best method of communicating the resulting environmental improvements made to the Dhurringile Road roadside was to conduct quantitative ecological assessments of the revegetated sites over time.

In December 2008, Travis Turner conducted ecological assessments at the revegetated sites and determined a pre-revegetation baseline ecological score was from a typical non-revegetated section of the Dhurringile Road roadside. These results were published in the Mid-Project Assessment Report 2006 – 2009 (A Roberts, T Turner 2009). Please note that the December 2008 site assessments are referred to in this report as the 2009 assessments because that was when the Mid-Project Report was published. This Final Project Report reassesses pre-2009 revegetated sites and assesses post-2009 revegetated sites using the same 2009 site assessment methodology as described below (with a few minor clarifications).

6.1 Ecological assessment methodology

Ecological assessments for this report were conducted by Wendy D'Amore (Goulburn Murray Landcare Network) in early February 2012. These assessments included sites previously surveyed in December 2008 for the Mid-project Report 2009 (Sites 1 to 9), sites planted in 2010 to 2012 (Sites 10 to 14) but excluded roadside verges and table drains. Some original sub-sites were combined due to the division of areas being indistinguishable whilst other sub-sites were created as new plantings had adjoined a previous planting site.

The perimeter of each site or sub-site was measured manually with measuring wheel and recorded using a Garman™ GPS receiver. Photographs were taken throughout each site and at the north and south most ends to ensure a visual record of the site was also obtained. The specific location where each photograph was taken was also recorded with the GPS receiver. Site/sub-site information was recorded using the Crouching Emu Roadside Ecological Assessment Sheet.

6.1.1 The Crouching Emu Roadside Assessment Sheet

The Crouching Emu Roadside Assessment Sheet (Appendix I) was specially designed for the Project's revegetated sites to quantify the ecological improvements to the roadside. The assessment sheet was adapted from the Roadside Conservation Advisory Committee (RCAC) assessment form and the Department of Sustainability and Environment's Habitat Hectares assessment. Our assessment sheet includes components of both and was developed over several trial sites. The RCAC assessment process is a brief way of identifying roadside conservation values based on: roadside width, fauna habitat, degree of regeneration, wildlife corridor, weed cover, site disturbance and presence of rare flora and fauna species. The Habitat Hectares assessment form assesses the quality of the vegetation in a detailed format used on a national scale.

The Crouching Emu Roadside Assessment Sheet was used to record all flora species within each site/sub-site (Appendix II) and ecological characteristics present were scored to give an Ecological Value Score (EVS) to be used for comparative analysis. Other general site observations were also recorded, including the presence of on-site utility service assets, the assessment date, assessor name, site identification number, site location, brief site history, EVC, total area and recommendations noted for future site maintenance.

6.1.2 Ecological assessment scoring

As previously discussed, the Committee wanted to measure the environmental improvements achieved by the Project using quantitative comparative analysis. Quantitative comparative analysis, both between sites and for the same site over time, requires the allocation of numerical scores according to the degree in which ecological quality characteristics are achieved. Determining an Ecological Value Score (EVS) for each site/sub-site was the method used to quantify ecological improvements along the Dhurringile Road roadside. The EVS was called the Total Conservation Percentage (TCP) in the 2009 report.

The EVS is composed of three key components deemed to be of highest importance in quantifying the ecological value of each site/sub-site namely:

- ✓ Native vegetation
- ✓ Weed cover
- ✓ Habitat value

The EVS was calculated by adding the individual scores received for each of the ecological components (native vegetation score, the weed cover score and the habitat value score), dividing this amount by the maximum possible score that the particular site could receive, and then multiplying this score by 100 to convert it to a percentage (Equation 1).

Equation 1: Ecological Value Score

$$\text{Ecological Value Score} = \left(\frac{\text{Native vegetation score + Weed score + Habitat Score}}{\text{Maximum possible score for the site}} \right) \times 100$$

6.1.2.1 Native vegetation

The native vegetation component contained questions regarding the quality of native vegetation present and was determined by:

- The number of native species present (species diversity)
- The native vegetation cover (vegetation density)
- Occurrence of natural regeneration of shrubs and trees (self-replenishment of the vegetation present)
- The presence of large trees (species and numbers determine the Ecological Vegetation Class (EVC) present)
- Success of any revegetation works (survival rates of planted tube stock).

The native vegetation score is the sum of the scores received for native vegetation cover, natural regeneration of native trees and shrubs, presence of large trees, native understorey and revegetation success scores. Each of these sub-components is outlined below.

Native vegetation cover

The native vegetation cover or vegetation density was established by estimating the percentage of the total area that would be covered by the foliage and stems present if looking down upon the site.

Natural regeneration of native trees and shrubs

Regeneration of native trees and shrubs was scored according to the extent of recruitment that had occurred for both of these vegetation types. Trees and shrubs were scored separately and were summed to give a maximum score of six.

Presence of large trees

The Ecological Vegetation Class (EVC) present along Dhurringile Road, Tatura is 803: Plains Woodland. A typical 803: Plains Woodland site has a benchmark large tree number of 15 individuals per hectare. A large tree for 803: Plains Woodland is defined as an indigenous Eucalyptus spp. (Grey Box, Yellow Box or River Red Gum) that is living or dead with a diameter at breast height (1.3m above the ground) (DBH) of 70cm. The number of large trees at each site was counted and converted to a per hectare figure. The number of large trees per hectare was then converted to a percentage of the expected benchmark number.

Equation 2: Percentage of large trees per hectare according to EVC Benchmark

$$\text{Percentage of large trees per hectare score} = \left(\frac{10{,}000\ (m^2)}{\text{Site area}\ (m^2)}\right) X \left(\frac{\text{Number of large trees}}{15\ (\text{EVC benchmark})}\right) X\ 100$$

Native Understorey

The native understorey score was determined using a matrix table. The number of native understorey species was counted and separated into three categories; 0 - 5 species, 6 – 10 species or greater than 10 species. Scores were calculated by placing the number of species category into a section according to the percentage cover of these species (Table 1). For example, a site with eight species and a cover of 30 per cent would receive a native understorey score of four.

Table 1: Native understorey scoring matrix

	Diversity: 0 – 5 species	6 - 10 species	> 10 species
Percentage Cover: <5%	0	0.5	1
5 - 25%	1	2	3
26 - 50%	3	4	5
>50%	5	6	7

Revegetation Success

Scoring for revegetation success was calculated according to the percentage survival rate across the sub-site.

6.1.2.2 Weed cover

Weed cover is an important indicator of site quality because exotic species degrade the functionality of the vegetation community by out-competing indigenous species. The weed score was determined by the weed cover across the site/sub-site. The weed cover, or weed density, was established by estimating the percentage of the total area that would be covered by the projective foliage and stems of all the weed species present if looking down upon the sub-site. The lower the weed cover, the higher the weed score.

Please note: The survey sites had been recently been sprayed for weeds when the assessments where undertaken so weed cover was determined by the cover of both living and dead weeds. This was thought to give a more accurate representation of the species that were present and likely contributing to the soil seed-bank. Weeds species present at each site were recorded and are listed in Appendix III.

6.1.2.3 Habitat value

It was vital to include landscape components that contribute to the success of the creation of a wildlife corridor. Habitat characteristics determine the long term survival prospects and reproductive viability of the local flora and fauna species by providing food and shelter requirements. Continuity of vegetation across the

landscape allows for greater genetic diversity, by providing safe dispersal passages and increasing the opportunities for reproduction. Key habitat components determining the potential for establishing a wildlife corridor are;

- Close proximity to hollow bearing trees (important habitat provider for fauna species)
- Direct linkages with other areas of native vegetation
- Continuity of native vegetation in the surrounding landscape
- Presence of native vegetation on adjacent land

The habitat value score was calculated by adding the scores received for presence of dead trees, native vegetation linkages, wildlife corridor potential and the vegetation on adjacent land.

Presence of hollow bearing trees (alive or dead)
Presence of or close proximity to hollow bearing trees (within ~30m) was scored as either present or absent.

Native vegetation linkage
Linkages with other areas of native vegetation were scored as either present or absent according to whether native vegetation was directly linked to the sub-site area.

Wildlife corridor potential
The wildlife corridor potential of each sub-site was determined by evaluating the continuity of native vegetation in the local landscape context. The more continuous the native vegetation, the higher the score received.

Vegetation on adjacent land
Vegetation on the land adjacent to the sub-site influences the productivity of the vegetation community by building upon the total area of native vegetation at the site.

6.2 Bird survey methods

A bird survey was conducted along Dhurringile Road throughout the day on 8 March 2012 by Don Roberts (BirdLife Australia) with assistance from Wendy D'Amore and Michael D'Amore to determine what species were utilising the Dhurringile Road habitat. The Project was also a recipient of a 2012 Small Community Action and Education Grant from the GBCMA which allowed the Committee to conduct additional bird surveys on three adjacent landholder properties during the morning of 31 August 2012.

Birds were identified by sight and/or calls and recorded at 300 metre intervals along Dhurringile Rd. A five minute period was deemed to be enough time at each interval to identify the bird species present. Species were recorded whether they were standing, feeding, perching within the site or flying over. Although the primary focus of the survey was birds, other animal species observed by sight or sound were recorded.

The survey commenced from the north side of the Ferguson Road intersection, starting at Site 1 (opposite Whim Inn), and then continued northwards to the Midland Highway at 300m intervals along the west side of the road. Both sides of the road were surveyed on the south side of the Ferguson Road intersection because planting sites occurred on either side of the road sides (only the west side of road was revegetated to the north). Due to the interval methodology of the survey, some areas of the road were surveyed that had not been revegetated, some devoid of native vegetation altogether whilst others had only remnant roadside trees present.

Birds were identified at the private properties by sight and/or calls whilst walking around the property.

6.3 Ecological assessment results - Individual site assessments

A summary of the ecological site assessment and bird survey results for each individual site is provided in this chapter. The summary for each site includes photographs and management recommendations for future land managers. The map below (Figure 4) shows the location of each site along Dhurringile Road whilst individual maps of each site are provided in Appendix VI. These individual site maps contain further details on the location of utility assets (underground cables and powerlines) and site measurements etc.

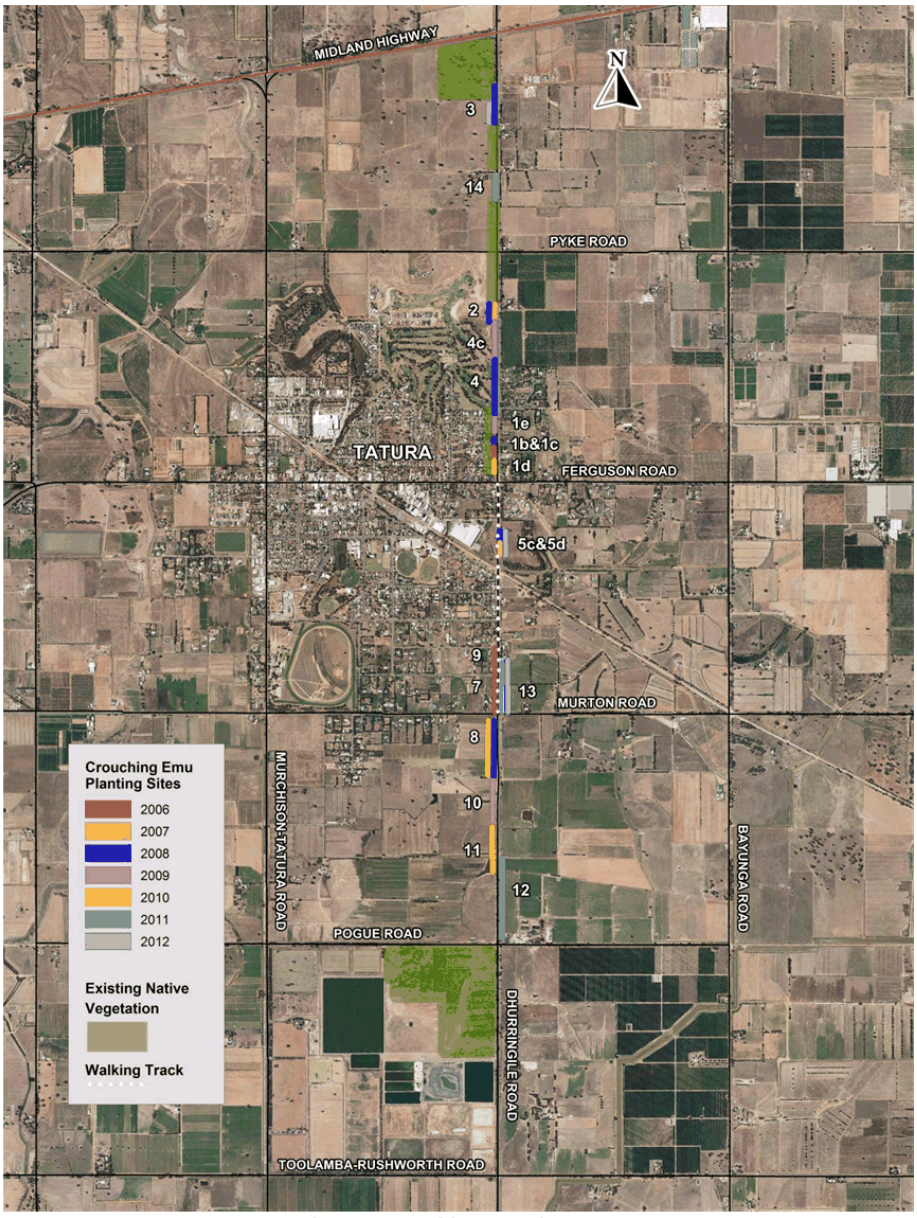


Figure 4: Crouching Emu Site Map

Site 1: Opposite Generations Church

Site 1 contains the most significant patch of native vegetation along Dhurringile Rd, primarily due to its species richness, maturity of trees and the significant species present. This site has been adopted by the Generations Church ACC who has done the majority of the planting and planning for this area in partnership with Bethel Christian Community College. Site 1 has been expanded since the 2009 report to include land up to Hogan St (opposite Whim Inn) and to the north to the start of the planting in front of the golf course (opposite Johnstone St).

Additional understorey plantings have continued across the past three years to increase the native species diversity and coverage of the site (Figure 5). This site is now part of a continuous environmental corridor from Hogan St to the Midland Highway to the north. The overall Ecological Value Score (EVS) of this site has increased from 69% to 79% in the three years since the 2009 assessment. This score has increased over time due to the increase in species diversity and cover of planted native vegetation and weed removal. Once the shrubs begin to naturally regenerate the score will increase further.

Figure 5: Site 1 in December 2008 (left) and in again in September 2012 (right).

Sub-sites 1b and 1c identified in the 2009 report were combined during this assessment because these planting areas are now indistinguishable. This highly valued site contains remnant vegetation that includes Twining and Variable Glycine (*Glycina clandestina and G. tabacina*), Spear Grass (*Austrostipa spp.*), Wattle-mat Rush (*Lomandra filiformis*), Black-anther Flax-lily (*Dianella revoluta*), Wallaby Grass (*Austrodanthonia spp.*) and a stand of Yellow Box (*Eucalyptus meliodora*) and River-red Gums (*Eucalyptus camaldulensis*). This is the only known location in the wider Tatura landscape where these species occur naturally together. The site also contains a mature Golden Wreath-wattle (*Acacia saligna*) tree, a fine specimen even though a weedy species outside of its home range.

Sub-site 1d is the southernmost area of the site, opposite Whim Inn, that had an EVS of 60%. This area has had poor survival rates of plantings due to a series of factors including poor climatic conditions during the time of planting, planting technique and competition from mature trees. Sub-site 1e joins the original plantings opposite the church to the plantings in front of the golf course (Site 4). This sub-site had two very large old yellow box fall during a storm in 2010 (Figure 6), providing an additional habitat type and visual interest. The EVS for this sub-site was 67%. Site 1d and 1e had relatively high EVSs due to good

Figure 6: large old Yellow Box which fell during a severe storm in 2010 is providing habitats lacking at other Crouching Emu sites.

understorey, large trees and native vegetation cover scores.

This site is threatened by woody weed invasion due to its close proximity to the residential area. Many woody weed species including Desert Ash (*Fraxinus angustifolia*), Boxthorn (*Lycium ferocissimum*), Briar Rose (*Rosa rubiginosa*), and Privet (*Ligustrum lucidum*) had returned to the site since the 2009 assessment. These (and other) weed species were removed from the site in November 2012. The understorey is dispersed with indigenous grasses and the two species of Glycine so any weed control activity at this site requires native vegetation specialist supervision.

Bird survey

Site 1 had a total of 18 bird species present, the highest number of bird species recorded of all the sites. Species recorded included three parrot species (Eastern Rosella (*Platycercus eximius*), Red-rumped Parrot (*Psephotus haematonotus*) and Musk Lorikeet (*Glossopsitta concinna*)) and two honeyeater species (Blue-faced Honeyeater (*Entomyzon cyanotis*) and White-plumed honeyeater (*Lichenostomus penicillatus*)). An Azure Kingfisher (*Alcedo azurea*) had also previously been recorded at this site but was not observed during the 2012 survey.

Management recommendations

It is important that best practice weed control continues at Site 1 to prevent weed species from outcompeting the significant native species present but all weed control at this site requires native vegetation specialist supervision. Many community survey participants requested a walking path to the north of Hogan St but any path construction would need to be located along the edge of the plantings, not through them. The path would also need to be carefully placed to ensure little disturbance occurs to the remnant vegetation. Any activities at this site need to be carefully managed to ensure that disturbance is kept to an absolute minimum.

Site 2: 200 Dhurringile Road

Site 2 has been a highly successful revegetation site due to the commitment and support provided by the adjoining landholder. The landholder had been involved during the initial planting day and cared for the plant through watering and site maintenance. This is particularly the case at sub-site 2c which was planted in 2007 and now contains shrubs between 2.5 to 3 m high (Figure 7). The EVS at sub-site 2c has increased from 48% (in 2009) to 64%. The substantial increase in EVS is due to natural regeneration of Wedge-leaf Hopbush (*Dodonea viscosa*), the increased cover of the dense plantings, and the corresponding reduction in weed species cover.

Figure 7: Site 2 looking south from property driveway in December 2008 and again in September 2012.

Site 2b was planted in 2008 and is much patchier with some dense clumps of native plants. The EVS has only increased from 37% (2009) to 43%. The site scored lower for revegetation success since the 2009 survey due to a number of plants being lost during the first summer. The reduced revegetation success has resulted in a patchy cover of native vegetation so the percentage cover of weeds is much higher. Weed species present include Briar Rose and Nightshade (*Solanum* spp.).

Bird survey

Eight birds were observed including Magpie, Galah, Musk Lorikeet, Willie Wagtail and Crested Pigeon.

Management recommendations

Continued weed control, particularly in Sub-site 2b.

Site 3: South of the Midland Highway

This site, near the Midland Hwy, has been one of the Project's poorer quality sites. The site has quite poor drainage so many of the plants revegetated in 2008 died (particularly in the southern section) due to water saturation during the La Nina wet years from spring 2010 to autumn 2012. Some eucalypt saplings survived in the southern end and Mallee Wattle and Gold-dust Wattle (*Acacia montana and Acacia acinacea*) survived in the northern end of the site (Figure 8). The site had a high cover of grass weed species and Briar Rose was also present. The site had a very small increase in EVS from 44% (2009) to 48% due to the low survival rates, lower native vegetation cover and a high cover of weeds.

Figure 8: Bethel Christian College students planting at the southern end of Site 3 in August 2012 (left); Vegetation planted in 2008 at the northern end of the site in September 2012.

The southern end of the site was planted again in August 2012 with plants tolerant of wet conditions such as River Tea-tree (*Leptospermum obovatum*), Moonah (*Melaleuca lanceolata*) and Tangled Lignum (*Muehlenbeckia florulenta*). Planting on the north side of the entrance track was not performed due to concerns about drainage issues and revegetation at other sites was given a higher priority.

Bird survey

Seven bird species were observed.

Management recommendations

Continue with weed control; especially maintain vigilant control of Caltrop and Paterson's curse. Remove tree guards as plants become established.

Site 4: Opposite Johnstone Rd, adjacent to the Golf Course

Site 4 was mostly planted by school children in 2008. This site is bordered a channel to the west and has the advantage of being adjacent to the Hill Top Golf Club where there are many large old remnant trees and abundant birdlife present. This site is now part of a very long stretch of continuous environmental corridor that extends from Hogan St to Pyke Road to the north.

Sub-site 4b is one of the most improved sites along Dhurringile Rd, recording an increase in EVS from 39% to 60% (Figure 9). It has one large Grey Box (*Eucalyptus microcarpa*) on-site and the site will improve ecologically as the regenerated young trees grow. This site also contained some small seedlings of Mallee wattle (*A. montana*), evidence of regeneration.

Figure 9: Site 4 in December 2008 (left) again in February 2012.

This stretch of plantings has been very weedy (including Caltrop) and has required a lot of weed maintenance. This seems to be correlated with a reduced planting density compared to other sites but many plants have also died over the past few years. The reduced planting density and plant death has resulted in patchy distribution of native vegetation allowing for an increased cover of weed species. This could be improved with infill planting.

Sub-site 4c is an extension of the site to the north and was planted in 2009 so the earlier survey did not assess this site. The EVS score was 57% which was similar but was slightly lower than Sub-site 4b due to the plants being younger and lack of large trees.

Bird survey

Eight bird species were observed.

Management Recommendations

A walking path along this section would deliver great views of the golf course as well as the native vegetation. Continue with weed management. Some infill planting would reduce the patchiness for the site and lead to a reduced cover of weeds.

Site 5: North of the railway line

Site 5 is a great asset to the Tatura township and has become one of the most attractive and most visited sites. The site contains beautiful mature Grey box trees (*E. microcarpa*), a mature dead eucalypt with hollows, has a wide planting width and a meandering gravel walking path (Figure 10). It also is next to a paddock with very large old scattered trees that is surrounded by a wide band of trees and shrubs.

Figure 10: Sacred Heart School students planting at Site 5 in 2007 (top left); the same location in August 2012 (top right); Site 5 Crouching Emu sign and vegetation in December 2008 and again in August 2012 (bottom).

The entire area was planted by school children and the Tatura community during National Tree Day events and much of the weeding has been carried out by the Mission Australia Green Jobs Corps crew. The Tatura community was involved in site maintenance activities such as mulching, and pruning as well as some infill plantings on the 2012 National Tree Day event (post site assessments)

Sub-site 5c & 5d (planted in 2007 and 2008) have been combined as the two areas are now indistinguishable. Weed management has improved due to the installation of a gravel path which is wide enough for a vehicle to drive upon. Fallen branches have also added to the variety of available habitat. This site has had higher maintenance requirements (mulching and hand weeding) due to its high profile location and high pedestrian use. There is a large coverage of saltbush (*Einadia nutans, Enchylaena tomentosa*) and Black-anther Flax-lily (*D. revoluta*) which will continue to spread and reduce weed cover further. This area has an EVS score of 79%, the equal second highest score of any site.

Twenty two native plant species were observed at this site, one of the highest numbers recorded at any site. The site also scored for moderate natural regeneration of shrubs with the presence of young recruitments

from three shrub species, Mallee and Golden Wattles (*Acacia montana, Acacia pycnantha*) and Hop-bush (*Dodonea spp.*).

Sub-site 5b has remained unplanted because of a reasonable cover of native grasses (mainly Wallaby Grass (*Austrodanthonia spp.*) and Windmill Grass (*Chloris truncate*)). In the summer of 2010 and 2011 several Chilean Needle Grass (*Nassella neesiana*) plants , a Weed of National Significance declared noxious weed, were identified and destroyed.

Bird survey
Five bird species were observed.

Management recommendations
The site will require continued monitoring for Chillean Needle Grass and Caltrop, especially in the grassy area. Slashing is a known method of Chilean Needle Grass seed spread so care must be taken here. Continue to prune, remove dead bushes, mulch and spot weed spray to keep weeds at bay. The provision of seating at this site is recommended.

Site 7: Between Hampton and Murton Rds

Site 7 was the one of the original Crouching Emu Revegetation Project sites to be planted (2006). The site runs along a number of house blocks and has done exceptionally well thanks to the care and assistance from these adjacent landholders. This site has been densely planted with a stone dust walking path (constructed in 2010) running through the middle of the planting (Figure 11). There are 20 native species present and eucalypt regeneration is occurring along the path near the fence line from non-indigenous eucalypts present close to the site.

Figure 11: Site 7 photos taken from southern end of site in December 2008 (left) and again in February 2012.

There has been regeneration of Gold dust, Mallee and Golden Wattles (*Acacia acinacea, A. montana, A. pycnantha*) and also Wedge-leaf Hop-bush (*D. viscosa*) throughout the site. The seedlings would have germinated in 2011 due to the maturity of plants and the good rainfall received in comparison to the prior years of drought.

The EVS increased from 62% to 67% overall. The absence of large trees and the high weed score has prevented the site from achieving a better score. The increase in EVS is mostly due to the regeneration of the four shrub species, the best shrub regeneration of any site. The native vegetation cover has decreased slightly prior to the installation of the path because many plants were pruned in 2010 to allow reasonable path clearance. Major weed species of concern present are Desert Ash (seeding from an adjoining property), Briar Rose, Spear Thistle, Prickly Lettuce and Bermuda Couch.

Bird survey

Five bird species were observed including Superb Fairy-wrens, a Red Wattlebird, and a White-plumed Honeyeater. It is one of the few sites that had Superb Fairy-wrens present. The density of the shrub mid-layer and the variety of plant species may be responsible for their presence. A Common Froglet was also heard calling at the site.

Management recommendations

Weed control needs to be continued in this site but care must be taken to ensure that the regeneration of native seedlings is not impacted upon. Prune plants as they continue to mature and encroach upon the track and remove dead shrubs annually. As plants are removed, efforts should be made to replant with groundcovers or low growing shrubs to allow visual breaks in the corridor for pedestrians.

Site 8: Direct seeding site, south of Murton Rd

Site 8 is the largest site (4400m^2) and had the greatest recorded improvement in EVS score (from 26% in 2009 to 57% in 2012) of any site. The site was originally revegetated via direct seeding in 2008 but germination of seedlings was quite slow and had a very low success rate (an estimate would be less than 20%). It was decided to do complementary hand planting at the site in 2010.

Direct seeded plants were guarded before weed control occurred so it was quite difficult to determine revegetation success between the two methods, but an estimate of the tube stock success would be between 50% and 70%. The site currently has a reasonable cover of vegetation with growth up to 1.5 metres (Figure 12). The site was still too young to have experienced any regeneration at the time of assessment.

Figure 12: Site 8 photos taken in December 2008 (left) and September 2012.

Site 8 has between 41-75% of vegetation cover and is now home to a range of wattle species and several ground covers (ie. Black Anther Flax Lily (*Dianella revoluta*) and Lemon Beauty-heads (*Calocephalus citreus*) are scattered throughout the site.

Major weed species of concern are Prickly Lettuce, Spear Thistle, Briar Rose and Bermuda Couch.

Bird survey

Eleven bird species were observed including White-breasted Wood-swallow, Wedge-tailed Eagle and a Brown Goshawk.

Management recommendations

There is ample room between the fence line and plantings for the construction of a path. Continue with weed control.

Site 9: Between Hampton and Taylor Roads

Site 9 was the first ever Crouching Emu Revegetation Project site to be planted in 2006 (Figure 13). This site received the highest EVS of all the sites in 2009 and again in 2012. The EVS has increased from 76% to 83% over this time. Site 9 is next to site 7 (also planted in 2006) which is very similar in appearance and structure. Site 9 also runs along a number of house blocks and the revegetation has done exceptionally well thanks to the care and assistance provided by the adjacent landholders in the form of planting, weeding and watering.

Figure 13: The first ever Crouching Emu planting day!

Site 9 is one of the highest ecological scoring sites due to the high density of native vegetation, the occurrence of natural regeneration and the low cover of weeds. Regeneration of Gold-dust Wattle (*A. Acinacea)*, Mallee Wattle (*A. Montana)* and Golden Wattle (*A. pycnantha*) has occurred that would have germinated in 2011. Weed cover was low due to density of planting. Major weeds present were Desert Ash, Briar Rose and Prickly Lettuce. The walking path (constructed in 2010) that meanders through the site is very popular with walkers (Figure 14).

Figure 14: Site 9 being planted in 2006 (left); established vegetation present at Site 9 in February 2012.

Bird survey

Four species were observed including Superb Fairy-wrens and White-plumed honeyeaters.

Management recommendations

Weed control needs to be continued in this site but care must be taken to ensure that the regeneration of native seedlings is not impacted upon. Prune plants as they continue to mature and encroach upon the track and remove dead shrubs annually. As plants are removed, efforts should be made to replant with groundcovers or low growing shrubs to allow visual breaks in the corridor for pedestrians.

Site 10: Sth of 520 Dhurringile Road

Site 10 continues the revegetation efforts south from the direct seeding site. The site was planted in 2009 and had a conservation score of 63%. One large Grey Box (*E microcarpa*) and one large dead eucalypt were present. A number of different wattle species were evident as well as Grey Parrot-pea (*Dillwynia cinerescens*), Wedge-leaf and Narrow-leaf Hop- bushes (*Dodonea spp.*) and groundcovers included Black

Anther Flax Lily (*Dianella revoluta*) and Lemon Beautyheads (*Calocephalus citreus*). The Golden Wattles (*A pycnantha*) had colonial spiders nesting in them.

Figure 15: Flowing wattles at Site 10 (September 2012).

There were >50% weed coverage although only 10-25% were alive. Common weeds present included Bermuda Couch, Spear Thistle, Prickly Lettuce, Briar Rose and Wireweed.

Bird survey

The only birds observed were Willie Wagtails and Superb Fairy-wrens.

Management recommendations

There is space for a walking track to continue along the fenceline. Weed control.

Site 11: North of Pogue Road, west side

Site 11 is a relatively young site (planted in 2010) that is situated in close proximity to a paddock wetland that was providing habitat for many bird species (including raptors). The vegetation consisted mainly of Wattles, Hop-bushes and Grey Parrot-peas (*D. cinerescens*) and native vegetation cover was between 41-75%. The site was quite weedy during the time of assessment, however the majority of these weeds were dead from recent spraying (Figure 16). Major weeds of concern were Perennial Rye Grass, Prickly Lettuce and Spear thistle.

Figure 16: Site 11 photos taken in February 2012.

The conservation score for sub-site 11b was 48% and 36% for sub-site 11c, which was a smaller area with a lower revegetation survival rate. Once again, ground conditions and time of planting would have influenced this score.

Bird survey
Only three bird species were observed at this site.

Management recommendations
Weed control and removal of dead plants. Some Yellow or Grey Box could be added to this site. There is room for a walking track along the fence line which would be quite attractive to bird watchers.

Site 12: North of Pogue Rd, east side of the road

Site 12 was planted in two stages in 2011. The first half was planted by school children in June and the second half planted in September by the GB CMA Rad.com Indigenous Work Crew. The area with highest survival rate is the south-most end closest to Pogue Rd where the children planted (which also had better prepared soil). The area to the north had very rough clumpy ground, was planted much later and consequently had a lower survival rates (23%). The site has two large old Yellow Box (E melliodora) present and some good tree habitat present on the opposite side of the road. The overall EVS for the site was 45%.

Figure 17: Site 12 photos taken in February 2012.

Bird survey
Five bird species were observed.

Management recommendations
Remove tree guards as the plants become established. Continue weed control and remove dead plants.

Site 13: Opposite Hampton Rd

Site 13 is located close to the town boundary, opposite one of the oldest planting sites (Site 7). The majority of plants revegetated in 2011 died due to a leaky irrigation outlet, blocked culvit and poor drainage causing flooding across a 120m stretch. This EVS of 23% was the lowest score received at any sites due to the low revegetation success (less than 20% survival rate).

Wet condition weeds are prevalent at the site including Paspallum, Dock, Vetch, Wireweed, Umbrella Sedge and Briar Rose. This site was replanted in 2012 with more water tolerant native species such as Moonah (*Melaleuca lanceolata*), River Tea- tree (*Leptospermum obovatum*), Tangled Lignum (*Muehlenbeckia florulenta*) and Silver Wattle (*Acacia dealbata*).

Figure 18: Site 13 photos taken in February 2012(left) and in September 2012.

Bird survey

A Welcome Swallow was the only bird observed.

Management recommendations

Continue to control weeds and remove tree guards as plants become established. Future plantings should use more water tolerant plants such as River Bottlebrush and River Tea-tree (unless the drainage problem at this site is addressed).

Site 14: Near gas sub station

Site 14 was planted in 2011 and is located between Pyke Rd and the Midland Hwy. The majority of site was planted in May by school children and has had a 93% survival rate. The remaining 20m of the southern end was planted later in the year by a work crew with only a 40% survival rate. This has resulted in intermittent stands of mature shrubs with weedy patches in between at the southern end which would benefit from infill planting. No eucalypts could be planted at this site because of the overhead powerlines. The EVS score for this new site is 30%. The southern end of the site was replanted in 2012.

Figure 19: Site 14 photos taken in February 2012 (left) and in September 2012.

Bird survey

Seven species were observed at the site including a Pied Butcherbird.

Management recommendations

This site will continue to require vigilant control of Caltrop, Paterson's Curse and Bathurst Burr. These species are currently occurring near the driveway to the gas substation. Remove tree guards and stakes as plants become established.

6.4 Bird survey results

The bird surveys of Dhurringile Road resulted in 37 bird species being sighted or heard. 31 species were recorded during the roadside survey and 24 species were recorded on the three adjacent properties. Appendix IV contains the list of all fauna species observed during these surveys.

6.4.1 Roadside survey

The largest variety of birds (18) was found in the oldest and most diverse vegetation opposite the Whim Inn and Generations Church (Site 1) north of Hogan St (Figure 20). This site contains a number of Grey and Yellow Box trees of all ages and has significant remnant understorey species present. Project plantings have increased the diversity and density of the middle story, shrub layer, further increasing the sites ecological value.

Most other planting sites had little if any native grasses or ground layer. Large mature trees or stags (old dead trees) provided important habitat for birds in the landscape including more hollows, nest sites and perches, and consequently these sites also attracted more birds. The older planting sites that contained shrubs 2 to 3 metres (4 or 5 years old) also were of higher habitat value, containing more shelter and food resources. This compares with sites which had just been planted that had little or no species present.

Highlights of the recorded bird species during the roadside assessments included Pied Butcherbirds (*Cracticus nigrogularis*), White-breasted Woodswallows (*Artamus leucorynchus*), Superb Fairy-wrens (*Malurus cyaneus*), Striated Pardalote (*Pardalotus striatus*) and a Wedge-tailed Eagle (*Aquila audax*). A Sacred Kingfisher (*Todirhamphus sanctus*) was sighted during the 2009 assessments at Site 1 (adjacent to the irrigation channel), but was not observed during the 2012 assessment. Three frog species (Common Froglet (*Crinia signifera*), Pobblebonk or Banjo Frog (*Limnodynastes durmerilii*) and Spotted Marsh Frog (*Limnodyastes tasmaniensis*)) were also heard calling during the roadside bird survey.

Figure 20: Eastern Rosella at Site 1 in young trees.

6.4.2 Adjacent landholder survey

A total of 22 bird species were recorded during the bird surveys conducted on three adjacent properties. Some of the highlights of these surveys included Superb Fairy-wrens (*Malurus cyaneus*), Striated Pardalotes (*Pardalotus striatus*), New Holland Honeyeaters (*Phylidonyris novaehollandiae*) and a flock of 23 Red-browed Finches (*Neochmia temporalis*).

7 Meeting our Ecological objectives

This chapter discusses the results of the site assessments in relation to how the project met its ecological objectives.

7.1 Establish an environmental corridor, primarily containing indigenous species

The Crouching Emu Revegetation Project has greatly increased the coverage of indigenous native plant species along Dhurringile Rd within the last seven years. The Project has planted 4.6 kilometre of roadside with over 13,000 indigenous plants to link the areas of remnant native vegetation to form an almost continuous 8.1 kilometre length of environmental corridor from the Midland Hwy to Toolamba - Rushworth Rd (Figure 21).

The last four years of the project has continued to concentrate on filling in the gaps of the corridor. Continuity of vegetation, particularly in the older sites is evident with no differentiation between different planting sites or remnant vegetation due to planting success and maturity. It is only in the new sites planted in 2011 and 2012 where the plants are young that vegetation coverage is lower and site boundaries more obvious. Site continuity scores increased as the gaps were filled.

The environmental corridor was further enhanced with a number of residents planting indigenous plants provided through the project on their properties (outlined in Section 8.1.3). This will improve the linkage between plantings and increase the breadth of the corridor. In the Tatura urban area residents incorporated these plants into existing gardens or nature strips and one landowner on the outskirts of town in filled gaps in his boundary plantings that adjoins Dhurringile Rd.

Creation of an environmental corridor has increased the biodiversity of plant and animal species, as seen in the site assessments and bird survey. It has improved the health of the ecosystem, further enhanced and protected significant areas, allowed areas for movement of wildlife while providing shelter, foraging and nesting sites.

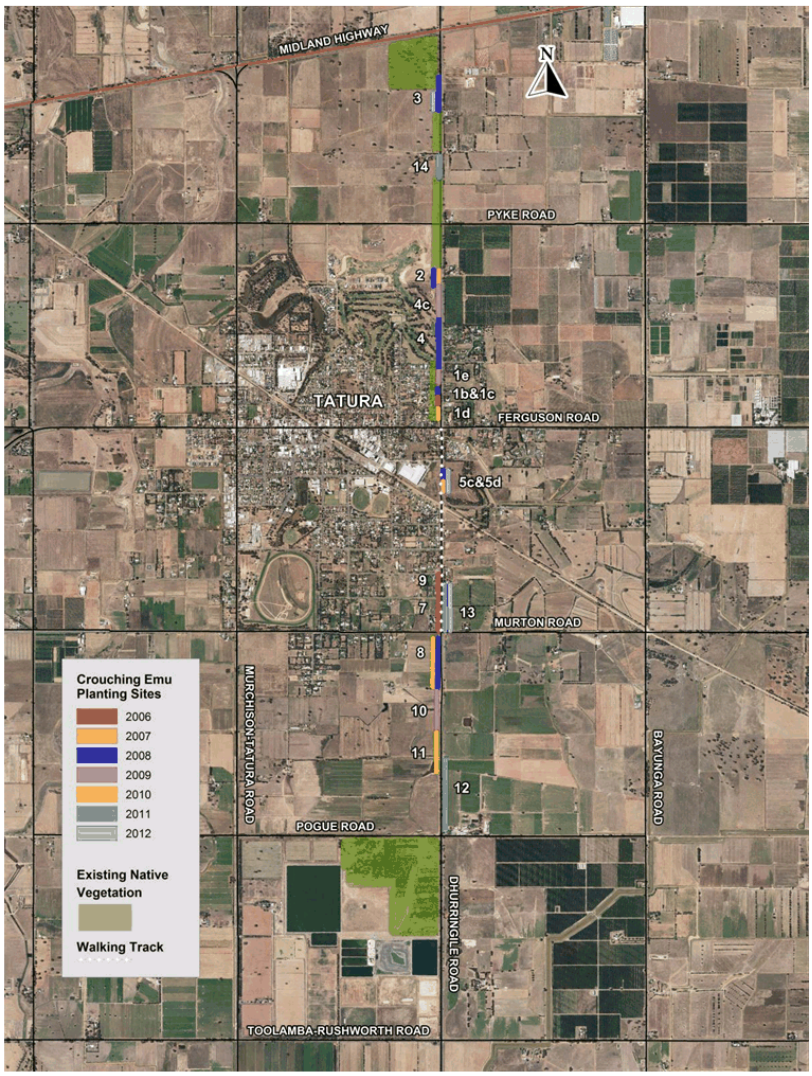


Figure 21: The Crouching Emu revegetation sites now form an almost continuous environmental corridor along Dhurringile Rd, Tatura.

7.2 Increase the conservation value of the vegetation communities along Dhurringile Road

The conservation value of the Dhurringile roadside has significantly improved due to the activities of the Crouching Emu Revegetation Project. The roadside assessments performed in 2009, and again in 2012, have conveyed the increase in conservation value of the sites over time. The Ecological Value Score (EVS), a measure of conservation value has progressively increased each year with:

- an increase of native vegetation cover as plants matured
- an increase in species diversity
- an increase in continuity of native vegetation along the roadside
- natural regeneration of planted and non-planted native species
- and a decrease in weed cover corresponding to the increase in native vegetation cover.

7.2.1 Ecological Value Scores over time

Figure 22 below outlines the average site ecological value per year as the age of the plants increase. With the exception of 2008, the average site score increased every year leading to an average score of 76% for sites planted in 2006. Sites planted in 2008 received an average score of 52% and did less well than sites planted in 2009 which had an EVS of 62%. This could be a reflection of weather, site preparation, planting technique, timing of planting or watering regime or a combination of these influences. Late September 2008 had the hottest September day on record at 31.8 C (Bureau of Meteorology 2012). This hot spell and the prolonged dry conditions may have had a large impact on the young plants survival.

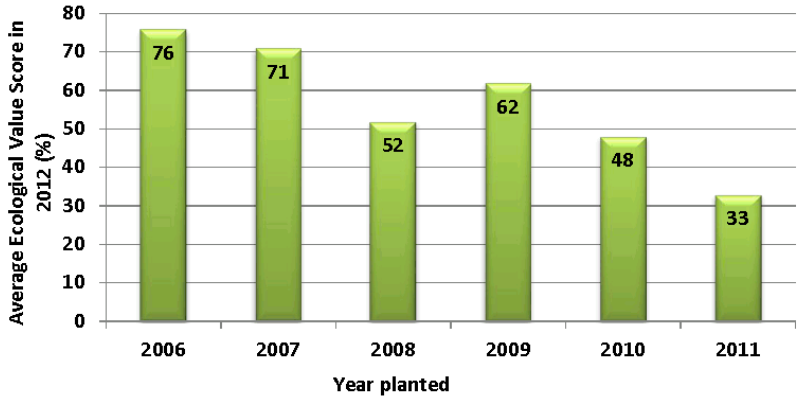


Figure 22: Average Ecological Value Score (2012 assessment) according to the year the site was planted.

Figure 23 provides a comparison of the increase in EVS per year for sites that were planted before 2009 and were therefore included in the 2009 and 2012 assessments.

This shows that the plantings of the first three years have continued to increase in conservation value over time. It also demonstrates that the 2008 sites have had a difficult time getting established with a very poor increase in EVS of 3%. Appendix V contains a table of EVS results for all sites.

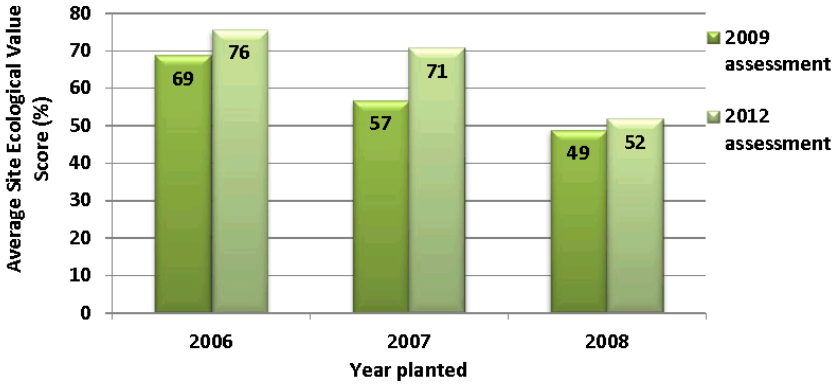


Figure 23: Comparison of Ecological Value Scores from sites during 2009 and 2012 assessments

7.2.2 The EVS score at different sites

The EVS score varied amongst sites as well as years (Appendix V). Site 1 which had the highest EVS contains the most ecologically significant patch of native vegetation along Dhurringile Rd, primarily due to its species richness, the presence of mature trees and the significant species present. Additional understorey plantings have continued across the past three years to increase the native species diversity and coverage of the site. These plantings have improved the EVS of this site from 69% to 79% in the three years since the 2009 assessment. The other sites of highest ecological value were the sites planted in 2006 and 2007.

The existence of large, mature trees (living or dead) in these plains woodland landscapes is invaluable for the provision of shelter and diverse habitats for many native fauna species. Sites containing, or in close proximity to large trees had a higher number of bird species recorded. Two very large, old Yellow Box trees at Site 1 were blown over during a severe storm in 2010, reducing the number of large trees per hectare and decreasing the large tree score. However, these fallen trees have increased the diversity of habitat at the site for lizards, insects and birds.

The Project has been very successful at restoring native understorey to the Dhurringile Road roadside. Sites 1, 5, 7 and 9 achieved the maximum full native understory score which meant they had more than 10 native plant species present and greater than 50% native vegetation cover. In general about eight to ten species were planted at each site. When the shrubs were densely revegetated, non-woody weed species were outcompeted after several years of growth by the shrubs, and native grasses such as Spear Grass(*Austrostipa spp*.) and Wallaby Grass (*Austrodanthonia spp*.) would return to the site. Revegetation success was always highest where there was invaluable adjacent landholder support. This was due to the additional watering and weeding provided in the crucial first year.

Natural regeneration occurred at seven of the older planting sites (five or six years old) or where there were existing mature trees. Most germinated in 2011 when the plants were healthy and mature enough for good seed set and climatic conditions were favourable. Regeneration should continue to occur across all sites over the next few years as plants continue to mature (providing weather conditions are suitable). Eucalyptus regeneration occurred at Sites 1 and 12 whilst Mallee Wattle (*A. Montana*), Gold-dust Wattle (*A. Acinacea*), Golden Wattle (*A. pycnantha*) and Wedge-leaf Hop-bush (*Dodonea viscosa*) or Narrow-leaf Hop-bush (*Dodonea viscosa ssp. angustifolia*) were the regenerating species at Sites 2, 4, 5, 7 and 9.

7.3 Conserve areas less affected by disturbance and containing significant indigenous plant species

The Mid-Project Assessment Report 2006 - 2009 (A Roberts, T Turner 2009) found Site 1 to have the most significant remnant vegetation including trees and groundcovers. In the last three year period additional midstorey shrubs have been planted at Site 1 with minimal site preparation and disturbance to nearby significant species. Removal of woody weeds occurred following the 2012 assessment to eliminate the competition with more valuable vegetation and maintain its high EVS. This site is nominated for being a significant roadside reserve which if successful positively impacts on its protection and management and would help in retaining its ecological values.

Site 5 contains the most significant grassland area. The walking path was placed through the most disturbed section to link the revegetated area to native vegetation at Moyola Gardens. A variety of wallaby and windmill grasses are present throughout the site.

Significantly reduce pest plants through weed management coordinated in collaboration with adjacent landowners

The Project has conducted regular weed control along the Dhurringile Road roadside since 2006. A thorough woody weed location and control effort was conducted in 2006 that removed the vast majority of woody weeds from the roadside. Weed removal efforts have mainly targeted non-woody weeds since 2006. The 2012 site assessment highlighted that many woody weed species had since reappeared that required control.

The most significant site (Site 1) was found to contain the highest abundance and variety of woody weeds so a post-assessment control effort was made targeting these species using the GBCMA Small Community Education and Action Grant funding. Briar Rose (*Rosa rubiginosa*) is the most common woody weed present across revegetated sites (seven sites) and many plants appeared to have spread from adjacent properties. A few sites (Site 4, 5 and Site 14) contained Caltrop (*Tribulus terrestris*) that will require continued control vigilance whilst one site (Site 14) contained Bathurst Burr. Site 9 contained Desert Ash (*Fraxinus angustifolia*) seedlings which have seeded from a parent tree nearby. All of these species were much more prevalent prior to the commencement of the project and other woody weeds such as Willow (*Salix spp.*) and Peppercorn (*Schinus molle*) are now largely absent from the roadside.

Annual Phalaris (*Phalaris aquatica*) spraying was conducted and this weed is now found in reduced populations along Dhurringile Road. A number of Chilean Needle Grass (*Nassella neesiana*) (a Weed of National Significance (WoNS)) plants were removed from Site 5 between 2009 and 2011. The site has been closely monitored to ensure eradication from the area. Bridal Creeper (*Asparagus asparagoides*), another WoNS, was removed from Site 1. Other weeds targeted for control by the Project were Paterson's Curse (*Echium plantagineum*), Spear Thistle (*Cirsium vulgare*), Horehound (*Marrubium vulgare*) and Blackberry (*Rubus fruticosus*).

Adjacent landowners have assisted with weed control at a number of sites and these sites received a higher EVS as a result. In addition to the targeted weed control undertaken, the results of the 2012 assessment demonstrate that the cover of weeds at revegetation sites are greatly reduced over time as the native plants increase in cover.

8 Achieving our community awareness and education objectives

This chapter provides an outline of the many community awareness and education activities the Crouching Emu Revegetation Project has undertaken and discusses the results of the community and school surveys in relation to these activities.

8.1 Significant community awareness and engagement activities

8.1.1 National Tree Day 2006 - 2012

National Tree Day has continued to be a major community and school event. Planet Ark National Tree Day provides a National focus on doing something positive for the natural environment while providing support and insurance for the event. Each year the community including local Landcare volunteers were invited to plant at a selected registered National Tree Day site within the Tatura township. The upcoming event was advertised in the Tatura Bulletin, Tatura Guardian, Shepparton News and school newsletters.

The committee organised specific sites for Schools National Tree Day which were held over 2 or 3 days. The three primary schools of Tatura (Bethel Christian College, Sacred Heart School and Tatura Primary School) and Mooroopna Secondary College have participated in the Crouching Emu Revegetation Project over the last 6 years. These planting days have left the students with the feeling that they are contributing not only to their local environment but also that they are participating in an Australian wide environmental event. The Planet Ark connection also provided teachers with access to educational resources specifically tailored for Schools Tree Day and provided ideas for other environmental learning activities.

Figure 24: Sacred Heart School students planting at Site 5 (2007)

Site preparation and the coordination of the schools and volunteers were key factors in the success of these days. The Schools Tree Days always featured in the Tatura Guardian highlighting to the community the wonderful contributions made by the local children. The school children of Tatura, with the help of Mooroopna Secondary College students, have planted more than 5,000 plants along Dhurringile Road.

8.1.2 Tidy Town Awards 2011

The Crouching Emu Revegetation Project was nominated for two Keep Australia Beautiful Tidy Town – Sustainable Communities Awards in 2011. The two award categories were Community Government Partnerships and Protection of the Environment and the Project was a State Finalist in the Community Government Partnership category. A celebration event was organised at Site 5 on Dhurringile Rd in July 2011 to show case the projects achievements to Tidy Towns Judge, Ron Williamson before the finalists were announced. Thirty two people attended the event including the Mission Australia youth workcrew, representatives from Greater Shepparton City Council, Department of Primary Industries, Transition Tatura, Dhurringile Road residents and Tatura community members. The Tidy Towns Judge was given a guided tour along the walking path through the roadside revegetation, and then taken for a drive along Dhurringile Rd to appreciate the full extent of the projects activities. Both print and television media were involved in reporting the event. The committee was presented with a finalist certificate and invited to attend the Tidy Towns- Sustainable Communities Awards in October (Figure 25).

Figure 25: Crouching Emu Revegetation Project Committee, Tidy Town Judge Ron Williamson (far right) and school children involved in Schools Tree Planting Day (photo: Bob Nicol 2011)

8.1.3 Small Community Action and Education Awareness Grant 2012

The Crouching Emu Revegetation Project Committee received a Small Community Action and Education Grant from the Goulburn Broken Catchment Management Authority in 2012 to engage the community with Crouching Emu Revegetation Project activities and raise the community's environmental awareness. This grant funded a free indigenous plant offer, weed control at a significant site, a free bird survey for private landholders and a community environmental appreciation and education event conducted by a professional ecologist at Lake Bartlett.

Indigenous plant giveaway and bird survey offer to landowners 2012

In April 2012 the Committee presented Dhurringile Road residents with the offer of free indigenous plant species suitable for planting in home gardens or farm and the opportunity to have a bird survey performed on their property by a bird expert. Eight residents applied for the plant offer and a total of 458 indigenous plants where given away. This has broadened the roadside wildlife corridor to private land without any labour or site maintenance costs to the Project.

Three Dhurringile Road residents had bird surveys performed on their properties. The survey gave people the opportunity to start a species list for their property, discover what was native and exotic and to be able to talk with an expert on bird ecology. It also included an invitation to a presentation on 'Attracting birds to your garden' hosted by the Goulburn Murray Landcare Network and BirdLife Australia.

Lake Bartlett Walk 2012

The walk at Lake Bartlett (titled "A look about Lake Bartlett") was held in May 2011 and was attended by 32 people including the Tatura Senior Guide group and young children. Ecologist Ian Davidson led the walk and identified the bird species present, explained the wetland habitat, ecology and outlined the associated environmental benefits to the Tatura community. The walk was a great success and featured on the front page of the Tatura Guardian (Figure 26, Appendix VII).

Figure 26: Ian Davidson from Regeneration Solutions guides the community walk and talk at Lake Bartlett (photo: Bob Nicol 2012)

These activities encouraged participation in the project and raised the community's environmental awareness and appreciation for what the project aims to achieve.

8.1.4 Walking path construction 2011

In 2011 a 1.6km stretch of stone dust walking path was constructed between Hogan St and Murton Rd to allow greater community access and appreciation of the revegetated sites (Figure 27). The walking path meanders through several sites and has very high usage from the Tatura community (including residents from the Moyola Gardens retirement facility).

Figure 27: The walking path meandering through flowering revegetated wattles at Site 5 (September 2012)

8.1.5 Shepparton Irrigation Region Landcare Partnership Award 2010

The Dhurringile and district Landcare Group received the Shepparton Irrigation Region Landcare Partnership Award 2010 for the group's involvement in the Crouching Emu Revegetation Project. The Award was great recognition of the Landcare group's vital contribution towards the Project and highlighted the importance of working collaboratively with other groups or Councils to provide positive environmental or land management outcomes.

8.1.6 Tatura Garden Club presentation 2012

A Committee member gave a presentation to the Tatura Garden Club about the project and provided information on the use of indigenous plants in home gardens. It also allowed for community feedback about the project and any suggestions, comments or concerns. These are incorporated into the recommendations section (Chapter 10) of this report.

Figure 28: The indigenous garden at Sacred Heart School that the project helped create.

8.1.7 Other school activities

World Environment Day with Sacred Heart School 2011 & 2012

The Committee assisted Sacred Heart School to conduct environmental activities with their students. The Project supplied over 100 plants that were planted by 40 children to create an indigenous native garden within the school grounds in 2011. The Project also contributed additional plants for students to enhance the garden further in 2012 (Figure 28).

The decision to have students create a native garden within their school grounds demonstrates the Project's influence on the participating schools.

Nest box installation in Tatura Primary School in 2010

Three Committee members installed 6 nest boxes within the grounds of the Tatura Primary School. Ten Grade 5/6 students were involved in numbering the nest boxes before installation then using a GPS receiver recorded details including installation location, site name, tree type and the size of the nest box.

Walk and talk at Cussen Park with Sacred Heart School in 2012:

The Committee provided a guided tour through Cussen Park to Sacred Heart School Grade 2 students to point out the wetland plants and the habitat provided to a wide variety of wetland birds that inhabit the Park.

8.1.8 Crouching Emu signs

The project received funding from a Catchment Education and Awareness Grant provided by the GBCMA to install four signs to raise awareness of the Projects activities (Figure 29). These signs identify Project partners and logos and are situated at Sites 1, 3, 5 and 8.

Figure 29: One of the four Crouching Emu signs along Dhurringile Road (Site 5)

8.1.9 Brochures

Two project brochures were designed and distributed in 2006 and 2009 that described the Project, its objectives, progress and invited the community to participate.

A third and final brochure outlining the Project's overall achievements was published in December 2012 via a Shepparton Irrigation Region Catchment Education and Awareness Grant (Appendix VIII).

8.1.10 Dhurringile and District Landcare Calendar 2008

The project contributed funding towards the printing of the 2008 Dhurringile and District Landcare Calendar that informed the community about regional environmental initiatives including information on the Project and revegetation and gave contacts for more information. The calendar was available free to the community and aimed to raise environmental awareness.

8.1.11 Caltrop campaign

The Project supported the Caltrop community education campaign to make residents and landowners aware of this declared noxious weed and assisted with the Caltrop control program. A caltrop information brochure was printed in 2008 and distributed to Tatura residents accompanied by media releases.

8.1.12 Media

Media were invited to all Project events such as National Tree Day, Schools Tree Day, the Lake Bartlett Walk, and the Tidy Town finalist celebration. Both the Tatura Guardian and Tatura Area Community Bulletin have provided wonderful support to the Project. All of these events were covered by the Tatura Guardian, many appearing on the front page. The committee submitted fifteen articles on the project published in the Tatura Area Community Bulletin. The project has also had two television stories aired on "Weeknights" on Southern Cross Television promoting National Tree Day and in celebration of our Tidy Town Award finalist announcement.

8.2 Accessing our success at achieving our community awareness and engagement activities

In 2009, community surveys were conducted to obtain an understanding of the attitudes of residents and participant schools of the project. This process has been repeated in 2012 to once again measure the project.

8.2.1 Community survey summary 2012

In April 2012, the Committee posted 76 surveys to adjoining properties of Dhurringile Rd and 21 (28%) residents responded. Residents were asked about their knowledge about the Project, whether they have been involved, how successful the Project has been and if they had any ideas for improvement. A copy of the community survey is located in Appendix IX. A community survey was also conducted in 2009 with feedback provided by 32 residents.

Four primary producers completed the survey and 57% of all respondents were over 60 years of age. The average length of residency was 27 years, the shortest being 1.5 years. Only one respondent (the newest resident) was unaware of the Project. 75% of respondents rated the Project as having high or very high success for local landholder involvement and only one respondent rated success as below average (Table 2). The majority of respondents also rated the Project as having high to very high success in involving the Tatura community, revegetating Dhurringile Rd and beautifying the roadside.

The latest survey received higher ratings across all questions than the 2009 community survey. This may be attributed to the ongoing community awareness through events such as the Tidy Town Awards, National Tree Day and publicity in local newspapers for all events.

Table 2: Key 2012 community survey responses

Survey Question:	Has the Project been successful in involving local landholders?	Has the Project been successful in involving the Tatura community?	Has the Project been successful in revegetating Dhurringile Road?	Has the Project been successful in beautifying Dhurringile Road?
Percentage of responses that rated the Project as having high or very high success.	75%	75%	94%	89%

Respondents were invited to provide suggestions and many were received regarding ongoing maintenance of the sites, drainage issues and weed control. There were many references to the use and enjoyment of the paths and more than half the respondents (57%) would like to see the path networks continue to the north of Hogan Street.

Suggestions for the future quotes included:

- "More paths on the highway side of the roundabout. Beautifies and encourages exercise for community. They also enjoy the environment and become future champions for further projects."
- "Extending the walking path south and north of Tatura (eg. to Toolamba Rushworth Rd and Pyke Rd). There are always a lot of people using the walking track instead of walking on the bitumen."
- "Extend present path and vegetation toward Dhurringile and toward the Midland hwy. The present path is a lovely walk."

In this survey residents were asked if they were interested in planting indigenous native plants on their properties and if interested in a bird survey. Some residents responded to this and as a result eight were contacted to organise a site visit for plant species required and three for a bird survey. This further increased the community's awareness of and involvement in the Project and expanded the environmental corridor to private land.

8.2.2 School survey summary 2012

Tatura Primary Schools, Bethel Christian College, Sacred Heart School and Tatura Primary School and Mooroopna Secondary College have been major Project contributors over the last 6 years. In April 2012 the Committee posted a school surveys to each school to provide feedback on the schools experiences with the Project and how it benefited their students. A copy of the school survey is located in Appendix X. A school survey was also conducted in 2009 and again, all schools were very enthusiastic about the project and their student's experience of it.

The teachers enjoyed the community involvement and well organised sessions, seeing the children enjoy themselves and participate enthusiastically. All schools commented they would like to see activities such as these continued. When asked what the students enjoyed most, teachers replied that students enjoyed the hands on practical activities, interacting with other community members, and making a contribution to the community.

All schools rated the Project as successful or highly successful for the following:

- Beautifying the town entrance
- Providing a wildlife corridor
- Engaging school children in environmental activities
- Increasing the children's awareness of environmental care.

Tatura Primary School commented "Our students have developed a greater awareness of their environment and the importance of revegetation. Students have also developed more pride in their community", and "I love the way the children check on the progress of the trees we planted."

Mooroopna Secondary College students have been very important contributors during each school planting day by assisting with the setup of the planting site and providing planting demonstrations to the Primary School children and helping them to plant.

Student coordinator, Ruth O'Bree, commented that "The project has been a wonderful opportunity for students in the past 6 years to be involved with the Tatura community, Landcare, engaging with the environment and learning about revegetation. They had hands on experience of working outdoors with community members, the opportunity to mentor young students and to take on different responsibilities." Ruth said it is an "authentic learning" experience and fits into the VCAL curriculum.

The Project provided the schools with stronger links both between schools and the local community. The project also increased their involvement with Landcare and as a result, two schools carried out native planting within their school grounds with the assistance of Landcare and the Committee.

8.3 Meeting our Community awareness and engagement objectives

8.3.1 Enhance the town entrance and provide pedestrian and bicycle access

The community survey results indicate that the Dhurringile Road residents believe that the Project has greatly enhanced the aesthetics of the town entrances. The environmental corridor of trees and shrubs now forms a continuous green band on the west side of Dhurringile Road from the Midland Highway to the central roundabout at Hogan St. The corridor is almost continuous but swaps from the east to the west side of the road when entering Tatura from the south.

In 2011 a 1.6km stretch of stone dust walking path was constructed between Hogan St and Murton Rd to allow greater community access and appreciation of the revegetated sites (Figure 30). The walking path meanders through several sites and has very high usage from the Tatura community (including residents from the Moyola Gardens retirement facility). The majority of 2012 survey respondents conveyed their appreciation of the current walking path and expressed their desire for further path development to the north of Hogan St. Allowing the community to access and immerse themselves in and appreciate the roadside native vegetation has been a great success story.

Figure 30: The walking path meandering through flowering revegetated wattles at Site 5 (September 2012)

8.3.2 Increased community awareness and education, especially in regard to indigenous plants and weed management

Over the last seven years the Project has published three Project activity brochures, placed four Crouching Emu signs along Dhurringile Rd, supported the Caltrop control campaign, assisted in the production of a local Landcare calendar and has had extensive media coverage (refer to 8.1.12). The walk and talk event at Lake Bartlett explained the wetland habitat, ecology and outlined the associated environmental benefits to the Tatura community and was linked with the objectives of the Project. A "Gardening with local native plants" and a caltrop control brochure have been distributed throughout Tatura. This report is the fourth Project Report available for community access that provides information on the Project and its objectives.

The 2012 community survey found that 95% of adjacent residents that responded were aware of the Project with 45% of respondents stating that they had some understanding and 50% stating that they had a good understanding of the Project. Adjacent residents responded favourably in the 2012 community survey to conducting native flora and fauna activities on their properties, including eight who accepted indigenous native plants to plant on their own properties or property frontages and three who requested bird surveying on their property.

All participating schools rated the Project as successful or highly successful for engaging school children in environmental activities and increasing the children's awareness of environmental care. The project was ideal to involve and promote environmental activities to school children and the community.

9 Key project learning's

The following points are a summary of our key learning's across the seven years of the project. Many successes and the occasional error were experienced along the way.

9.1 Revegetation activities

- Ground preparation needs to be performed well in advance. Sites should be shallow ripped and rotary hoed to allow moisture into the soil and for weed management purposes.
- Perform plantings earlier in the planting season. The most successful revegetation sites were planted before August.
- Leave a space for walking paths amongst plantings. From a visual and experiential aspect, a gentle meandering path is the most engaging where possible. Leave visual breaks amongst plantings using groundcovers and low shrubs at sites within the town boundary or at sites with walking paths.
- Use 10 or more indigenous plant shrub or groundcovers species per site to gain the maximum native understorey score during site assessments.
- The most successful sites have been planted with spacing closer together than recommended by revegetation guides. When the shrubs were densely revegetated, non-woody weed species were outcompeted after several years of growth by the shrubs, and native grasses such as Spear Grass (*Austrostipa spp.*) and Wallaby Grass (*Austrodanthonia spp.*) would return to the site.
- Careful thought must be given to the groundcover species revegetated at roadside sites. Although it is important to re-establish native groundcovers in the landscape, many groundcover species are easily outcompeted by weeds and survival rates have been low. The most competitive groundcover species planted have been native grasses, flax lillies and saltbush species.
- Care must be taken in hiring spraying contractors to ensure that they have some knowledge in native plant identification and are very careful not to poison any native plants.
- Post planting watering was essential to ensure the survival of planted vegetation. This was especially the case during poor environmental conditions. Most of the planting years occurred during the prolonged drought years so sites were watered over summer when necessary.

9.2 Community engagement

- Engage adjacent landowners and the community early and throughout the project using different approaches, incentives or opportunities. Sharing the aims with the local community definitely contributes to the success of the project and increases environmental awareness.
- Community engagement should include incentives to plant on their own properties to broaden the corridor and increase understanding of native vegetation.
- Project evaluation through assessments and surveys has been an important aspect of this project. It is a quantitative way of measuring project success which can be reported back to project stakeholders or partners and used to evaluate methods. A mid-term evaluation allows time to review methods if results are unfavourable.
- Engaging local schools in local environmental projects is invaluable for both assistance in achieving the revegetation and for its educational and environmental awareness of our future land carers. It also develops school and community links.
- Having the Mooroopna Secondary School students help the Primary School students to plant worked really well.

- The walking path has increased the community's awareness and appreciation of the Project and the native vegetation planted. Planting over 13,000 plants has been a great achievement but the walking path has greatly increased the community's enjoyment of the native vegetation.
- Revegetation success was always highest where there was invaluable adjacent landholder support via additional watering and weeding provided in the crucial first year.

10 Management recommendations

The following activities have been outlined to ensure the Crouching Emu revegetation sites continue to be maintained into the future.

10.1 Site management recommendations

10.1.1 Weed management

It is very important that best practice weed control continues at Site 1 (north of Hogan St, opposite the Generations Church) to prevent weed species from outcompeting the significant native species present but any weed control at this site requires native vegetation specialist supervision.

Non-woody weeds

All sites require monitoring for weed management, particularly where the plantings are young and small. Until these plants become established they will be threatened by weeds smothering and outcompeting them for water and nutrients. Sites 3, 5, 12, 13 and 14 have plantings less than two years old.

Site 3, 5 and 14 and near the gas substation require vigilant control of Caltrop and Paterson's curse.

Site 5 needs monitoring for Chilean Needle Grass particularly in the grassy area (Site 5b).

Site 5 requires mulching and spot weed application to keep weeds at bay until the shrubs and groundcovers become established.

Site 7 and 9 has high regeneration of many native seedlings so care needs to be taken during weed control. Only hand pull or spot spray at these sites.

Woody weeds

All woody weeds noted during the site assessments have been removed for the finish of the project.

Many woody weeds will unfortunately reappear due to seed dispersal from weeds on adjacent land so continued monitoring will be important. The main species were Desert Ash and Briar Rose and a variety of other species (Cotoneaster, Privet, Olive and Boxthorn) in Site 1.

10.1.2 Removal of tree guards

Remove tree guards as plants become established from sites planted within the last two years (Sites 3, 5, 12, 13 & 14).

10.1.3 Watering

Continue summer watering at Site 3, 14 and 5 over the summer of 2012/13 while plants are in the first year.

10.1.4 Pruning and removal of dead plants within town boundary

Within the town boundary it is important to keep aesthetic appeal to plantings particularly where there is path access. This involves pruning of shrubs as they mature and encroach upon the path and removal of dead shrubs annually. As dead plants are removed replant with groundcovers or low growing shrubs to allow visual breaks in the plant corridor for pedestrians. This would apply to Site 5, 7 and 9.

10.1.5 Access drainage

Site 13 has had particular problems with drainage. This needs accessing including checking for blockages in the culvert under the road. Large rain events or irrigation leakages could be detrimental to the site and result in the drowning of plants.

10.1.6 Walking path safety concerns at road and train crossings

The community has raised safety concerns relating to the gutter where the walking path crosses the road at Dhurringile Rd and O'Reilly Rd. Both roads have heavy local traffic and are used by trucks coming to and from local industries. It is recommended that an easy ramp be installed for prams, the elderly and children on bikes to negate the gutter.

Safety concerns were also raised regarding the lack of path at the train line crossing. The path currently leads users onto the road at the crossing and commences again on the other side. It is recommended that the path be installed between the tracks so pedestrians, prams and cyclists do not need to walk on the road.

10.1.7 Significant site management

Site 1 is the most significant site along Dhurringile Rd due to its species richness and the significant indigenous species that are only situated at this location. This site needs careful management to keep disturbance to a minimum. It is critical to have good woody weed management to prevent weeds from outcompeting the local species. Weed removal needs to be performed by a native vegetation specialist in groundcover species to ensure no damage to significant species.

Significant roadside vegetation signage needs to be installed at each end of the site.

10.2 Recommendations for future activities

Recommendations from the community for further enhancement of Dhurringile Rd have arisen from the community survey and talking in person with landowners and Tatura residents. Requests included more walking paths, seats and continued weed management.

More walking paths

Extension of the walking paths to the North and South of Tatura and providing links to other walking/bike path networks in Tatura was the most common request or suggestion by the community for the future. The construction of a walking path to the north of Hogan St would need to be located along the edge of the plantings, not through them. The path at Site 1 would need to be carefully placed to ensure little disturbance occurs to the remnant vegetation. Any activities at this site need to be carefully managed to ensure that disturbance is kept to an absolute minimum. Council's Sustainability and Environment Team will need to be involved with any activities at this site.

Seating

Community survey respondents also requested the installation of seats at a number of places along the path for walkers to rest or be able to sit and enjoy the ambiance of the plantings. Site 5 in particular would be a great location for seating.

Horse riding and dog droppings

Community members have raised concerns about horse riders digging up the gravel path and dog droppings spoiling the walk (particularly at Site 7 and Site 9). The installation of a dog dropping bag dispenser may encourage cleanliness of the area. Prevention of horse riding activities would help reduce path maintenance and increase the paths appeal to walkers.

Weed management

It would be very beneficial to undertake an information and awareness campaign about problematic woody weed species (in particular garden escapees) and the impact they are having on our environment and revegetated sites.

11 In closing

The Crouching Emu Revegetation Project was a highly successful, Tatura community driven project that concluded at the end of 2012. The Project's mission to establish an environmental corridor containing indigenous species along Dhurringile Road, Tatura was achieved. The Project spent the last seven years protecting and enhancing the remnant native vegetation present along Dhurringile Road through extensive revegetation activities. A strong emphasis was placed on achieving these objectives via a committed community engagement process to increase environmental awareness.

Although the Committee is saddened that the Project has come to an end, all members are filled with a deep sense of pride and satisfaction that the Project has been a resounding success. It is now time to handover the management of these revegetated sites to Greater Shepparton City Council and the Dhurringile and District Landcare Group and share our knowledge and experiences with others to ensure other revegetation projects can learn from our achievements.

The two major factors that attributed to Project successes have been the establishment of strong partnerships and relationships between State and local government, community groups and the community themselves; and placing a strong emphasis on community engagement and community participation.

The Committee would like to thank the following organisations for their contribution and commitment to the Crouching Emu Revegetation Project:

- Greater Shepparton City Council
- Goulburn Murray Landcare Network (GMLN)
- Dhurringile and District Local Area Plan/Landcare Group
- The Department of Primary Industries (DPI)
- Tatura Revitalisation Committee
- Generations Church ACC, Tatura
- and Transition Tatura.

The Committee would like also like to thank the following major Project supporters for their tireless efforts over the last seven years:

- The Goulburn Broken Catchment Management Authority
- Tatura Primary School
- Sacred Heart School
- Bethel Christian College
- Mooroopna Secondary College
- The Mission Australia National Green Jobs Corps work crew
- The Tatura Guardian and the Tatura Community Area Bulletin
- and the Tatura community, particularly the residents and landholders along Dhurringile Road.

The revegetated native vegetation along Dhurringile Road, Tatura will be the long lasting legacy of the Crouching Emu Revegetation Project that will be enjoyed by many future generations of the Tatura community.

Appendix I – Crouching Emu Roadside Assessment Sheet

CROUCHING EMU ROADSIDE ASSESSMENT SHEET (Feb 2012)

Date: / /2012 Observers Names: Travis Turner and Wendy D'Amore Site Number:

Site Location: From: _____To: _____

EVC: Plains Woodland GPS Waypoint: Site history:

1. SITE AREA: Width: m Length: m Total Area: m^2

2. Native Vegetation Cover Indicate vegetation cover using the following numbers

5 = > 75% **4** = 41 - 75% **3** = 11 - 40% **2** = 5 - 10% **1** = 1 - 4% **0** = 0%

3. Natural Regeneration of Young Native Trees and shrubs

Circle one box for each:

	Shrubs	Trees
Nil	**0**	**0**
Slight	**1**	**1**
Moderate	**2**	**2**
Extensive	3	3

4. LARGE TREES Indicate the presence of large trees in relation to EVC woodlands benchmark by circling appropriate score (EVC benchmark for plains woodland is 15/ha trees over 70cm diameter at breast height):

0% of the benchmark number of large trees/ha	**0**
1 - 19%	**1**
20 - 39%	**2**
40 - 69%	3
70 - 99%	**4**
100%	**5**

5. NATIVE UNDERSTOREY Circle appropriate score;

	Diversity: 0–5Species	6-10 species	>10 species
Percentage Cover: <5%	0	0.5	1
5 - 25%	1	2	3
26 - 50%	3	4	5
>50%	5	6	7

6. WEED COVER

>50% cover of weeds	**0**
26-50% cover of weeds	**1**
10-25% cover of weeds	**2**
5-9% cover of weeds	3
<5% cover of weeds	**4**

7. REVEGETATION SUCCESS Indicate the survival rate of the planted tube stock

<10% = **0** 10-20% = **1** 21-50% = **2** 51-70% = 3 Over 70% = **4**

8. PRESENCE OF HOLLOW BEARING TREES (ALIVE OR DEAD)

Site within very close proximity to hollow bearing trees Yes = **2** No = **0**

9. Does the site link with other areas of native vegetation Yes = **2** No = **0**

10. POTENTIAL FOR WILDLIFE CORRIDORS Indicate the continuity of native vegetation species

1 = Isolated patches of vegetation **2** = scattered vegetation

3 = Mostly continuous vegetation **4** = Continuous vegetation

11. VEGETATION ON ADJACENT LAND

Indicate using the following numbers: **1** = Cleared land, plantations, orchards or buildings adjoining

2 = Scattered native vegetation adjoining **3** = Extensive native vegetation adjoining

SCORING

Native Vegetation (Q2 + Q3 + Q4 + Q5 + Q7): + + + + = /27 (a)

Weed Cover (Q6): = /4 (b)

Habitat Value (Q8 + Q9 + Q10 + Q11): + + + = /11 (c)

Total Conservation Percentage: (a + b + c) /42 * 100 = %

Note: Roadside verges and other areas unsuitable for revegetation are only eligible for Q's 2, 3, 4, 5 & 6

1

2. NATIVE SPECIES OBSERVED

Botanical Name	Common Name	
Acacia acinacea	Gold Dust Wattle	
*Acacia brachybotrya**	Grey Mulga	
*Acacia cognata**	Bower Wattle	
Acacia dealbata	Silver Wattle	
Acacia implexa	Lightwood	
Acacia longifolia	Sallow Wattle	
Acacia montana	Mallee Wattle	
Acacia paradoxa	Hedge Wattle	
*Acacia pendula**	Weeping Myall	
Acacia pycnantha	Golden Wattle	
Acacia verniciflua	Varnish Wattle	
Acaena echinata	Sheeps burr	
Arthropodium minus	Vanilla Lily	
Atriplex semibaccata	Creeping Saltbush	
Austrostipa elegantissima	Feather Spear Grass	
Austrostipa spp.	Spear Grass	
Bracyscome viscosa	Sticky Everlasting	
Bulbine bulbosa	Bulbine lily	
Bursaria spinosa	Sweet Bursaria	
Callistemon paludosus	River Bottlebrush	
Calocephalus citreus	Lemon Beautyheads	
Calotis anthemoides	Cut-leaf Burr-daisy	
Calotis scabiosofolia	Rough Burr-daisy	
Carex inversa	Knob Sedge	
Chloris truncate	Windmill Grass	
Chrysocephalum apiculatum	Common Everlasting	
Chrysocephalum semipapposum	Clustered Everlasting	
Convolvulus erubescens	Pink Bind Weed	
Danthonia caespitosa	Common Wallaby Grass	
Danthonia setacea	Bristly Wallaby Grass	
Daviesia ulicifolia	Gorse Bitter Pea	
Dianella revoluta	Black Anther Flax Lily	
Dilwinia spp.		
Dodonea viscosa	Wedge-leaf Hop Bush	
Dodenea spp.	Hop Bush	
Einadia nutans	Nodding Saltbush	
Enchylaena	Ruby Saltbush	
Enteropogan acicilaris	Curly Spider Grass	
Epilobium spp.	Willow Herb	
Eryngium ovinum	Blue Devil	
Eucalyptus melliodora	Yellow Box	
Eucalyptus microcarpa	Grey Box	
*Eucalyptus spp**		
Eutaxia diffusa	Spreading Eutaxia	
Eutaxia microphylla	Common Eutaxia	
Glycine clandestina	Twining Glycine	
Glycine tabacina	Variable Glycine	
Lomandra filiformis	Wattle Mat Rush	
Melaleuca spp.	Paperbark	
Oxalis perennans	Native Oxalis	
Pimelea curviflora	Curved Rice Flower	
Pittosporum phylliraeoides	Weeping Pittosporum	
Poa labillardieri	Tussock Grass	
Poa sieberana	Grey Tussock Grass	
Pycnosorus globulus	Drumsticks	
Senna artemesioides	Desert Cassia	
Typha spp.	Cumbungi	
Wahlenbergia spp.	Bluebell	

*Non-Indigenous to the Shepparton Area

6. WEEDS PRESENT:

Botanical Name	Common Name	
Acetosella vulgaris	Sorrel	
Amaranthus cruentus	Redshank	
Amaranthus macrocarpus	Amaranthus	
Anagallis arvensis	Red or Blue flowered	
Artotheca calendula	Capeweed	
Asparagus officinalis	Asparagus	
Avena spp.	Wild Oats	
Bromus spp.	Brome Grass	
Capsella bursa-pastoris	Sheppards Purse	
Cardaria draba+	Hoary Cress	
Cichorium intybus	Chicory	
*Cirsium vulgare^*	Spear Thistle	
Cirsium spp.	Thistle	
Chenopodium spp.	Fat Hen	
Convolvulus arvensis	Bindweed	
Conyza albida/bonarienis	Fleabane	
Cotoneaster spp.	Cotoneaster spp.	
Crataegus monogyna+	Hawthorn	
Cynodon dactylon	Bermuda Couch	
Echium plantagineum+	Paterson's Curse	
Ehrata spp.	Veld grass	
*Foeniculum vulgare^*	Fennel	
Fraxinus angustifolia #	Desert Ash	
Galium aparine	Cleavers/sticky weed	
Heliotropium europaeum	Heliotrope	
Hordeum spp.	Barley Weed	
Hypochoeris radicata	Cats Ear/Flat Weed	
Juncus acutus+	Spiny Rush	
Lactuca serriola	Prickly Lettuce	
Lepidium spp.	Peppercresses	
Ligustrum lucidum	Privet	
Lolium sp	Rye Grasses	
Lycium ferocissimum+	Boxthorn	
Malva spp.	Mallow	
Marrubium vulgare+	Horehound	
Medicago spp.	Medic	
Modiola caroliniana	Red Flowered Mallow	
*Nassella neesiana^*	Chilean needle grass	
Nassella trichotoma~	Serrated Tussock	
Olea europaea #	Olive	
Oxalis spp.		
Paspalum dilatatum	Paspalum	
Picris echioides	Bristly Oxtongue	
Phalaris aquatica #	Canary Grass	
Phalaris minor	Lesser canary grass	
Plantago lanceolata	Ribwort	
Polygonum aviculare	Wire weed	
Populus alba	Silver Poplar	
Portulaca oleracea	Pig weed	
Prunus spp.	Plum	
Raphanus raphanistrum	Wild Radish	
Romulea rosa	Onion Weed	
Rosa rubiginosa+	Briar Rose	
Rumex spp.	Dock	
Rubus fruticosus+	Blackberry	
*Salix spp.^*	Willow	
Salvia verbenaca	Wild Sage	
Schinus molle	Peppercorn	
Solanum spp.	Nightshade	
Sonchus asper	Sow Thistles	
Sonchus oleraceeus	Milk Thistles	
Tribulus terrestris+	Caltrop	
Trifolium augustifolium	Narrow leaf clover	
Trifolium spp.	Clover	
Vicia sativa subsp. Sativa	Vetch	

+ Regionally Controlled Weed, ^ Restricted Weed,
# Undeclared Weed, ~ Regionally Prohibited Weed

2

CROUCHING EMU ROADSIDE ASSESSMENT SHEET (Feb 2012)

Date: / / Observer names: Travis Turner / Wendy D'Amore Site: -

GENERAL COMMENTS:

Include any special species/features (mark these as accurately as possible on the map), any evidence of fauna and any other features of the roadside which could not be recorded elsewhere on the sheet. This should also include an overall description of the features on the roadside and what you think the conservation value of the roadside would be.

10 UTILITY SERVICES

Please tick box if utility present:
Utilities may not always be visible (ie underground cables).

Nil ☐

Telecommunications ☐

Electricity (underground or overhead) ☐

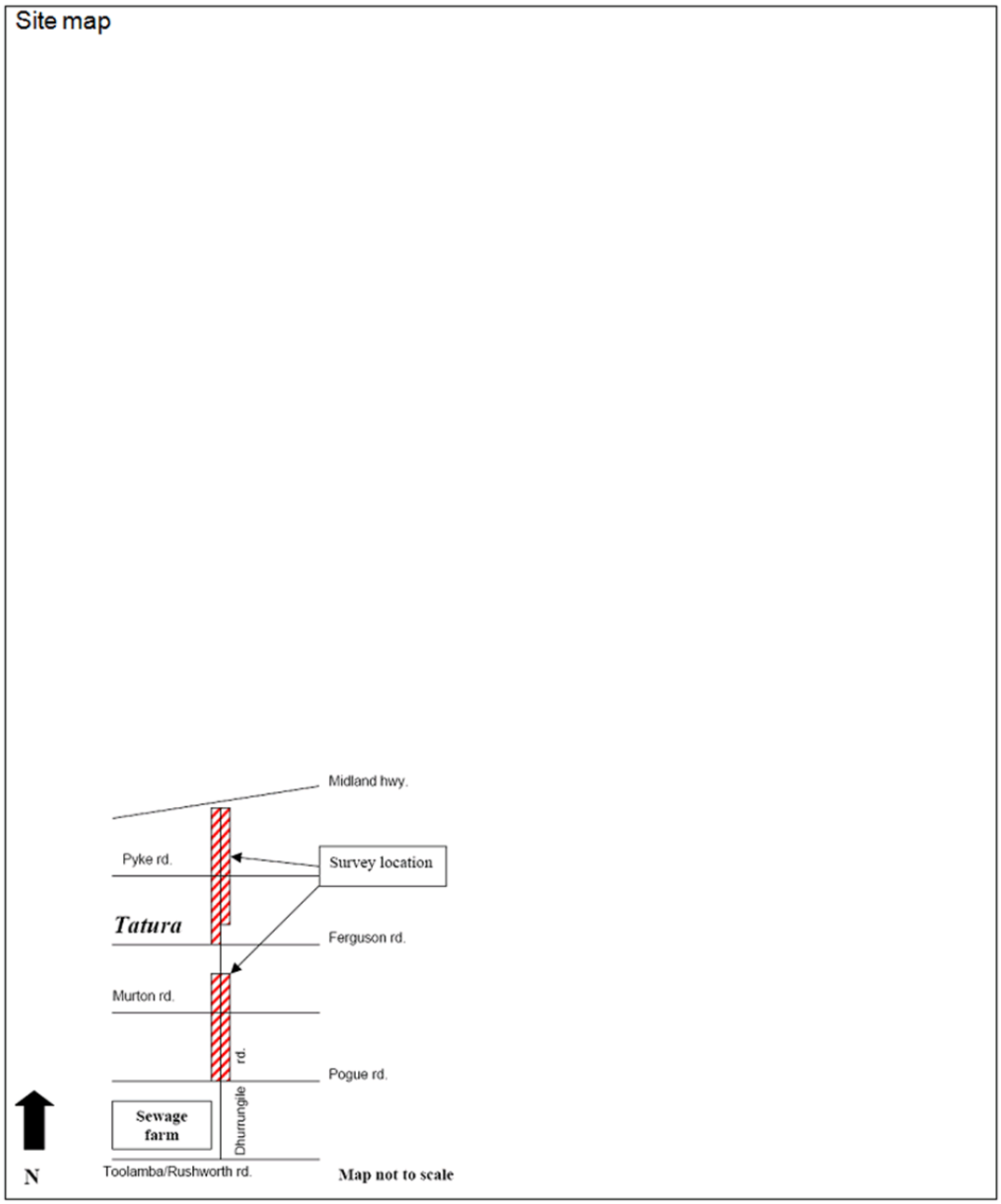
Gas ☐

Water ☐

Sewage ☐

Comments:

3


Site map
Midland hwy.
Pyke rd.
Survey location
Tatura
Ferguson rd.
Murton rd.
Pogue rd.
Sewage farm
Dhurrungile rd.
Toolamba/Rushworth rd.
N
Map not to scale

Appendix II – Native species present during Dhurringile Rd revegetation site assessments (February 2012)

Botanical Name	Common Name	Site 1	Site 2	Site 3	Site 4	Site 5	Site 7	Site 8	Site 9	Site 10	Site 11	Sit
Acacia acinacea	Gold Dust Wattle	✓	✓	✓	✓	✓	✓R	✓	✓R	✓	✓	
Acacia brachybotrya	Grey Mulga					✓						
Acacia dealbata	Silver Wattle			✓2012								
Acacia genistifolia	Spreading Wattle	✓	✓			✓	✓		✓		✓	
Acacia hakeoides	Hakea Wattle		✓		✓		✓				✓	
Acacia implexa	Lightwood				✓	✓	✓	✓	✓	✓		
Acacia saligna	Golden Wreath Wattle	✓										
Acacia montana	Mallee Wattle	✓	✓	✓	✓R	✓R	✓R	✓	✓R	✓	✓	
Acacia paradoxa	Hedge Wattle	✓	✓		✓	✓		✓		✓		
Acacia pendula	Weeping Myall											
Acacia pycnantha	Golden Wattle	✓	✓		✓	✓R	✓R	✓	✓R	✓	✓	
Acacia verniciflua	Varnish Wattle											
Acaena echinata	Sheeps burr	✓										
Atriplex semibaccata	Creeping Saltbush					✓	✓					
Austrostipa spp.	Spear Grass	✓										
Bracyscome sp	Everlasting											
Bursaria spinosa	Sweet Bursaria	✓	✓	✓	✓	✓	✓	✓		✓		
Callistemon sieberi	River Bottlebrush	✓			✓		✓		✓			
Calocephalus citreus	Lemon Beautyheads					✓	✓	✓		✓		
Carex tereticaulis	Sedge											
Cassinia arcuata	Drooping Cassinia								✓			
Chloris truncate	Windmill Grass	✓	✓			✓	✓					
Chrysocephalum semipapposum	Clustered Everlasting	✓										
Danthonia caespitosa	Common Wallaby Grass	✓	✓			✓	✓		✓			
Danthonia setacea	Bristly Wallaby Grass	✓				✓						
Dianella revoluta	Black Anther Flax Lily	✓				✓	✓	✓		✓		
Dillwynia spp.	Parrot Pea				✓					✓	✓	

Botanical Name	Common Name	Site 1	Site 2	Site 3	Site 4	Site 5	Site 7	Site 8	Site 9	Site 10
Dillwynia cinerescens	Grey Parrot Pea									
Dodonea viscosa	Wedge-leaf Hop Bush	✓	✓R	✓		✓	✓R			
Dodenea spp.	Hop Bush					✓R	✓	✓	✓	✓
Einadia nutans	Nodding Saltbush	✓				✓				
Enchylaena	Ruby Saltbush					✓				
Enteropogan acicilaris	Curly Spider Grass		✓		✓	✓	✓			
Epilobium spp.	Willow Herb	✓	✓		✓	✓	✓	✓		✓
Eucalyptus microcarpa	Grey Box	✓			✓	✓	✓	✓	✓	✓
Eucalyptus melliodora	Yellow Box	✓			✓			✓		✓
Eutaxia microphylla	Common Eutaxia	✓				✓			✓	
Glycine clandestina	Twining Glycine	✓								
Glycine tabacina	Variable Glycine	✓								
Hardenbergia sp	Happy wanderer					✓				
Juncus sp	Native Rush						✓			
Lachnagrostis sp	Blown grass				✓					
Leptospernum obovatum	River Tea-tree			✓2012						
Lomandra filiformis	Wattle Mat Rush	✓								
Melaleuca lanceolata	Black Paperbark			✓2012						
Melaleuca spp.	Paperbark	✓								
Muehlenbeckia florulenta	Tangled Lignum			✓2012						
Oxalis perennans	Native Oxalis		✓		✓		✓			
Panicum sp	Panic	✓		✓		✓				
Pittosporum phylliraeoides	Weeping Pittosporum		✓			✓				
Poa labillardieri	Tussock Grass					✓				
Pycnosorus globulus	Drumsticks	✓								
Rumex sp	Native Dock									
Senna artemesoides	Desert Cassia	✓							✓	

R indicates there were young plants present as a result of natural regeneration.

2012 indicates this species was planted in 2012 after the roadside survey was completed.

Appendix III – Weed species present during Dhurringile Rd revegetation site assessments (February 2012)

Botanical Name	Common Name	Site 1	Site 2	Site 3	Site 4	Site 5	Site 7	Site 8	Site 9	Site 10	Sit
Acetosella vulgaris	Sorrel	✓									
Alternanthera spp.	Joyweed										
Artotheca calendula	Capeweed	✓									
Asparagus officinalis	Asparagus	✓									
Avena spp.	Wild Oats	✓	✓	✓	✓	✓		✓	✓	✓	✓
Bromus spp.	Brome Grass		✓		✓	✓	✓	✓	✓	✓	✓
Cichorium intybus	Chicory	✓	✓		✓	✓					
*Cirsium vulgare^*	Spear Thistle		✓		✓	✓	✓	✓		✓	✓
Chenopodium spp.	Fat Hen					✓					
Conyza albida/bonariensis	Fleabane		✓		✓						
Cynosurus echinatus	Rough dogs tail	✓									
Cynodon dactylon	Bermuda Couch	✓	✓		✓	✓	✓	✓	✓	✓	
Cyperus sp.	Umbrella Sedge		✓	✓	✓						
Echinochloa spp	Barnyard grass	✓				✓					
Dactylis glomerata	Cocksfoot	✓									
Fraxinus angustifolia #	Desert Ash	✓					✓		✓		
Gastridium phleoides	Nitgrass	✓									
Heliotropium europaeum	Heliotrope				✓	✓					
Hordeum spp.	Barley Weed		✓			✓					
Hypochoeris radicata	Cats Ear/Flat Weed	✓	✓								✓
Lactuca serriola	Prickly Lettuce	✓	✓		✓	✓	✓	✓	✓	✓	✓
Lepidium spp.	Peppercresses		✓		✓	✓					
Ligustrum lucidum	Privet	✓									
Lolium sp	Rye Grasses					✓					✓
Lycium ferocissimum+	Boxthorn	✓									
Malva spp.	Mallow	✓	✓		✓	✓	✓	✓		✓	
Marrubium vulgare+	Horehound	✓									
Medicago spp.	Medic							✓		✓	

Botanical Name	Common Name	Site 1	Site 2	Site 3	Site 4	Site 5	Site 7	Site 8	Site 9	S
Modiola caroliniana	Red Flowered Mallow		✓		✓	✓				
Nassella neesiana^@	Chilean needle grass					***				
Panicum sp	Panic grass	✓								
Paspalum dilatatum	Paspalum	✓	✓	✓	✓	✓	✓		✓	
Picris echioides	Bristly oxtongue	✓	✓		✓	✓	✓	✓		✓
Phalaris aquatica #	Canary Grass	✓		✓	✓				✓	
Phalaris minor	Lesser canary grass									
Plantago lanceolata	Ribwort	✓	✓		✓	✓	✓	✓	✓	
Polygonum aviculare	Wire weed		✓	✓	✓	✓		✓		✓
Portulaca oleracea	Pig weed					✓				
Ranunculas sp	Buttercup									
Romulea rosa	Onion Weed									
Rosa rubiginosa+	Briar Rose	✓	✓	✓	✓			✓	✓	
Rumex spp.	Dock	✓	✓		✓	✓				
Rubus fruticosus+	Blackberry									
Salix spp.^	Willow					✓				
Solanum spp.	Nightshade		✓		✓	✓				
Sonchus asper	Sow Thistles		✓		✓	✓	✓			
Sonchus oleraceeus	Milk Thistles		✓		✓	✓	✓	✓	✓	
Tribulus terrestris+	Caltrop				✓	✓				
Trifolium augustifolium	Narrow leaf clover	✓								
Trifolium spp.	Clover		✓							
Vicia sativa subsp. Sativa	Vetch									
Xanthium spinosum	Bathurst Burr									

~ Regionally Prohibited Weed, + Regionally Controlled Weed, @ Weed of National Significance, ^ Restricted Weed, # Undeclared weed of concern

*** Previously occurred at this site

Appendix IV – Fauna recorded during Roadside survey (8 March) and on three adjacent properties (31 August).

Common name	Scientific name	8th March 2012 - Roadside survey	31st August 2012 - Three private properties
Australian Magpie	*Gymnorhina tibicen*	✓	✓
Australian Raven	*Corvus coronoides*	✓	✓
Australian White Ibis	*Threskiornis molucca*	✓	
Australian Wood Duck	*Chenonetta jubata*	✓	✓
Black-faced Cuckoo-shrike	*Coracina novaehollandiae*	✓	
Blue-faced Honeyeater	*Entomyzon cyanotis*	✓	
Brown Goshawk	*Accipter fasciatus*	✓	
Brown falcon	*Falco berigora*	✓	
*Common Blackbird	*Turdus merula*	✓	✓
*Common Myna	*Acridotheres tristis*	✓	
*Common Starling	*Sturnus vulgaris*	✓	✓
Crested Pigeon	*Ocyphaps lophotes*	✓	✓
Eastern Rosella	*Platycercus eximius*	✓	✓
*European Goldfinch	*Carduelis carduelis*	✓	
Galah	*Eolophus roseicapillus*	✓	
Grey Shrike Thrush	*Colluricincla harmonica*		✓
*House Sparrow	*Passer domesticus*	✓	✓
Little Lorikeet	*Glossopsitta pusilla*		✓
Magpie-lark	*Grallina cyanoleuca*	✓	✓
Musk Lorikeet	*Glossopsitta concinna*	✓	✓
New Holland Honeyeater	*Phylidonyris novaehollandiae*		✓
Noisy Miner	*Manorina melanocephala*	✓	✓
Pied Butcherbird	*Cracticus nigrogularis*	✓	
Red Browed Firetail	*Neochmia temporalis*		✓
Red Wattlebird	*Anthochaera carunculata*	✓	✓
Red-rumped Parrot	*Psephotus haematonotus*	✓	✓
Silvereye	*Zosterops lateralis*		✓
Spotted Pardalote	*Pardalotus punctatus*		✓
*Spotted Turtle-Dove	*Streptopelia chinensis*	✓	✓
Striated Pardalote	*Pardalotus striatus*	✓	✓
Sulphur-crested Cockatoo	*Cacatua galerita*	✓	
Superb Fairy-wren	*Malurus cyaneus*	✓	✓
Wedge-tailed Eagle	*Aquila audax*	✓	
Welcome Swallow	*Hirundo neoxena*	✓	
White-breasted Woodswallow	*Artamus leucorynchus*	✓	
White-plumed Honeyeater	*Lichenostomus penicillatus*	✓	✓
Willie Wagtail	*Rhipidura leucophrys*	✓	✓
Total number of birds observed		**31**	**24**
Frogs			
Common Froglet	*Crinia signifera*	✓	
Pobblebonk Frog	*Limnodynastes durmerilii*	✓	
Spotted Grass Frog	*Limnodyastes tasmaniensis*	✓	

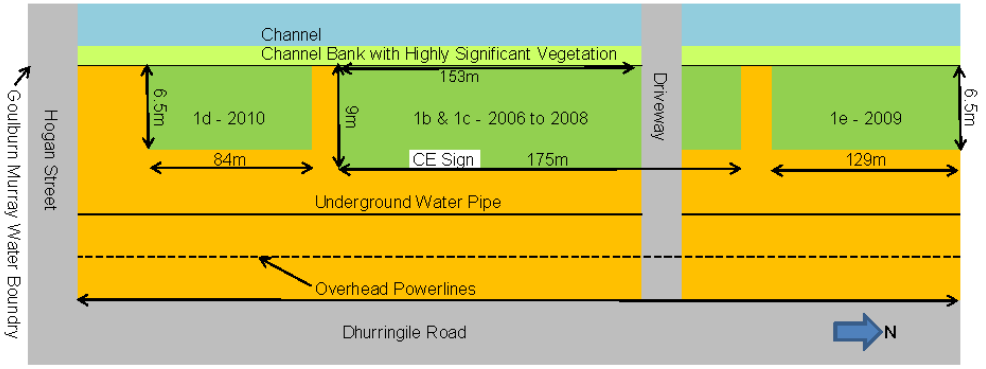
*exotic species

Appendix V - Summary of Crouching Emu site assessment scoring 2012

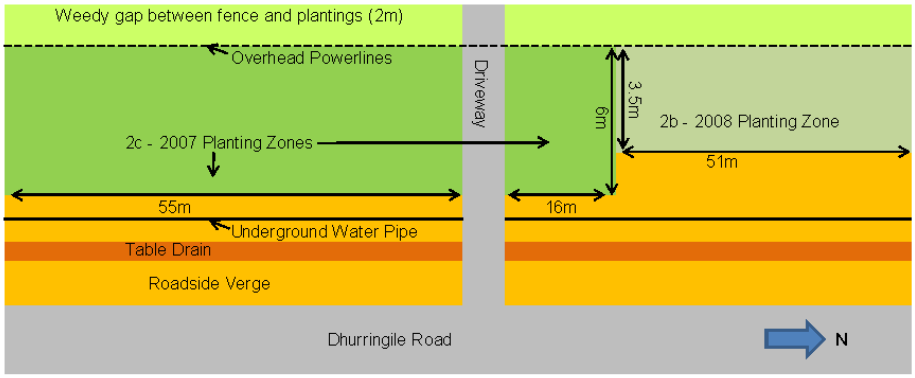
Site	Description	Year planted	1. Area m2	2. Native Vegetation Cover	3. Natural Re-generation	4. Large trees	5. Native Under-storey	7. Revegetation success	A. Native Vegetation Score =2+3+4+5+7	6. Weed Score	8. Presence of Dead Trees	9. Linked with other Native Vegetation	10. Potential for Wildlife Corridor	11. Vegetation on Adjacent Land	C. Habitat Value Score =8+9+10 +11	2012 Ecological Value Score (EVS) = (A+B+C/ Maximum Possible score for site) x 100	2009 EVS
Max Score				5	6	5	7	4	27	4	2	2	4	3	11	100	
1 b&c	Opposite church	2006 & 2008	975	5	2	3	7	3	20	1	2	2	4	2	10	74	69
1 d	opp Whim Inn	2010	546	5	1	5	3	0	14	1	2	2	4	2	10	60	N/A
1 e	Between 1 c & 4b	2009	1105	5	0	5	5	2	17	1	2	2	4	2	10	67	N/A
2b	Nth of Dann's	2008	179	3	1	0	4	2	10	0	0	2	4	2	8	43	37
2c	Infront of Dann's	2007	456	5	0	0	6	4	15	2	2	2	4	2	9	64	48
3b	Sth of Midland Hwy	2008	945	3	0	0	3	1	7	0	2	2	3	2	9	38	44
4b	Opp Johnstone	2008	1915	4	0	4	5	3	16	1	2	2	4	2	10	64	39
4c	Nth of Golf course	2009	1300	4	1	0	6	3	14	0	2	2	4	2	10	57	N/A
5b	Nth Railway, grassy area	N/A	910	3	0	4	2	n/a	9/23	0	2	2	4	3	11	53	42
5c & d	Nth Railway,	2007 & 2008	1881	5	2	5	7	3	22	1	2	2	4	3	11	81	60&67
7b	Hampton to Murton Rd	2006	2860	5	2	0	7	4	18	2	0	2	4	2	8	67	62
8b	Direct seeding site	2008 & 2010	4400	4	0	1	5	3	13	0	2	2	4	2	10	55	26
9	Hampton to Taylor Rd	2006	2405	5	3	0	7	4	19	2	2	2	3	2	9	83	76
10	Sth of Holm & Golding	2009	2145	4	0	3	5	3	15	0	2	2	4	2	10	62	N/A
11b	Nth of Pogue Rd West side	2010	2150	4	0	0	4	3	11	0	2	2	4	1	9	48	N/A
11c	Nth of Pogue Rd West side	2010	892	2	0	0	2	2	6	0	2	2	3	2	9	36	N/A
12	Infront of Fasano's	2011	2664	2	1	4	1	3	11	0	2	2	3	2	9	48	N/A
13	Infront of Handleys	2011	2111	1	0	2	0.5	1	4.5	0	0	0	2	3	5	23	N/A
14	Near Gas sub station	2011	676	1	0	0	0.5	4	5.5	0	0	2	3	2	7	30	N/A

Appendix VI – Site maps for each individual revegetation site

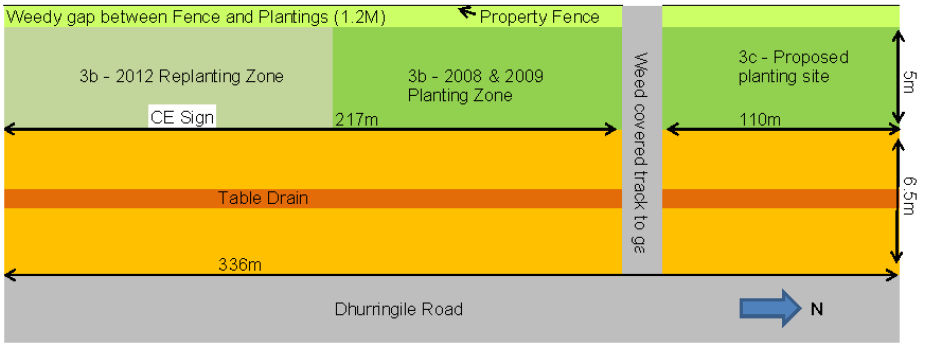
Site 1: Opposite Generations Church



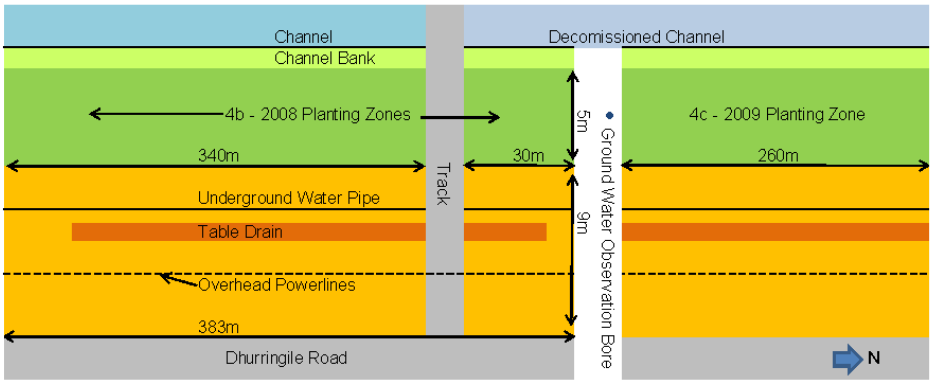
Site 2: 200 Dhurringile Road



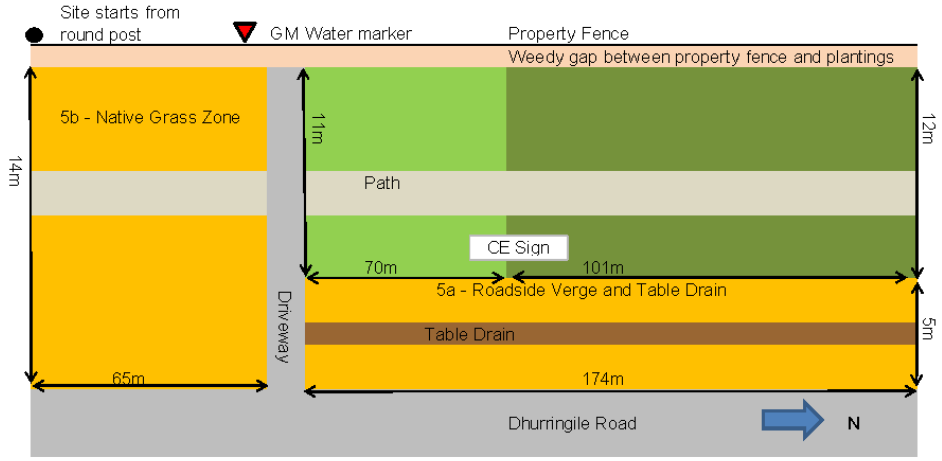
Site 3: South of the Midland Highway



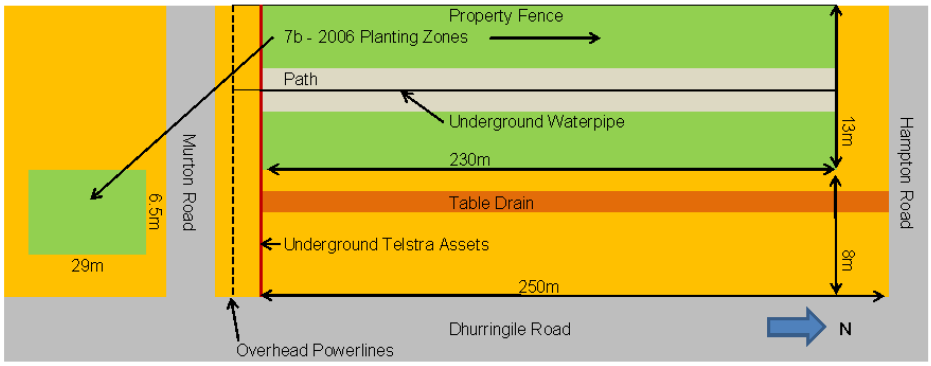
Site 4: Opposite Johnstone Rd



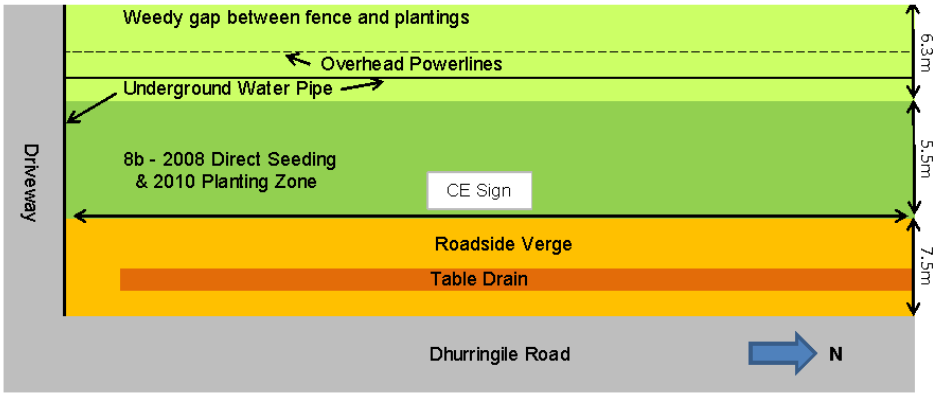
Site 5: North of the railway line



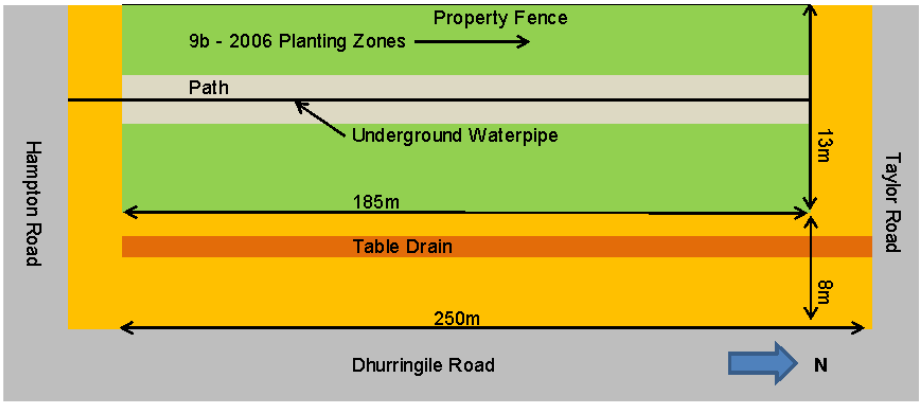
Site 7: Between Hampton and Murton Rds



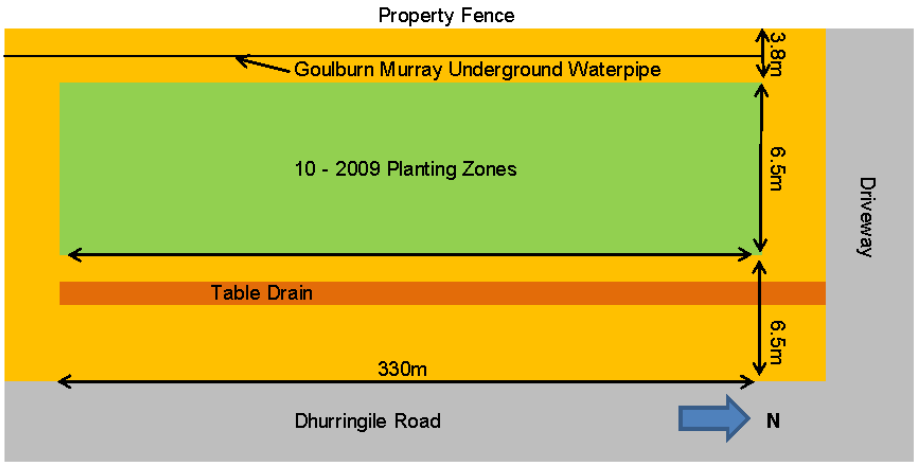
Site 8: Direct seeding site, south of Murton Rd



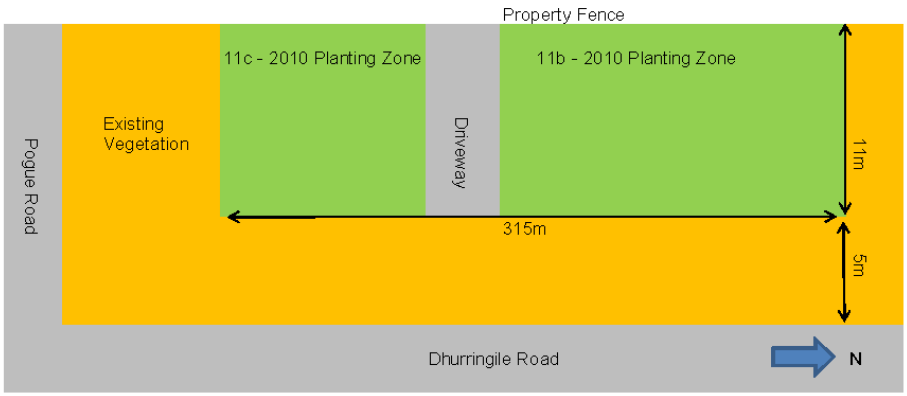
Site 9: Between Hampton and Taylor Rds



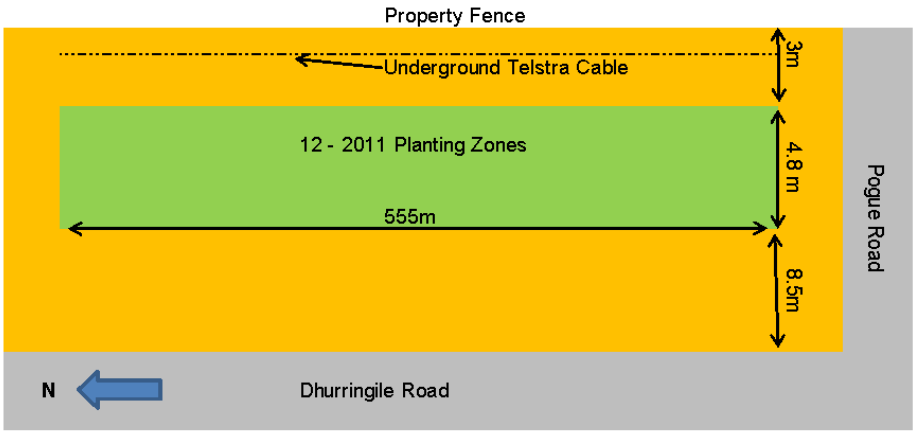
Site 10: South of driveway at 520 Dhurringile Road



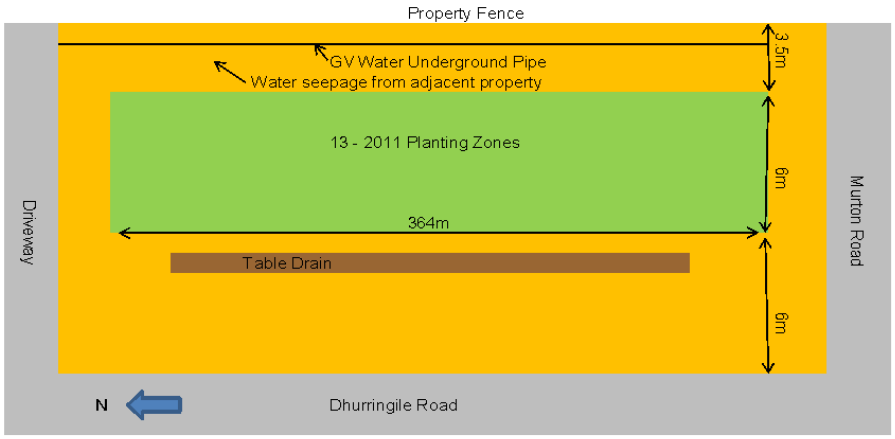
Site 11: North of Pogue Road, west side



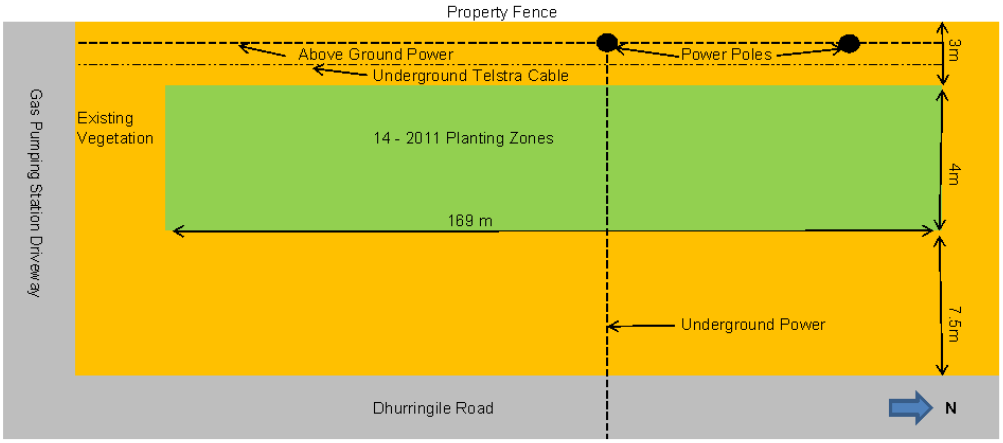
Site 12: North of Pogue Road, east side



Site 13: Opposite Hampton Rd



Site 14: Near gas sub station



Appendix VII - Front page Tatura Guardian article about the Project's community walk

The Tatura Guardian

WEDNESDAY, MAY 30, 2012 **$1.20** (GST inc) Published on Wednesday

Men's Shed looks to expand
> PAGE 3

Murchison man killed in car crash
> PAGE 2

Tatura enjoys tea with the lot

Tatura and district residents got behind one of the Cancer Council's major fundraising efforts by supporting Australia's Biggest Morning Tea at the Tatura Hotel on Sunday.

While raising funds for this worthy cause, those present enjoyed a range of sweets, cakes and of course, a cuppa, all for a gold-coin donation.

Venue manager at the hotel Kate Stanton said the morning tea raised about $960 for the Cancer Council, adding she was happy with the good turnout.

"By 10.15 everyone started rolling in and the number of kids that turned up was also pleasing to see. Fortunately the bad weather stayed away," she said.

"The children had plenty of activities to keep them busy, including a jumping castle, and everyone appeared to have a good morning."

Ms Stanton acknowledged the support the morning tea received from local businesses who provided items including vouchers, hampers and a meat tray which was raffled off during the day.

Brendan Ryan was happy to support Australia's Biggest Morning Tea on Sunday.

Young Travis Perry and Ian Davidson enjoy the 'wilderness' at Tatura's Lake Bartlett.

Lake walk a big hit

By **Bob Nicol**

There was a good turnout for the recent Look about Lake Bartlett presented by the Crouching Emu Project Committee, and funded in part by a grant from the Goulburn Broken Catchment Management Authority.

The community joined wildlife biologist Ian Davidson who led the walk looking at birds, habitat and ecology of the lake.

Goulburn Murray Landcare Network's Wendy D'Amore said Mr Davidson has 30 years experience in nature conservation and land management with a particular interest in birds.

She said the committee was excited to present the day, and was happy with its success.

Ms D'Amore said about 30 people turned up on the day and several bird species were identified, making it even better.

"The afternoon was beautiful and sunny with a variety of birds present. Three different types of lorikeets were seen in the flowering gums, a number of water birds in the lake and reed warblers in the reedy edges," she said.

"Altogether there were about 20 species of birds identified. The lake surrounds have been well maintained by the Greater Shepparton City Council."

Mr Davidson said the lake was a wonderful asset for Tatura residents and provided great habitat for birds.

"The vegetation on the southern side of the lake provided a filtering system for the stormwater as well as bird habitat. This was confirmed with the fact that swans had nested there last year," he said.

Marlain Perry, a local resident, said the walk and talk was very informative and the children were enthralled.

"It was a good community outing for all age groups, Marlain said.

Ms D'Amore People were appreciative of afternoon tea at the scout hall provided by the Tatura Senior Girl Guides, who also participated in the walk.

"A pleasant afternoon was had by those that attended," she said.

COUNCIL REDUCING CARBON FOOTPRINT — PAGE 3

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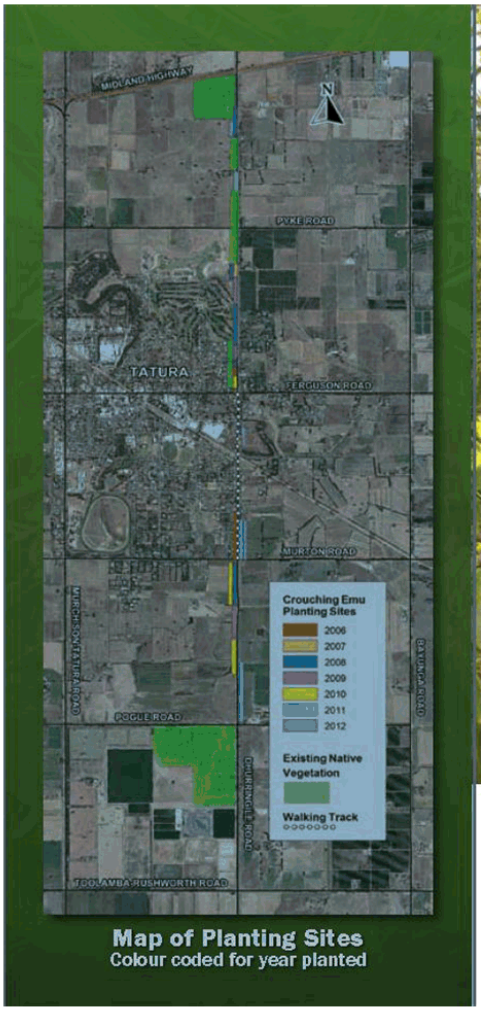
Appendix VIII – 2012 Crouching Emu Revegetation Project brochure



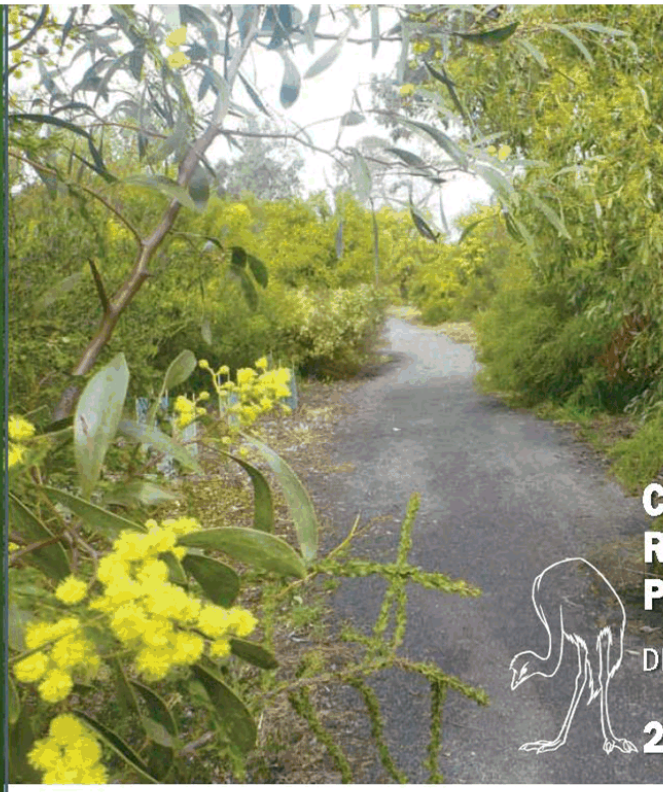


Photo: Revegetation site, North of the railway line 2012

For more information contact

Greater Shepparton City Council

Phone: 5832 9700

www.greatershepparton.com.au/crouchingemuproject.html

Project Achievements 2006-2012

The Crouching Emu Project, managed and funded primarily by the Greater Shepparton City Council, achieved the following:

Over 13,000 indigenous plants were planted along 4.6km of roadside along Dhurringile Road over six years to create **over 8 km of environmental corridor**. The corridor extends from the Midland Highway to the Toolamba Rushworth Rd. The conservation value of the vegetation communities has been significantly increased.

Weed removal has greatly reduced the density and diversity of weed species.

Walking paths have been constructed to encourage pedestrian and bicycle access throughout the planted vegetation and will allow for increased accessibility and appreciation of these enhanced areas into the future.

The town entrance now has an attractive green entry with signage highlighting the project.

Signage, brochures, surveys and media have increased awareness of the project, its achievements and community involvement.

Landcare Award: The Dhurringile and district Landcare Group was a recipient of a Shepparton Irrigation Region Landcare Partnership Award 2010 for its role in the project.

Tidy Town finalists: The project was nominated for two Tidy Towns Sustainable Communities 2011 Awards (and was a State finalist in the Community Government Partnership category).

Plant offer and bird survey for Dhurringile Road residents: The offer of indigenous plant species that would be suitable for gardens or properties and an opportunity to have a bird survey was taken up by some residents.

National Tree Day: An annual event involved the community in planting days including girl guides and scout groups.

Schools National Tree Day: Involved children annually from the three primary schools of Tatura in planting over 5000 plants with the help of secondary school students.

Lake Bartlett Walk, 2012: A community event to learn about the wetland habitat, ecology and birds of Lake Bartlett and its benefit to the Tatura township.

Project team

Greater Shepparton City Council
Goulburn Murray Landcare Network
Dhurringile and district Landcare Group
Department of Primary Industries
Tatura Revitalisation Committee
Generations Church ACC, Tatura
Transition Tatura

Thank you to our main supporters

Goulburn Broken Catchment Management Authority
Residents and landholders along Dhurringile Rd
Tatura Community
Landcare Volunteers
Tatura Primary School
Sacred Heart Primary School
Bethel Christian College
Mooroopna Secondary College
Mission Australia National Green Jobs Corps work crew
Tatura Area Community Bulletin
The Tatura Guardian

Photo: Revegetation site, North of the railway line 2007, before planting

Plants used in th

These are some of the plan
plantings which you may lik
gardens or properties. In ga
keep bushy and maintain s

Acacia acinacea (Gold du
sometimes spindly shrub to

Acacia genistifolia (Sprea
shrub to 2m. Creamy flowe

Acacia hakeoides (Hakea
to 4m, up to 7m across.

Acacia implexa (Lightwoo
tree to 15m. Flowers pale y

Acacia montana (Mallee
shrub to 3m. Woolly seed p

Acacia paradoxa (Hedge
shrub 2-4m. Great for sma

Acacia pycnantha (Golde
tree to 5m. Also our nation

Bursaria spinosa (Sweet
shrub to 5m. Fragrant white

Callistemon sieberi (River
shrub to 7m. Cream to pale

Dianella revoluta (Native
to 1m high. Long strappy le

Dilwynia cinerescens (Gr
up to 1.5m. Yellow or yellow

Dodonea viscosa (Wedge-
medium shrub 2-3m. Reddis

Einadia nutans (Nodding
climbing groundcover with

Eucalyptus meliodora (Ye
tree to 30m.

Eucalyptus microcarpa (
to 25m. Scaly grey bark.

Eutaxia microphylla (Com
to 1m or prostrate mat to 1

Pittosporum angustifoliu
Small weeping tree 3-9m.
flowers.

Appendix IX – 2012 Community Survey

Crouching Emu Revegetation Project
Community Survey March 2012

GREATER SHEPPARTON

Contact details (optional)

Name	
Address	
Phone/email	

Please circle the relevant answer.

Gender	Male	Female

Age category:	18-25	26-40	41-60	61+

Are you a primary producer?	Yes	No

How many years have you lived in Tatura?	

1) Are you aware of the Crouching Emu Revegetation Project?
   a) No
   b) Yes I have heard of it but I am unsure what it is
   c) Yes I have heard of it and I have some understanding of what it is
   d) Yes I have heard of it and I have a good understanding of what it is

2) Have you or your family been involved on the Crouching Emu planting days (non- school plantings)?
   a) No
   b) Yes

3) Has the project influenced the plants you have planted on your property?
   a) NO
   b) Yes I have seen the plants planted by the Crouching Emu project and have chosen to plant the same species at my property
   c) Don't know/Unsure

4) Would you be interested in planting indigenous plants on your property?
   a) No
   b) Yes (please leave contact details if you would like some plants)

5) If you have a property with native vegetation present would you be interested in having a bird survey and recommendations of how you can improve bird habitat on your property (no cost)?
   a) No
   b) Yes (please leave contact details, address, size of property)

6) On a scale of one to five how would you rate the project's success
   (1 extremely successful, 5 not at all successful)

Success of the project in involving the local landholders	1	2	3	4	5
Success of the project in involving the Tatura community	1	2	3	4	5
Success of the project in revegetating Dhurringile Road	1	2	3	4	5
Success of the project in beautifying Dhurringile Road	1	2	3	4	5

7) Do you have any suggestions regarding how the project could have been improved?

_____
_____
_____
_____
_____
_____

8) Do you have any suggestions for further works in the future along Dhurringile Rd, eg development of more paths?

_____
_____
_____
_____
_____
_____

Thank you for your time in completing this survey

Please return the completed survey in the Reply Paid envelope provided to:
Sustainability and Environment Officer
Greater Shepparton City Council
Locked Bag 1000
Shepparton VIC 3632

For further information contact:
Greater Shepparton City Council Sustainability and Environment Officer on Ph: 5832 9816

Appendix X – 2012 School Survey

Crouching Emu Revegetation Project
School Survey March 2012

GREATER SHEPPARTON

Thank you for participating in schools National Tree Day for the past 5 years. In 2009 you filled out a similar survey. We would like to follow on with a final survey to cover the last few years. It would be appreciated if you could take the time to answer the following questions.

1) In what ways has participating in National Tree Day been beneficial to your students?

2) What was it about the day that you enjoyed the most?

3) What was it about the day that you think your students enjoyed the most?

4) In what ways do you think the day could have been improved?

5) Would you like to see days such as this continue into the future?

   If yes, what would be the main things to consider/include when organizing them to maximize the student's learning? Would you like to include other activities?

6) Has participating in National Tree Day influenced or built upon curriculum in any way?

7) Has involvement with the project influenced plantings in the school?

8) Are the children more aware of the importance of planting native vegetation?

9) Has involvement with National Tree Day increased the school community's awareness of the CE project?

10) How would you rate the success of the project (1 unsuccessful – 5 highly successful)?

In beautifying the town entrance	1	2	3	4	5
In providing a wildlife corridor	1	2	3	4	5

11) Has the project contributed to the school in any other way?

12) Any final comments?

Thank you for completing the survey.

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