



# 9 Valleys Wildlife Corridor Project

Property Site Inspection

1971 Martindale Road, Martindale

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Hunter Councils  
Environment Division

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## 1 Introduction

The 9 Valley Wildlife Trail encompasses Jerry's Plains, Martindale and Sandy Hollow areas. These sites have been recognised for their significant ecological values and identified management requirements to improve condition, connectivity and resilience of native vegetation communities and their habitat.

The 9 Valleys Project engaged directly with the Martindale community through an information session, site assessments and a technical workshop to identify existing biodiversity values and opportunities to retain, protect and enhance these values through suitable on-ground activities to improve landscape connectivity across the Hunter Valley.

A small number of properties participated in site assessments to identify biodiversity values present and opportunities to connect vegetation patches internally and to neighboring properties.

The site assessment was undertaken of 1971 Martindale Road which involved a rapid vegetation survey, to identify and confirm vegetation communities present, while also gathering the following information:

- Habitat features including presence of habitat trees, fallen logs, burrows etc.
- Location of all identified vegetation communities, habitat features, potential areas for restoration planting, potential regeneration areas
- Land management issues including weed infestations, pest species
- Location of appropriate tree planting sites to connect contiguous vegetation patches and landscapes
- Areas suitable for restoration i.e. broad scale restoration to increase native grass species diversity
- Endemic tree species and appropriate spacing of trees (based on the existing vegetation communities) to be used in rehabilitation works.

It should be noted that the site assessment was conducted as a "rapid assessment" and was not intended to identify and map all landscape and biodiversity features. The assessment was designed to provide a snap shot of the key biodiversity values to inform advice on restoration and connectivity potential.

This report details advice based on the funding's of the site assessment.

## 2 General Property Description

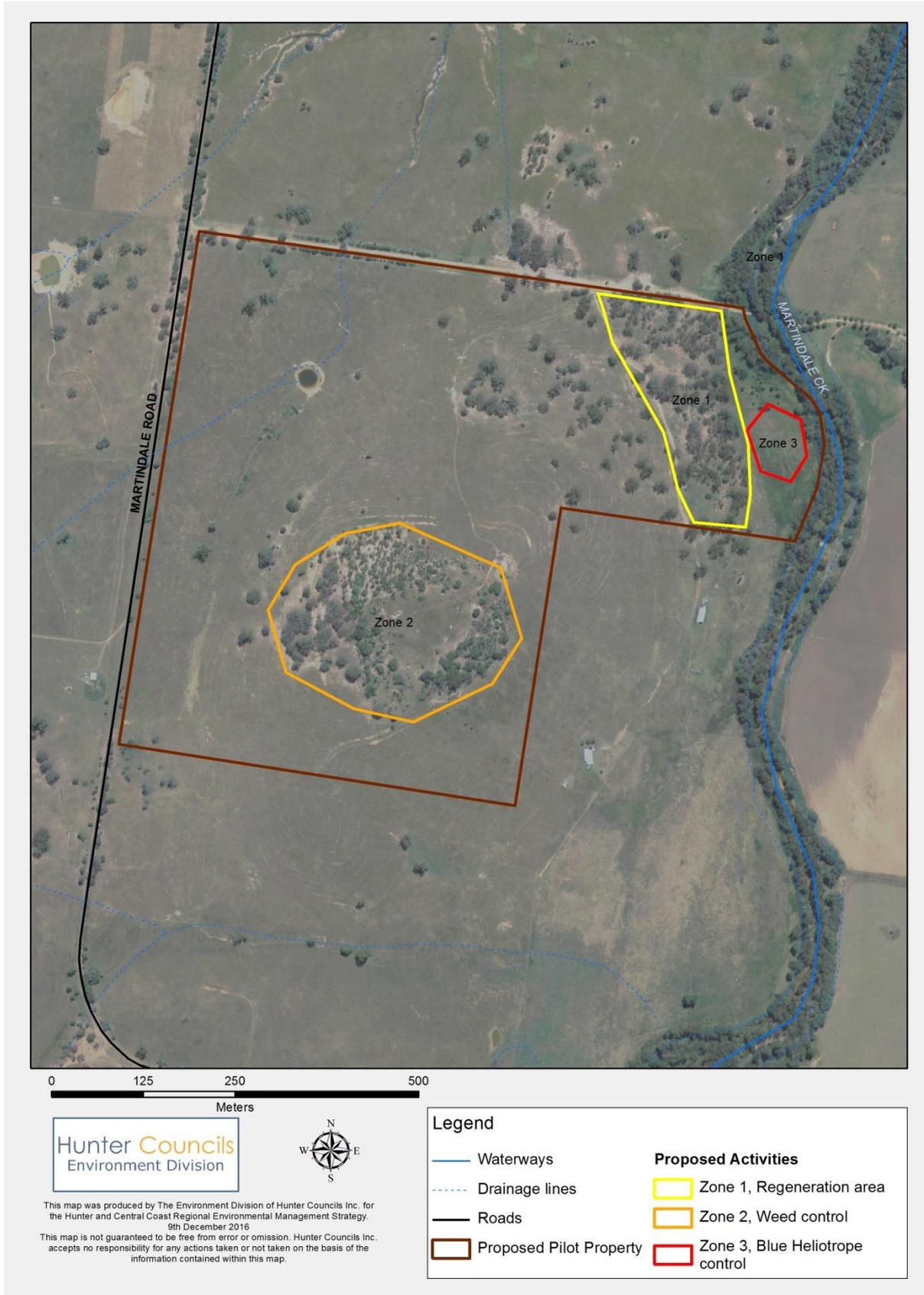
The property is 63 hectares, which includes approximately 375m of Martindale Creek frontage along the eastern boundary of the property. The property is 80% cleared and is actively used for breeding horses. The property contains a number of small vegetation patches including (refer Map 1):

**Zone 1** – Riparian area containing remnant native vegetation

**Zone 2** – A small patch of native vegetation along a steep and rugged slope to the north eastern corner of the property.

**Zone 3** – A small hill containing remnant native vegetation covering a 6 hectare area located to the southern side of the property.

**Zone 4** – Regeneration area to the north east of the existing dwelling, which horses' access.



**Map 1: Proposed on-ground Activities**

### 3 Property Inspection Method

Date of Inspection: The inspection was undertaken on the 26<sup>th</sup> August 2016

Duration of Inspection: 1.5 hours

#### Inspection Area

The following areas were inspected:

- Martindale Creek (Zone 1)
- Remnant vegetation on the north eastern corner (Zone 2)
- Small vegetated hill to on the southern side of the property (Zone 3)

The property was inspected for:

Vegetation Type, condition and extent this included

- A rapid vegetation survey along Martindale Creek i.e. identification of dominant native and introduced species was recorded (Zone 1)
- Rapid vegetation survey within the vegetated hill (Zone 3)
- A rapid vegetation survey was not completed at Zone 2 – the main trees species were noted.

Habitat Features

- Tree hollows, fallen logs and dead stags
- Assess riparian zone for potential fauna habitat

Management issues

- Evidence of pest species
- Soil Erosion
- Priority weed infestations

Potential Landscape connectivity and restoration opportunities

- Existing and potential natural regeneration areas (Zone 1 and Zone 3)
- Potential restoration areas to improve landscape connectivity

## 4 Outcomes

### 4.1 Native Vegetation

The rapid vegetation assessments undertaken (See Map 1 for location details), identified the dominant plant species throughout the site. As the site has 3 distinct vegetated areas, two vegetation assessments were undertaken, the results of which are provided in Tables 1 and 2.

#### Zone 1 – Riparian Zone

The canopy is dominated by 2 main tree species, the mid-storey is sparse along sections of the river bank, and the ground cover is dominated by introduced grasses, annual and perennials.

**Table 1: Dominant Plant Species in the Riparian Zone**

Stratum	Species Name	Common Name
Canopy	<i>Casuarina glauca</i>	Swamp She-oak
	<i>Eucalyptus species</i>	(unidentified – photo ..)
Mid Storey	<i>Leptospermum spp.</i>	Tea tree
	<i>Hymenanthra dentata</i>	Tree Violet
	<i>Acacia spp.</i>	(bi-pinnate)
	<i>Acacia implexa</i>	Hickory Wattle
	<i>Lomandra multiflora</i>	Many-flower Mat-rush.
Ground Storey	<i>Lomandra longifolia</i>	Basket Grass
	<i>Microleana stipoides</i>	Weeping Meadow Grass
	<i>Chloris spp.</i>	Windmill Grass



**Photograph 1:** Site of Grey-crowned Babbler along the creek bank

#### Zone 2 – Woodland and Derived Native Grassland

A rapid flora assessment was not undertaken at this site, although it was noted that the dominant trees species present on the site included *Eucalyptus melliodora* (Yellow Box) and *Eucalyptus microcarpa* (Grey Box), which suggests the vegetation community may be White Box- Yellow Box-Blakeley’s Redgum Grassy Woodland and Derived Native Grassland (a full vegetation Assessment should be undertaken to confirm)

**Table 2:** Dominant Plant Species in the Riparian Zone

Stratum	Species	Common Name
Canopy	<i>Allocasuarina luehmanni</i>	Bull-oak
	<i>Brachychiton populneus</i>	Kurrajong
	<i>Dysoxylum fraserianum</i>	Rosewood
	<i>Notelaea microcarpa</i>	Olive
	<i>Geijera parviflora</i>	Wilga
	<i>Acacia spp.</i>	(bi-pinnate species)

Stratum	Species	Common Name
Mid Storey	<i>Acacia falcata</i>	Sickle wattle
	<i>Solanum spp.</i>	
	<i>Acacia implexa</i>	Hickory wattle
	<i>Bursaria spinose</i>	Australian blackthorn
	<i>Breynia oblongifolia</i>	Coffee Bush
	<i>Acacia salicina</i>	Coobah
Ground Storey	<i>Cheilanthes sieberi</i>	Poison Rock Fern
	<i>Cymbopogon refractus</i>	'Barbed Wire Grass'
	<i>Calotis lappulacea</i>	Yellow burr daisy
	<i>Rytidosperma spp.</i>	Wallaby grass
	<i>Brachyscome spp.</i>	Cut-leaved daisy



**Photograph 2:** Remnant native vegetation within Zone 3

#### Zone 4 - Woodland

This site was observed to be regenerating Eucalypts of varying age classes from saplings to mature. The dominant species was *Eucalyptus dawsonii*. The mid-storey and ground cover species is sparse and almost absent in some areas. A rapid assessment was not completed for this site.

### **4.2 Habitat Features**

The following habitat features were noted during the property inspection:

#### **Martindale Creek**

Martindale Creek provides ideal habitat and refuge for a number of woodland birds. The riparian zone contains well established canopy trees, scattered mid-storey layer and grassy ground cover dominated by grasses and rushes.

There is evidence of numerous and extensive Wombat burrows along the entire creek frontage.

#### **Fallen logs and dead stags**

Zone 1 - Multiple fallen logs were also observed along the creek bank, providing potential habitat for reptiles and ground dwelling mammals.

Zone 2 and 3 – also contained evidence of fallen logs.

#### **Tree Hollows**

Zone 1 contains multiple mature *Casuarina glauca* trees are present, some of which contain hollows providing potential habitat for arboreal mammals and micro-bats.

Zone 2 was not inspected by foot, no hollows were clearly identified. The trees present on the site were of a mix of ages classes. A number of mature trees with potential hollows were noted.

Trees hollows were not evident within Zone 3.

### **4.3 Threatened Flora and Fauna**

Zone 2 is likely to contain native vegetation consistent with the Federally Listed Critically Endangered *White Box- Yellow Box-Blakeley's Redgum Grassy Woodland and Derived Native Grassland*. A detailed assessment is required to confirm the vegetation community.

Grey-crowned Babblers (listed as Threatened Species under the NSW *Threatened Species Conservation Act*) were observed foraging within the riparian zone (Zone 1).

### **4.4 Management Issues**

#### **Noxious and Environmental Weeds**

Overall the weed infestation is minimal across the entire property. Multiple African Boxthorn appear to have been poisoned in the past. There is also evidence that Tree Violet – often confused with African Boxthorn had also been sprayed along the creek line.

The adjacent property to the north contains widespread *Cestrum* in Martindale Creek and is actively undertaking control works up stream of their property.

The main weed species identified during the inspection and are detailed in Table 3.

**Table 3:** Weed Species Located on the property

Species Name	Common	Weed Listing	Zone
<i>Heliotropium amplexicaule</i>	Blue Heliotrope		1
<i>Opuntia stricta</i>	Prickly Pear		3
<i>Galenia pubescens</i>	Galenia	Environmental	3

## 5 Managing and Enhancing Conservation Corridors (proposed on-ground activities)

The 9 Valleys Wildlife Trail project is primarily focused on developing functional wildlife corridors, ultimately providing refuge and foraging resources for local fauna throughout the Hunter Valley from the Jerrys Plains to Giants Creek region. As such this report focuses on key opportunities that would contribute to restoring and expanding the gully vegetation to provide habitat links to the native vegetation to the south of the property. Please note that there may be a number of additional opportunities that exist that would increase the extent of wildlife habitat throughout the property, but the proposed actions included in this report are limited to the scope of the inspection

Following are details of the management priorities identified during the site inspection. The location for each of these actions is detailed on Map 1.

### 5.1 Natural Regeneration

Fencing or partial fencing of Zone 2 to restrict horse access will enable natural regeneration of the largely intact native vegetation which will also assist with improving this important habitat for woodland birds as it contains a diverse mid-storey and ground-storey layer. Zone2 occurs on a relatively steep slope and containing intact native vegetation.

### 5.2 Landscape Connectivity (Stepping stones and Shelter Belts)

#### Stepping Stones

Stepping stones or landscape connectivity is the connection of two patches of vegetation which are isolated or devoid of any vegetation features. There is potential to create an effective corridor link, commencing from the north-eastern corner of the property, linking to Zone 3. Planting of additional Eucalyptus trees together with mid-storey species covering a 25 square metre area would assist in creating habitat to allow the movement of woodland birds and arboreal mammals.

### Shelter Belts

Creating shelter belts have a number of benefits including protection of livestock from extreme temperatures and strong winds, provides both roosting and foraging habitat for native animals, prevent soil and wind erosion and also protection from fire. A number of shelter belts have been identified on the property for consideration and include:

- Create shelter belts along the western boundary of the property on Martindale Road – this would potentially link remnant native vegetation within Zone 3, roadside vegetation and vegetation on the adjacent land i.e. west of Martindale Road.
- Creating shelter belts within the north-western side of the property potentially linking existing roadside native vegetation and also vegetation within Zone 2 and 3.

### 5.3 Weed Control

Mowing is regularly undertaken on the eastern side of Zone 3. Weed control and restricted horse access will improve the condition of the existing native vegetation. This site also provides important habitat for woodland birds as it contains a diverse mid storey and ground storey layer.

### 5.4 Broad Scale Native Grass Restoration

The area just to the north east and north of Zone 3 is fairly degraded with a dense monoculture of introduced grasses and annuals. It was observed the existing exotic grass species were not very productive from an agricultural perspective, and it was suggested by the landowner, that this could be potential site for direct broad scale native grass restoration to improve native grass diversity and soil condition.

A number of options are available and include

1. Site preparation – undertake comprehensive weed control of all introduced grass and annual species including African Love Grass, Fireweed, Thistles etc. in accordance with the DPI Noxious and Environmental Weed Control Handbook
2. Avoid any areas where native grass species are regenerating
3. Refer to the work Mt Annan Botanical Gardens have undertaken to restore grassy woodlands following weed control (Section 6). This may include direct seeding of grasses or establishing a seed production area.

## 6 Further Information and Resources

Blue Heliotrope Control - <http://weeds.dpi.nsw.gov.au/Weeds/Details/19>

Prickly Pear Control - <http://weeds.dpi.nsw.gov.au/Weeds/Details/274>

Galenia control - <http://weeds.dpi.nsw.gov.au/Weeds/Details/56>

Local Land Services - <http://hunter.lis.nsw.gov.au/>