Devilbend Hastings Biolink Plan

Prepared for: the Mornington Peninsula Landcare Network
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Introduction

This plan outlines works on 9 private properties that will contribute to the reconnection of patches of indigenous remnant vegetation in Devilbend Hastings Landcare region on the Mornington Peninsula, Victoria, Australia. The conservation zones proposed for these properties cover an area of approximately 55 ha.

This plan is part of Linking the Mornington Peninsula Landscape (LMPL), a project of the Mornington Peninsula Landcare Network (MPLN). LMPL receives most of its funds from the Natural Resources Conservation League (NRCL). LMPL aims to reconnect fragmented remnants of indigenous vegetation to create wildlife corridors (biolinks) on the Mornington Peninsula. LMPL assists Mornington Peninsula Landcare groups and landholders to develop collaborative local biolink plans for catchments across the Peninsula. These plans focus on works required to achieve the biolink on private properties but also consider public land in the biolink area.

Biolink landholder engagement and planning process

Devilbend Hastings Biolink landholders meet on a property on Woodlands Rd, Tuerong, March 2023.

Engagement of landholders in the process of planning for biolinks is one of the aims of LMPL. The strategy for engagement for past biolink plans has been to to work closely with the relevant Landcare group. However as the Devilbend Hastings Landcare Group (DHL) has been inactive for some years, this strategy was not possible for this biolink. Instead the engagement and planning process was run by the LMPL coordinator Michele Sabto with assistance from the Mornington Peninsula Landcare Facilitator Chantal Morton and the LMPL Bushland Restoration Specialist Anton Vigenser who worked together to:

1. Identify a target area with at least 20 properties in it.
2. Develop a flyer tailored to the area and distribute it to the target properties.
3. Refine the number of participating properties to between 8-10, based on response to the flyer, suitability of property and capacity of landholders. This includes initial site visits to select properties, attended by the LMPL coordinator and Bushland Restoration Specialist.
4. Determine initial works areas and prepare map.
5. Hold a meet-and-greet with participating landholders (see photo above), including display of properties map, discussion by landholders of their priorities, and talk on flora and fauna in the biolink area by the Bushland Restoration Specialist.

6. Undertake follow-up site visits where required
7. Develop plans for the selected works areas on each property (i.e., management actions to achieve biolink), in consultation with landholder.
8. Develop an integrated biolink plan (this Plan) covering the properties that can be used to obtain funding for on-ground works.

Once the plan is produced it is intended to be used as a resource by the local landcare group and the MPLN to guide work on private properties in the catchment. For example, when preparing grant applications for work on private land. As works plans, costings and mappings are already done, and there is in-principle landholder agreement to the planned works, this takes much of the work out of preparing the grant application. Applications for funding are strengthened by the accompaniment of the plan, and as such more likely to be approved.

In addition, the plans address private land conservation on a catchment scale – all the LMPL biolinks sit within a set of proposed Peninsula-wide biolinks. In 2012, assisted by Mornington Peninsula Landcare Facilitator Jacqui Salter, representatives from (the then) nine Landcare groups on the Mornington Peninsula developed a map of proposed biolinks covering the entire Peninsula. The proposed biolinks are based on an analysis of vegetation quality of the Peninsula, produced by the Arthur Rylah Institute for Environmental Research. Input was sought from local natural resource management professionals and ecologists to ensure scientific integrity.

About Linking the Mornington Peninsula Landscape (LMPL)

LMPL is a multi-year project funded by the NRCL which began in 2012 with a pilot plan for the Devilbend area. So far, 11 biolink plans have been developed including this one.

- Pilot year (2013-2014): Devilbend region (Western Linkage Biolink Plan)
- Year 1 (2014-2015): Watson Creek Catchment Biolink Plan and Sheepwash Creek Catchment Biolink Plan
- Year 2: (2015-2016): Main Creek Catchment Biolink Plan and Southwest Mornington Peninsula Biolink Plan
- Year 3 (2016-2017): Red Hill South Biolink Plan and Dunns Creek Biolink Plan
- Year 4 (2019-2021): Merricks Coolart Biolink Plan and Manton & Stony Creeks Biolink Plan.
- Year 5 (2021-2022): Balcombe Moorooduc Biolink Plan

The LMPL website shows the location of the biolink plan areas developed in the context of the northern Peninsula.

At the time of writing this plan, over $823,000 from 17 grants has been awarded to undertake selected on-ground biolink works on 69 properties from:

- Main Creek Biolink Plan
- Southwest Mornington Peninsula Biolink Plan
- Sheepwash Creek Catchment Biolink Plan
- Watson Creek Catchment Biolink Plan
- Manton & Stony Creeks Biolink Plan
- Red Hill South Biolink Plan
- Balcombe & Moorooduc Biolink Plan

Work funded under 13 of these grants has been completed. Work on the remaining 4 is underway. Over 256 ha are covered by funded works

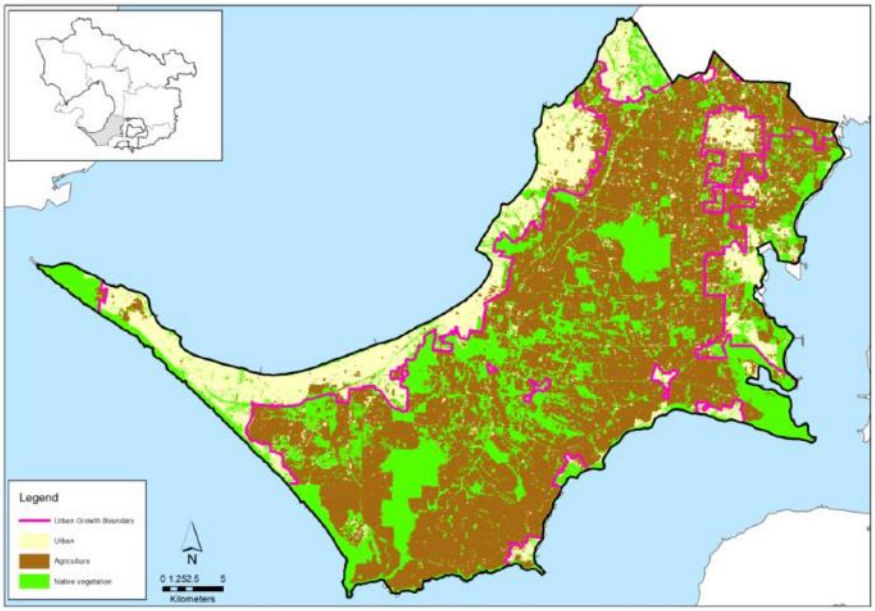
The MPLN represents the 13 Landcare Groups on the Mornington Peninsula. Its mission is to protect and enhance the unique environment of the Peninsula by promoting responsible care of the land. LMPL is a MPLN initiative and is funded by the NRCL.

MPLN was formed in 2014 to enable the local Landcare groups to work together more effectively to address local land management issues and develop constructive projects to enhance the environment. The NRCL, formed in 1951, is a not-for-profit organisation that promotes conservation, ideas and actions that value, conserve and restore ecosystems in a changing environment characterised by climate change, drought and fire risk.

As discussed above under 'Biolink landholder engagement and planning process', the Devilbend Hastings Biolink Plan is a component of a set of proposed Peninsula-wide biolinks.

The works proposed for the properties in this plan are based on the bushland restoration approach of 'Bringing Back the Bush - The Bradley Method of Bush Regeneration' by Joan Bradley, 'retention, regeneration and restoration' summarised in the 'The Science of Restoration Ecology' by Peninsula ecologist Gidja Walker (http://www.spiffa.org/restoration.html), and, 'Looking after the bush: Natural Regeneration is better than Planting', by Jeff Yugovic, http://www.spiffa.org/why-natural-regeneration-is-better-than-planting.html.

Why are biolinks required on the Mornington Peninsula?



Native vegetation areas are shaded green

Source: Port Phillip and Western Port Regional Catchment Strategy

(https://portphillipwesternport.rcs.vic.gov.au/)

The Mornington Peninsula is an iconic and beautiful region and is considered the most biodiverse 750 km^2 in Victoria. More than 80% of the Mornington Peninsula has been cleared for farming and development. Fragmentation of the landscape over time has led to the decline of many native birds and mammals. As native trees, shrubs, and grasslands have been cleared to make way for farms, residences, and infrastructure, mammals such as swamp wallabies, bandicoots, antechinus, echidna, and skinks have lost habitat and become vulnerable to feral cats and foxes. Many reptiles and birds are also in decline due to loss of habitat and predation from introduced animals.

In order to be healthy, native landscapes must remain connected so that wildlife can move safely between areas of food and shelter. A landscape that is highly fragmented can trap animals in areas that are too small for their needs. Where understorey has been cleared, small mammals and birds that forage on the ground are vulnerable to predators such as cats, dogs and foxes and their numbers decline rapidly. Those that escape predation may suffer from inbreeding (lack of genetic diversity) and their populations become vulnerable to diseases or sudden death due to disturbances such as pest outbreaks and high-intensity bushfires.

Biolinks are areas of bush and other habitat (such as waterways and stands of paddock trees) that connect areas of valuable habitat and forage. Biolinks enable wildlife to move freely and safely and have access to the broader landscape. This is increasingly important in light of climate change, as the requirement of animals to move to more suitable areas becomes critical.

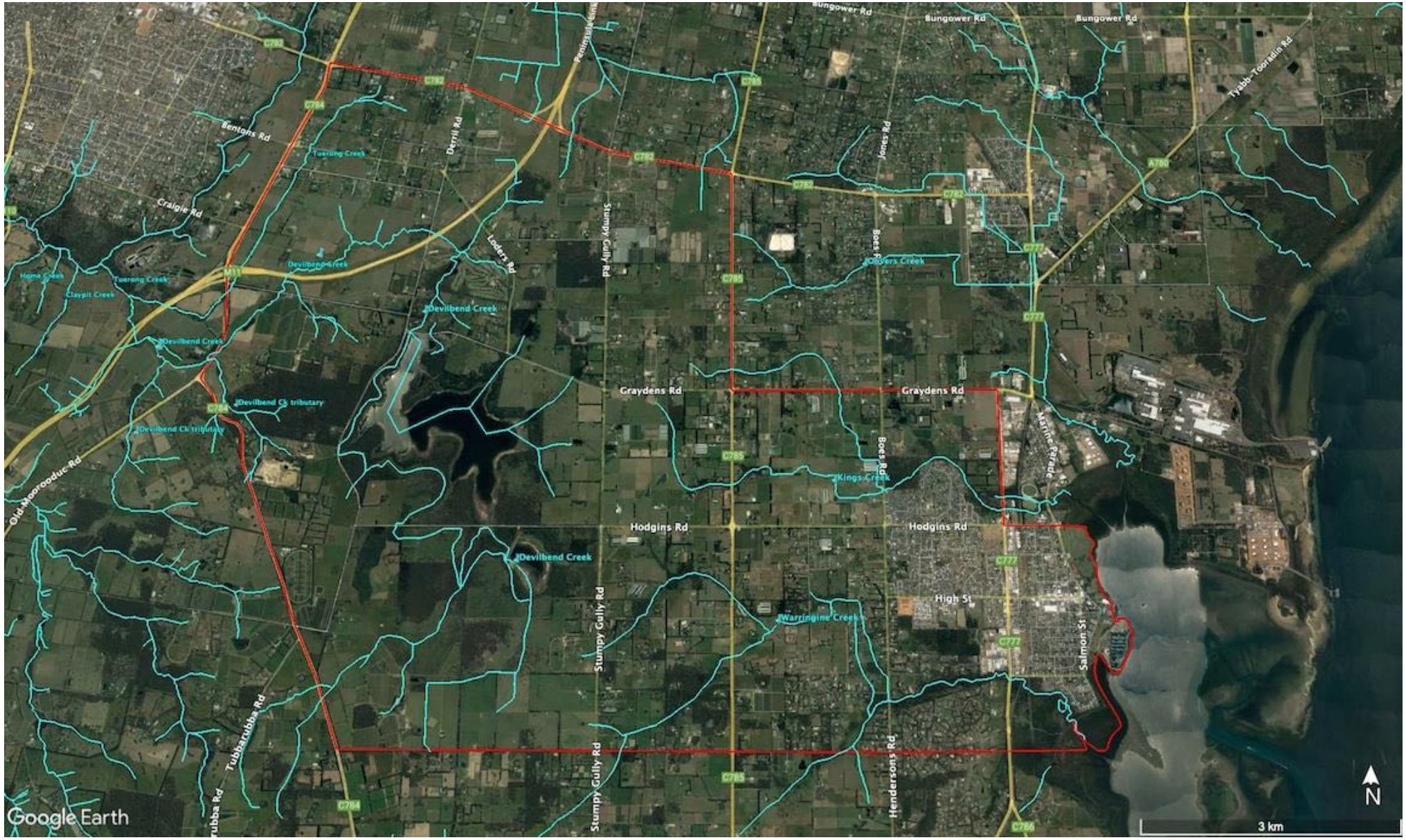
In a highly fragmented (partially cleared) landscape such as the Mornington Peninsula, creating biolinks may involve the following:

- developing corridors of native vegetation on public and private property
- removing barriers such as electrified fences where possible

These activities can help provide an effective connection between habitat patches and facilitate wildlife movement. A biolink can also be created by developing patches of bushland that act like 'stepping stones' for wildlife, reducing the distances between individual habitat patches[1]. Some actions taken to create biolinks include weeding, planting, strategic fencing to keep out stock and feral animals and the building of underpasses and overpasses at roads to enable safe passage of wildlife.

[1] Bennett A. 2003., *Linkages in the Landscape: The Role of Corridors and Connectivity in Wildlife Conservation*., International Union for Conservation of Nature: Forest Conservation Programme, 2003.

About the Devilbend Hastings area



Devilbend Hastings Landcare area (outlined in red)

The Devilbend Hastings Landcare area includes Hastings, part of Tuerong and part of Moorooduc.

Devilbend Creek wraps around the western and southern edge of Devilbend Natural Features Reserve. In improving the quality of indigenous bushland on properties around Devilbend, particularly adjacent to waterways, Devilbend Hastings Biolink will support water quality in the catchment and the invaluable work of the Crew at Daangean (see below under 'Devilbend Natural Features Reserve (Daangean) and Woods Bushland Reserve').

Other creeks in the Devilbend Hastings Landcare area include Tuerong, Warringine, Kings and Olivers creeks.

Devilbend Natural Features Reserve (Daangean) and Woods Bushland Reserve

In the western half of the Devilbend Hastings Landcare area is Devilbend Natural Features Reserve (Devilbend), a 1,005 ha reserve that includes the largest inland water body on the Mornington Peninsula. The word "Daangean" is the original name for the area where Devilbend is situated, located on the traditional homeland of the Boon Wurrung / Bunurong people of the Southern Kulin Nation, who have been living in and caring for this area for over 40,000 years.

Devilbend is a haven for wildlife. More than 162 bird species frequent the reserve. Overall, Devilbend supports more than 200 species of native flora and 195 indigenous species of fauna, including threatened species. BirdLife Australia recognises the area as being globally important for the conservation of bird populations, and it has been classified as a Key Biodiversity Area.

Devilbend is a very special place. In partnership with Boon Wurrung / Bunurong peoples, Parks Victoria, Melbourne Water, community groups and passionate individuals, are working to keep it that way for future generations. These include the Crew at Daangean, a group of volunteers who care for Devilbend in partnership with Parks Victoria. The Crew at Daangean run various projects including a turtle monitoring program (Eastern Long-necked turtle) which has been running since 2018.* The Devilbend Foundation, formed in 2004 out of an alliance of over 40 community groups, is another volunteer group with a long history of caring for this area. It also runs volunteer working bees undertaking weeding and planting in the reserve.

Eastern Long-Necked Turtle. Photo: Hansi Wegner

*For further information about the turtle monitoring program see the report 'Turtle Monitoring at Devilbend Natural Features Reserve', published by the Arthur Rylah Institute for Environmental Studies', August 2022. https://citizensciencecrew.org/wp-content/uploads/2023/02/ARI-Daangean-Turtle-Report.pdf

The work of the Crew at Daangean

An Eastern Long Necked Turtle nest protected from foxes by wire mesh. December 2022

Data collected by the Crew has identified a worrying downward trend in local population of Eastern Long Necked Turtles. In 2022 the Crew protected 40 nests like this. They found approximately 90 abandoned and incomplete nests and 100 fox-raided nests.

The nests are opportunistically raided by foxes during the turtle breeding season. With foxes implicated in numerous fauna extinctions across mainland Australia, introduced predator control is a top priority, particularly for the protection of vulnerable ground dwelling avian, amphibian and mammalian species.

Photo: Hansi Wegner

Other species in the reserve include the following, listed as endangered (E) or vulnerable (V) under the Environmental Protection and Biodiversity Conservation Act (1999) (Cth)

- Australasian Bittern (E)
- Growling Grass Frog (V)
- White-throated Needletail (V)

Also present within the reserve are the following listed as vulnerable under the Flora and Fauna Guarantee Act (1988) (Vic):

- Blue-billed Duck (V)
- Little Egret (E)
- Lewin's Rail (V)
- Southern Toadlet (E)

On the Western Edge of Devilbend Reserve is Woods Bushland Reserve, an 80 ha area managed by Mornington Peninsula Shire Council and Parks Victoria. Woods Bushland Reserve contains high-quality Lowland Forest and is a hotspot for bird watching on the Peninsula.

Indigenous vegetation in the Devilbend Hastings Landcare area

The most common Ecological Vegetation classes in the area are Lowland Forest (EVC 16), Swampy Woodland (EVC 937) and Swamp Scrub (EVC 53).

The canopy of the Lowland Forest EVC is dominated by Messmage Stringybark and Narrow-leaf Peppermint and is to home birds that probe bark for insects, including the White throated Treecreeper (*Cormobates leucophaea*), the Crested Shrike Tit (*Falcunculus frontatus*) and the Varied Sittella (*Daphoensitta chrysoptera*) with its beautiful musical song.

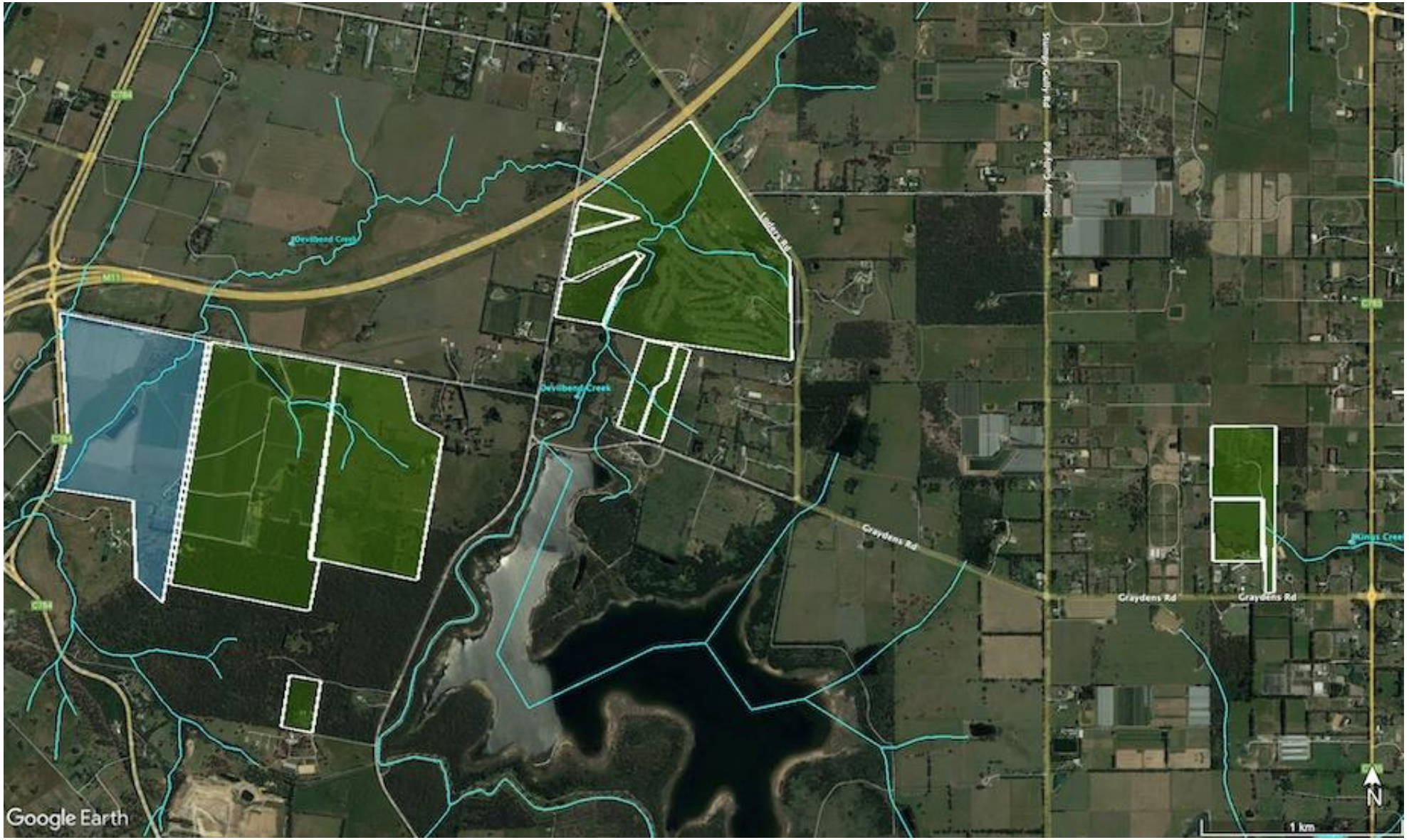
The Swampy Woodland EVC canopy is dominated by Swamp Gum (*Eucalyptus ovata*), and Black Wattle (*Acacia mearnsii*). In the mid-storey a high diversity of shrubs, grasses and groundcovers including the lovely Slender Knotweed (*Persicaria decipiens*) in wetter areas, and the graceful Tall Sedge (*Carex appressa*). There is habitat for animals such as White's skink (*Ergenia whitti*) and the Agile Antechinus (*Antechinus agilus*). The Agile Antechinus is a little marsupial (50g, up to 11 cm long) that needs dense fern or shrub understorey - where it can hunt for insects and hide from prey (mostly cats and foxes). It also climbs trees in search of food and shelters in hollows of fallen wood or in trees.

White's Skink (Egernia whitii)
Photo by Will Brown, Creative Commons License 2.0

The Devilbend Hastings Landcare area is a multifunctional landscape. Its wide mix of land uses includes conservation, primary production, and tourism. Residents and visitors value the indigenous bushland of the area not only for its beauty and intrinsic worth, but also for the indigenous wildlife it supports, and the crucial ecosystem functions it performs including water quality, soil health, and carbon capture and storage that mitigates the effects of climate change. Residents and tourists alike derive enjoyment and mental and physical health benefits from the indigenous vegetation.

The area reflects the Peninsula-wide trend of depletion and fragmentation of habitat, with native vegetation occupying less than 20% of the area.

Devilbend Hastings biolink properties: ecological assets and connectivity



Devilbend Hastings biolink – the blue property is supportive (no detailed plan included here).

The 9 Devilbend Hastings Biolink properties are in three areas to the west (3 properties), north (4 properties) and east (two properties) of Devilbend.

To the west:

- a property adjacent to Woods Reserve, 3 ha of which is good quality indigenous bushland which is surrounded to the north and west by Woods Reserve
- two large neighbouring properties on Tuerong Rd (80.5 ha and 50 ha) with bushland patches covering over 30 ha.

To the north:

- two neighbouring properties on Graydens Rd opposite the public entrance to Devilbend with 2.78 ha bushland for which weed control works are planned in this plan. An additional 2.28 ha is also slated for revegetation under this plan
- Devilbend Golf Course with a patch of 4.3ha of native bushland.
- Moorooduc Saddle Club on the southwestern edge of Devilbend Golf course, with a patch of native bushland of approximately 9 ha.

To the east two neighbouring properties also on Graydens Rd contain 14.6 ha of bush. An additional 1 ha is also slated for revegetation under this plan.

Weed control and revegetation planned on these 9 properties will improve the health of the streams in the Devilbend Hastings Landcare area, particularly the downstream health of Devilbend and Kings Creeks, as well as the overall health of the Devilbend Reserve.

The Briars. Photo: www.craftnhome.com

Fauna species in the Devilbend Hastings Landcare area* listed as vulnerable or endangered

Species	Source	Status
Striped Galaxias (*Galaxiella pusilla*)	ALA^	Vulnerable (EPBC$^{\phi}$) Endangered (FFG$^{\pi}$)
White-throated needletail (*Hirundapus caudacutus*)	ALA	Vulnerable (EPBC & FFG)
Australasian Bittern (*Botaurus poiciloptilus*)	ALA	Endangered (EPBC) Critically endangered (FFG)
Far Eastern Curlew (*Numenius (Numenius) madagascariensis*)	ALA	Critically endangered (EPBC & FFG)
Southern Brown Bandicoot (*Isoodon obesulus*)	ALA	Endangered (EPBC & FFG)
Curlew Sandpiper (*Calidris (Erolia) ferruginea*)	ALA	Critically endangered (EPBC & FFG)
Growling Grass Frog/Southern Bell Frog (*Litoria raniformis*)	ALA	Vulnerable (EPBC & FFG)
Wandering Albatross (*Diomedea exulans*)	ALA	Vulnerable (EPBC) Critically endangered (FFG)
Northern Giant-petrel (*Macronectes halli*)	ALA	Vulnerable (EPBC) Endangered (FFG)
Green-striped Greenhood (*Pterostylis chlorogramma*)	ALA	Endangered (FFG)
Australasian Shoveler (*Spatula rhynchotis*)	VBA$^{\infty}$	Vulnerable (FFG)
Freckled Duck (*Stictonetta n*aevosa)	VBA	Endangered (FFG)
Blue-billed duck (*Oxyura australis*)	ALA	Vulnerable (FFG)
Hardhead duck (*Aythya australis*)	ALA	Vulnerable (FFG)
Musk duck (*Biziura lobata*)	ALA	Vulnerable (FFG)
Pacific Gull (*Larus pacificus)*	ALA	Vulnerable (FFG)
Caspian Tern (*Hydroprogne* caspia)	ALA	Vulnerable (FFG)
Eastern Great Egret (*Ardea alba modesta*)	ALA	Vulnerable (FFG)
Little Egret (*Egretta garzetta*)	ALA	Endangered (FFG)
Great Egret (*Ardea alba*)	ALA	Vulnerable (FFG)
White-bellied Sea-Eagle (*Haliaeetus leucogaster*)	ALA	Endangered (FFG)
Powerful owl (*Ninox strenua*)	ALA	Vulnerable (FFG)
Common Sandpiper (*Actitis hypoleucos*)	ALA	Vulnerable (FFG)
Gang-gang Cockatoo (*Callocephalon fimbriatum*)	ALA	Endangered (EPBC)
Southern Toadlet (*Pseudophryne semimarmorata*)	ALA	Endangered (FFG)

* Within the Devilbend Hastings Land area – red outlined area on map on p. 8. Observations no older than 2010.

$\wedge$ ALA=Atlas of Living Australia, accessed 30.01.2023. Observations no older than 2010.

∞ VBA = Victorian Biodiversity Atlas, accessed 13.05.2023. Observations no older than 2010.

π FFG=Flora and Fauna Guarantee Act 1988, Victoria. Threatened Species list May 2023.

ϕ EPBC=Environment Protection Biodiversity and Conservation Act 1999 (Cwlth) lists as at 13 May 2023

Ecological vegetation classes in the Devilbend Hastings Landcare area

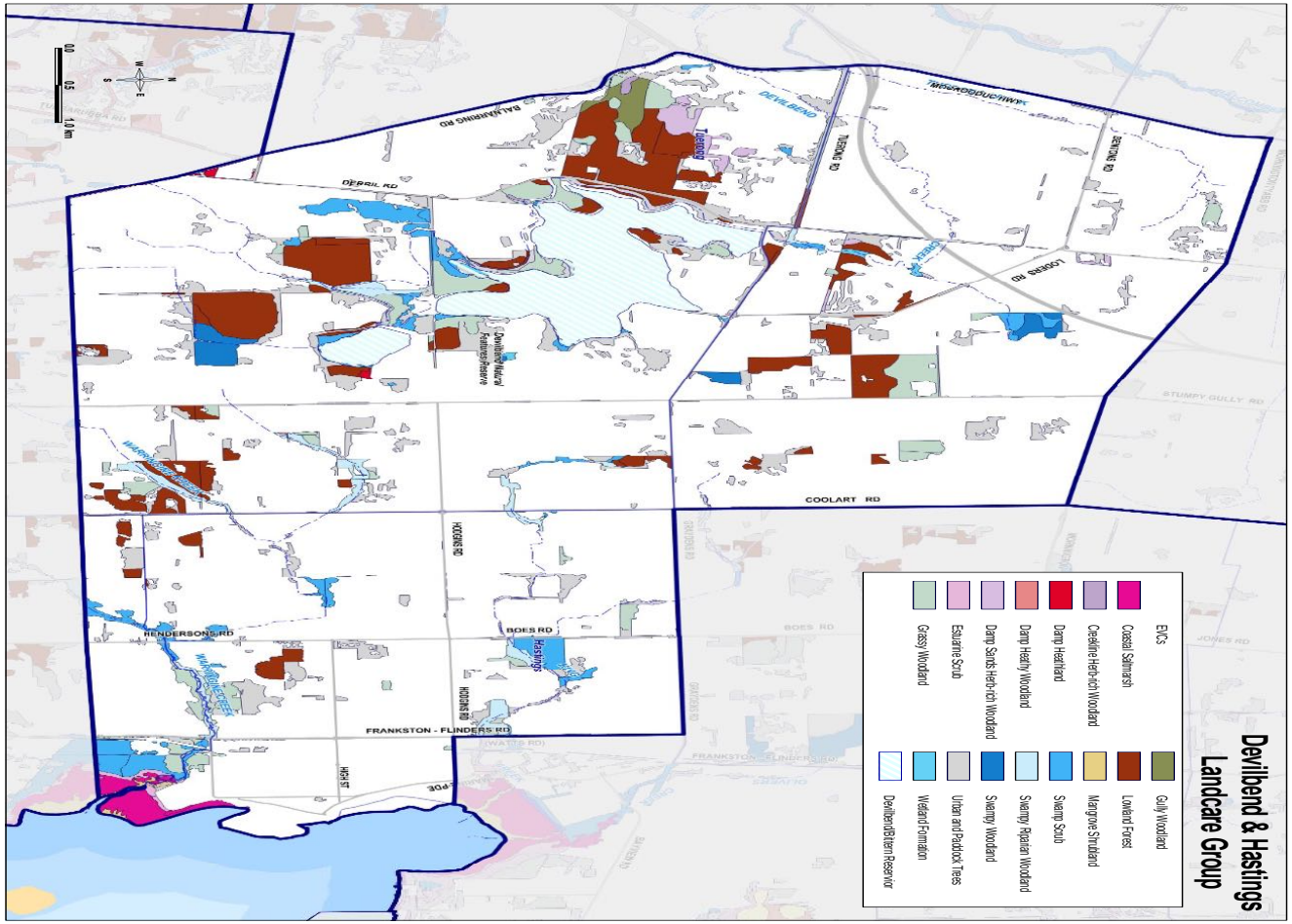
Native vegetation in Victoria has been classified into distinctive groupings known as Ecological Vegetation Classes or EVCs. These groupings are based on floristic, structural and ecological features of the vegetation. The Department of Sustainability and Environment (DSE) have defined over 300 EVCs within Victoria. Each EVC is assigned a distinct descriptive name (e.g. 'Coast Banksia Woodland) and number (e.g. 002)[2] and has its own 'profile', which describes the structure of vegetation within that EVC, what sort of environment it occurs in, its bioregional conservation status, its past and present distribution and major species (all specific to the Mornington Peninsula).

EVCS in the Devilbend Hastings Landcare area* (EVCs on biolink properties are highlighted)

EVC	Conservation status
009 Coastal Saltmarsh	Peninsula Status – Secure; Bioregional Status – Least Concern
003 Damp Sands Herb-rich Woodland	Peninsula Status - Bioregional Status - Vulnerable
710 Damp Heathland	Peninsula Status – Vulnerable; Bioregional Status - Rare
793 Damp Heathy Woodland	Peninsula Status – Vulnerable; Bioregional Status - Vulnerable
083 Swampy Riparian Woodland	Bioregional Status - Endangered
937 Swampy Woodland	Peninsula Status – Endangered; Bioregional Status - Endangered
164 Creekline Herb-rich Woodland	Peninsula Status – Endangered; Bioregional Status - Endangered
175 Grassy Woodland	Peninsula Status – Endangered; Bioregional Status - Endangered
016 Lowland Forest	Peninsula Status – Vulnerable; Bioregional Status - Vulnerable
053 Swamp Scrub	Peninsula Status – Endangered; Bioregional Status - Endangered
902 Gully Woodland	Bioregional Status - Endangered
935 Estuarine Wetland/Estuarine Swamp Scrub Mosaic	Bioregional Status - Depleted
937 Swampy Woodland	Peninsula Status – Endangered; Bioregional Status – Endangered
140 Mangrove Shrubland	Peninsula Status – Secure; Bioregional Status – Least Concern

Source: Victorian Government, Naturekit (https://www.environment.vic.gov.au/biodiversity/naturekit), extracted *. Peninsula Status – Spiffa (http://www.spriffa.org/evcs.html)

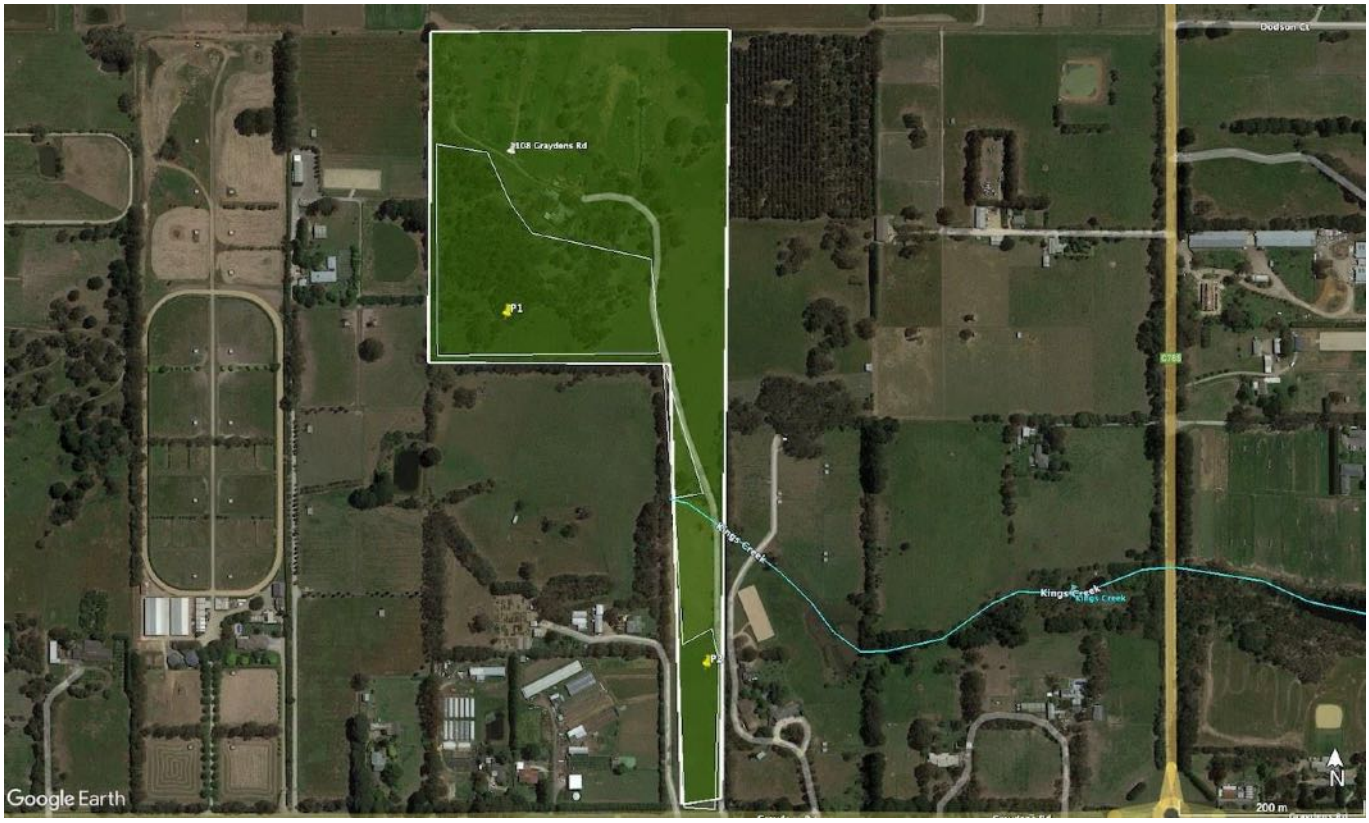
[2] A list of the most common EVCs on the Peninsula can be found on the website of SPIFFA (Southern Peninsula Indigenous Flora and Fauna Association) at http://www.spiffa.org/evcs.html. For further information on EVCs see Appendix 3 of this report.



EVCs in the Devilbend Hastings Landcare area

Works planned for private land

Property no. 1, 108 Graydens Rd, Moorooduc



Property 1, 108 Graydens Rd, Moorooduc

This 13.8 ha battle-axe property accessed from Graydens Rd contains the headwaters of a tributary of Kings Creek which runs in an easterly direction to Hastings.

P1

This 3.5 ha works zone in the south western corner contains low-medium quality Lowland Forest EVC with an intact Eucalypt canopy with a degraded ground flora layer infested with blackberries and gorse. Planned weed control works will encourage the natural regeneration already occurring.

P2

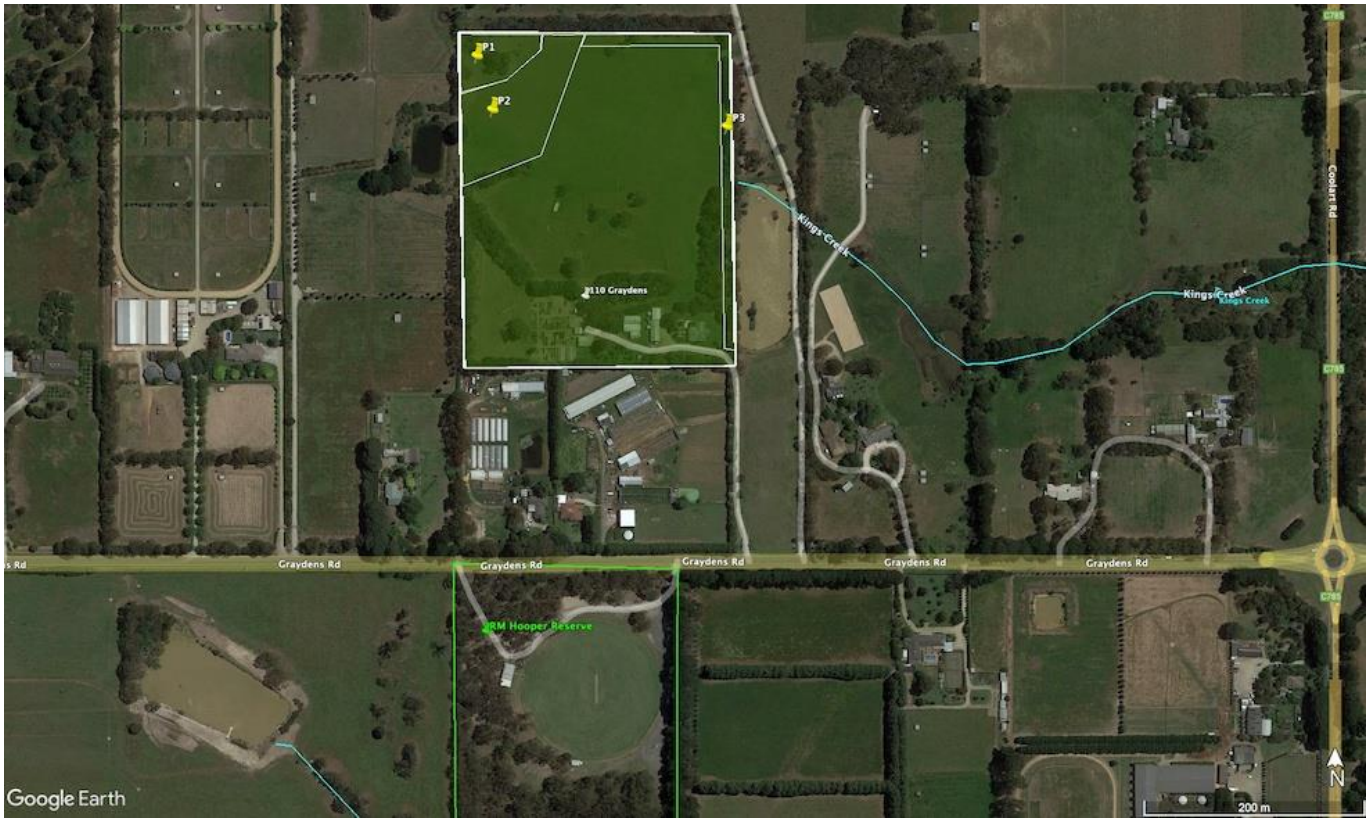
This 1 ha works zone is a linear strip of open paddock. Planned revegetation works will create a link to Bittern Bushland Reserve (also known as RM Hooper Reserve) on the other side of Graydens Rd. A dam at the headwaters of the Kings Creek Tributary has already been planted with indigenous vegetation and the landholder intends to apply for a Melbourne Water Grant to continue planting, and control weeds on the banks.

Property 1, 108 Graydens Rd, Moorooduc

EVCs

016 Lowland Forest (in transition) - Peninsula Status Vulnerable, Bioregional Status Vulnerable

Property 2, 110 Graydens Rd, Moororooduc



Property 2, 110 Graydens Rd, Moororooduc

This 7.4 ha property at the top of Kings Creek is owned by long-time Peninsula residents who run an indigenous and native plant nursery on the property and have extensive knowledge of local flora.

P1

In works area 1, a small triangle in the north-west corner the landholders have been controlling weeds and the area is regenerating well. Planned weed control works will accelerate this process and seed can be harvested and propagated from the regenerating indigenous vegetation.

P2

In this wet works area bordering P1, Lowland Forest (EVCs) and Swampy EVCs (053, 937 083) coexist in damp soil. Currently pasture grasses dominate. Planned works aim to transition to bushland in stages over a number of years.

P3

Blackberry eradication is planned for this works zone which borders works zones on the neighbouring Biolink property at 108 Graydens this work.

P1, 110 Graydens Rd, Moodooruduc, September 2022. This area is naturally regenerating well due to the landholders weed control

EVCs

016 Lowland Forest (in transition) - Peninsula Status Vulnerable, Bioregional Status Vulnerable

937 Swampy Woodland (in transition - Peninsula & Bioregional Status Endangered

053 Swamp Scrub (in transition) - Peninsula and Biogregional Status Endangered

083 Swampy Riparian Woodland (in transition) – Bioregional Status Endangered

Property 3, Moorooduc Saddle Club, 552 Derril Rd, Moorooduc

Property 3, Moorooduc Saddle Club, 552 Derril Rd, Moorooduc

The map above shows only one of the three areas managed by Moorooduc Saddle Club. All works areas are in this one 6.7 ha area which is on the western edge of Devilbend Golf Course (also a biolink property).

Moorooduc Saddle Club has been working with the Council on weed control, but the area is large and their resources are limited. This biolink plan provides an opportunity to scale up efforts and make a real positive impact on the quality of the bushland.

P1

In this 5.9 ha area the Lowland Forest (EVC 016) bushland is in poor condition, being under threat from Sweet Pittosporum and Boneseed in the understorey, and evidenced by canopy dieback. The Messmate overstorey is in danger of being lost if weed control efforts are not undertaken soon and on a significant scale.

P2

This smaller 0.8 ha area a riparian strip along the Devilbend Creek dam. It is thick with Sweet Pittosporum and other woody weeds. Melbourne Water Grants can assist in this area.

Moorooduc Saddle Club, October 2022

EVCs

016 Lowland Forest (in transition) - Peninsula Status Vulnerable, Bioregional Status Vulnerable

083 Swampy Riparian Woodland (in transition) – Bioregional Status Endangered

Property 4, 176 Tuerong Rd, Tuerong

Property 4 176 Tuerong Rd, TuerongThis 49 ha property is grazed with the exception of the two works areas shown. Some cropping has also occurred recently (grain).

P1

This 5 ha area used to be grazed but the current landholder plans to exclude stock. Works planned include wildlife-friendly stock-proof fencing on sections of the boundary (see the red lines on the map above) that provides stock with access to a water source in the north-west corner. Also planned are 4 wildlife crossings to be built into the fence around P1.

P1 includes a stand of Lowland Forest EVC which extends into the area from Woods Reserve to the south. The canopy is intact but the shrub layer is of moderate quality only and the ground flora layer is poor quality due to the history of grazing. Planned works aim to control Gorse, Sweet Pittosporum and Sweet Vernal, thereby encouraging the rehabilitation and natural regeneration of the area.

Planned works in year 1 also includes infilling planting of shrub and ground flora consistent with EVC Lowland Forest. In years 2-4 it is planned to build on existing small patches of high quality bushland by brush cutting, hand weeding, mosaic and disturbance scalping of the Sweet Vernal Grass, and collection and scattering of indigenous grass seed. Maintenance of the infill plantings is also scheduled.

P2

As with P1 this 3.7 ha area was grazed and the current landholder now plans to exclude stock. With the exclusion of stock Sweet Pittosporum will proliferate. Works planned for this area include wildlife-friendly stock exclusion fencing as well as control of Blackberry and Gorse, and infill planting.

Once blackberry and gorse are under control further infill planting is proposed for around the dam in years 4-5.

EVCs

016 Lowland Forest (Bioregional and Peninsula status - vulnerable)

937 Swampy Woodland (Bioregional and Peninsula status – endangered)

Property 5: 86-112 Tuerong Rd, Tuerong

Property 5, 86-112 Tuerong Rd, Tuerong

This 80.5 ha property is a winery with a cellar door and restaurant. Devilbend Creek runs through its north eastern portion.

P1

This 21 ha zone borders Woods Reserve to the south. It also connects with a bushland area on the neighbouring property to the west.

It consists primarily of Lowland Forest in poor quality with key weed species being Sweet Pittosporum and Boneseed. It is divided in half, with the western side of better quality than the east. Due to the size of the area and the work required, works are staged and designed to work from the higher quality area first.

EVCs

EVC 016 Lowland Forest (Bioregional and Peninsula status - vulnerable)

Property 6: 35 Woodlands Rd, Tuerong

Property 6: 35 Woodlands Rd, Tuerong

This 3 ha property accessed from Woodlands Rd is largely bushland and is surrounded to the west and north by Woods Bushland Reserve, an 80 ha bushland reserve managed by Parks Victoria and Mornington Peninsula Shire Council. The landholders are committed to continuing the legacy of the previous owners who were committed to caring for the bushland.

35 Woodlands Rd, June 2022

P1

Due to bushfire risk the landholder has slashed the thick bracken which has had the fortunate effect of mimicking a natural ‘disturbance’ event (such as fire), allowing other species to regenerate after being

shaded out by the bracken for many years. This has however, also opened up the area for infestation by weeds taking advantage of the new light conditions. The works plan aims to stem this and prevent future weed incursions, thereby promoting recruitment of indigenous species.

EVCs

EVC 016 Lowland Forest (Bioregional and Peninsula status - vulnerable)

Property 7: 168 Graydens Rd, Moorooduc

Property 7: 168 Graydens Rd, Moorooduc

The new landholder on this 4.5 ha property, which is bisected by Devilbend Creek, is committed to restoring much of this property to bushland and at the time of writing was already carrying out revegetation and weed control based on the plan and supported by a Melbourne Water grant.

P1

The dam in this works area takes runoff from Graydens Rd and was planted with natives (mostly non-indigenous) some time ago. Planned works including control of aquatic and woody weeds, collection and scattering of indigenous seed.

P2 and P3

These two works areas, covering approximately 2 ha, are currently paddocks. They are to be revegetated (already commenced) and regular slashing to control paddock grass will support the new plantings. Mulch created on site can be used to support the plantings.

In P3 a swale run-off from Graydens Rd is being planted out with wetland species to improve water quality to the Devilbend Tributary, supported by the Melbourne Water grant.

P4

This small works area in the back north-west corner of the property has a remnant overstory and is currently under restoration by the landowner. Adjacent to a biolink works area on the neighbouring property to the west (170 Graydens rd), and Shire roadside reserve/Devilbend GolfCourse to the north, this zone will connect and extend on existing habitat.

Revegetation area on 168 Graydens Rd, June 2022

EVCs

EVC 016 Lowland Forest (in transition) (Bioregional and Peninsula status - vulnerable)

Property 8, 170 Graydens Rd, Moorooduc

Property 8, 170 Graydens Rd, Moorooduc

This 6 ha property is bisected by Devilbend Creek, which runs through a damp bushland gully between the two olive groves at the north and south of the property.

P1

This small area in the back NE corner of the property was like the dam on the neighbouring biolink property at 168 Graydens Rd, planted out many years ago with native, but non-indigenous, species. Despite this the ground flora layer has a reasonably high diversity of indigenous species, possibly due to the absence of grazing stock for many years. The plan begins with tackling high-threat weeds encroaching from the road reserve to the north, as these weeds require immediate treatment. The next stage is weeding out the non-indigenous species and controlling other weeds such as blackberry to promote recruitment of indigenous species.

470 Graydens Rd, June 2022

P2

In the middle of the property this damp gully is on Devilbend Creek and is Swampy Riparian Woodland EVC that is infested with weeds including Sweet Pittosporum, Blackberry and Boneseed. Weed control works in this area can be covered by successive Melbourne Water grants and the landholder is in the process of applying for a grant at the time of writing this report.

P3

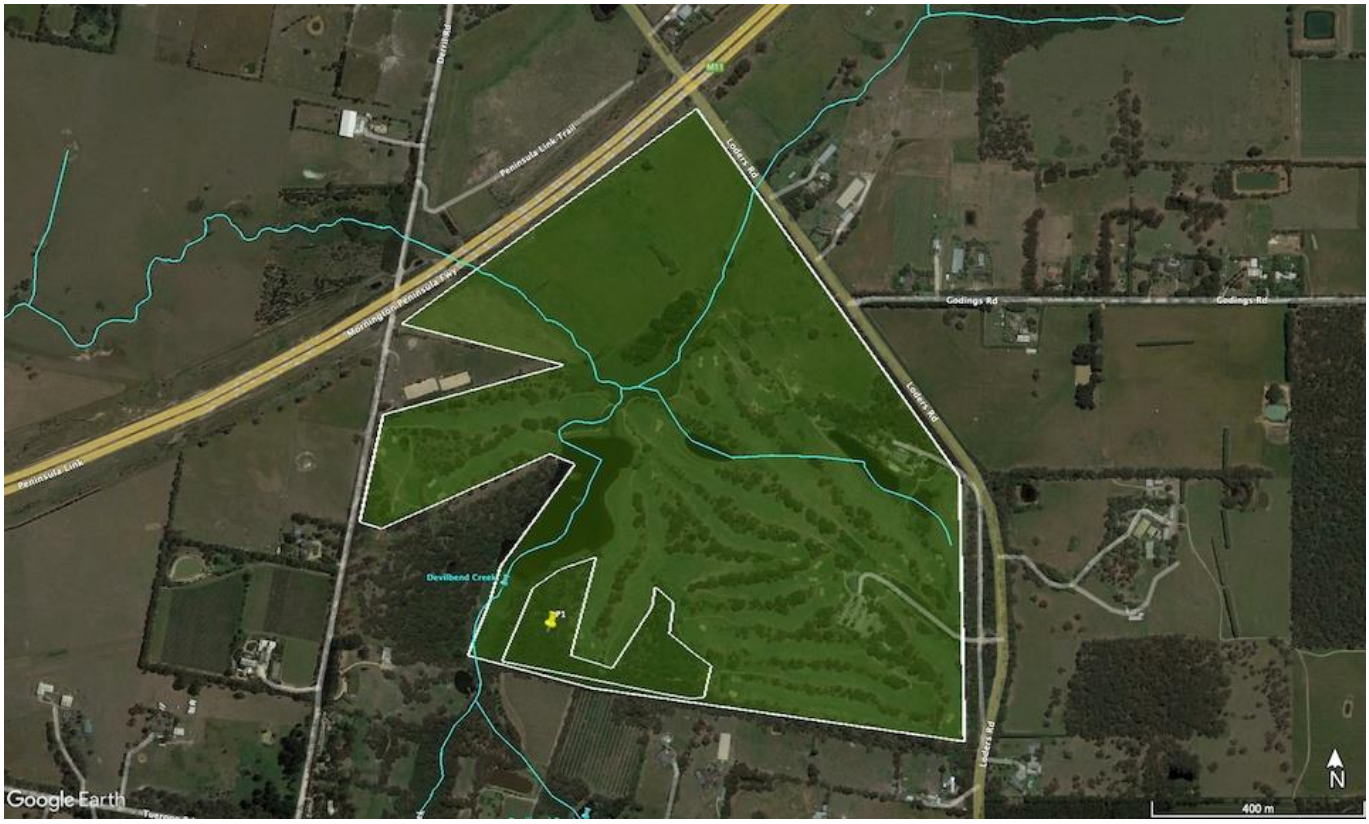
This small decommissioned dam area is thick with Swamp Paperback and there is some indigenous ground species diversity. However weeds are beginning to take over. Planned works will tackle the weeds and complement the weed control works on the adjacent dam on the neighbouring biolink property at 168 Graydens Rd.

EVCs

EVC 016 Lowland Forest (Bioregional and Peninsula status - vulnerable)

EVC 083 Swampy Riparian Woodland (Bioregional status – endangered)

Property 9, Devilbend Golf Club, 48 Loders Rd, Moorooduc



Devilbend Golf Club

P1

This bushland parcel sits between the fairways and the neighbouring properties included in this Biolink Plan. Woody weeds are a major threat to this area, and canopy stress has been observed from the understory infestation of Sweet Pittosporum. Spiny Broom, a Regionally Prohibited Weed has been observed as well as Gorse and Flax Leaf Broom.

EVCs

EVC 016 Lowland Forest (Bioregional and Peninsula status - vulnerable)

Devilbend Golf Course, October 2022

Follow up works on biolink properties

Follow-up of weed control on all biolink properties is essential to ensure that weeds treated do not re-establish. Soil stored seed will germinate once parent plants are treated for several years, dependent upon species. Seed carried by vectors and wind from neighbouring properties will take advantage of areas recently cleared of weeds. Continued follow-up weed control should be part of a general maintenance program for bushland management.

Feral animal control: foxes and rabbits

Much of the high quality habitat in the Devilbend Hastings region is privately owned. If landholders do not undertake feral animal control in a coordinated manner, we risk losing local populations of threatened indigenous fauna.

Feral-animal control is one of those aspects of bush rehabilitation that is often overlooked, as the average person cannot 'see' the results in comparison to seeing the results of, for example, installing 500 plants. However, research being done particularly over the last 10 years is consistently showing that foxes and cats are having a much greater impact than previously thought. Foxes are also one of the main spreaders of Sweet Pittosporum berries, Blackberries and other woody weeds that have berries.

Fox, rabbit and cat control is included in this plan but is not costed individually for each property. Instead activities are set out, with costings, in Appendix 3 in the section 'Biolink Extra Activities'. See also below under 'Other biolink activities'.

Landholders who attend the above workshops could participate in a feral control program across their properties, which could be organised by the landholders themselves with assistance from the Landcare Network, or led by Balcombe Moorooduc Landcare, the closest active Landcare Group at the time of writing this report. A community led program is best run alongside a professionally-run fox control program, resulting in sustained benefits to local populations of native fauna currently threatened by pest animal predation and habitat disturbance. Methods for the planning and implementation of coordinated feral animal control could include baiting, free feeding, trapping, harbour removal and fauna monitoring.

Other biolink activities

In Appendix 3 (in the section 'Biolink Extra Activities') are following additional, costed, activities:

1. Workshop on-site at Biolink property - Pest Animal Management Control & Techniques - rabbit & foxes.
2. Workshop on-site at Biolink property - How to use & Install Fauna Cameras - Landcare to supply fauna cameras to interested Biolink members to observe & record fauna within Biolink works areas, particularly pre/post restoration works, ollation of data recorded on fauna cameras and reporting of data.
3. Workshop on-site at Biolink property The Briars demonstrating bushland restoration principles & techniques
4. Workshop demonstrating seed collection and direct seeding techniques. Demonstration will enable landholders to identify, collect & spread native seeds on their property to encourage bushland regeneration.

Where to from here?

One of the main purposes of producing this community-driven biolink plan is to enable participating landholders to expand their environmental works beyond current levels. This can be achieved by landholders undertaking works themselves, but also by attracting grant money from government, business and philanthropists.

These grants normally require applicants to be some sort of legal entity - which may be an ABN or ACN, nothing more - especially the case when dealing with business and philanthropic organisations, and where larger sums of money are required. All participating landholders need to be members of a Landcare group to be eligible for funds applied for by a Landcare Group or the Landcare Network.

In the absence of an active local Landcare Group, the Landcare Network will auspice this plan and apply for grants to engage contractors to undertake some of the works set out in this plan. It is hoped that in the longer term a reinvigorated Devilbend Hastings Landcare Group will take over this role..

However, it is also a good idea for participating landholders in this biolink to work together to achieve a shared vision of the biolink. Some of the participating landholders met each other through the landholder event held in 2023, and know about each other's properties and conservation aspirations. This is a good base from which to build relationships in which they can support each other into the future to undertake the works set out in this plan.

Guidelines for using this plan

With this biolink plan in existence, the process of writing up a grant application will be made much easier. For most grants it will be of benefit to include the following points somewhere in the grant:

- landscape-scale approach of your group,
- the length of creekline within the project area,
- the fact that the biolink is aligned to reconnect important existing natural areas
- the fact that this is a community-driven cooperative approach,
- the grand design - each grant application contributes to this incrementally.

Regular sources of government-based funding:

- Melbourne Water
- Landcare Victoria
- Department of Environment, Land, Water and Planning (DELWP) (State government)

Where to seek grants:

- Government grants (State and Federal)
  https://www.landmate.vic.gov.au/grants/find-grant-information
- Private grants
  Australian Environmental Grantmakers
  https://www.aegn.org.au/i-am-seeking-grants/directory-of-grantmakers/

Appendix 1: Additional information regarding proposed actions and indicative costings

Introduction

While every care has been taken to accurately represent the cost of activities, these figures should only be taken as a guide. Market forces will affect pricing over time.

Costings are based on the assumption that professional contractors specialising in bush restoration are completing the works. Any time/equipment/materials that can be contributed by volunteers may bring the cost down. However, care should be taken when considering using volunteers for weed control as some of the techniques and strategies are specialised, can require licensing and accreditation and may best be done by professional contractors, or at least supervision by professional contractors.

It is not a good idea to engage a generalist farm contractor or landscape gardener to undertake weed control works outlined in this plan. They will not have adequate weed identification and control management skills. Onc simple example is that many people mistake Native Raspberry for Blackberry. Another common mistake is to assume that Bracken is a weed. In conservation projects, Bracken is not a weed. It is actually highly beneficial. In addition, such contractorsdo not necessarily consider off-target impacts of weed control techniques such as spraying.

There is a wide variety of capability, experience, equipment and techniques amongst professional bushland restoration contractors. They also have differing opinions on what is the 'right' way to do things, given the complexity of dealing with natural systems and risk to wildlife. It is best to ask for references, or ask the contractor to demonstrate they have done comparable projects that are further advanced than the one for which they are being considered.

Most professional contractors with appropriate OHS and insurance in place charge from $50 per hour to $80 per hour ex GST. Price estimates have been based on the lower end of this range, however it should be kept in mind that the cheapest hourly rate is not necessarily the best, as it still depends on the skill level and quantity of work that can be achieved 'per hour'.

Weed control and maintenance

Follow-up of weed control is essential to ensure that weeds treated do not re-establish. Soil stored seed will germinate once parent plants are treated for several years, dependent upon species. Seed carried by vectors and wind from neighbouring properties will take advantage of areas recently cleared of weeds.

The majority of the costs of this program will be incurred within the first 2 years, but continued follow-up weed control should be part of a general maintenance program for bushland management.

Fencing

It is important to think about native animals when considering fencing, and to think towards the future and be generous where possible regarding how much land is devoted to conservation. Besides the ecologically beneficial concept that 'more is better', there are some more practical realities to consider.

When applying for grants, particularly from Melbourne Water, a case is much stronger if enough land is set aside to make a real habitat corridor. Grants are assessed by people expertise in ecological principles. Melbourne Water is much more interested in projects that fence off/devote at least 20m *each side* of the waterway. There also tends to be a higher % of costs covered for wider corridors. Even if a landholder can't afford to undertake all the actions within the fence straight away, at least the infrastructure is in place for when they are ready.

The more land devoted to conservation, the less 'edge-effect' of weed invasion, and therefore the less weed maintenance. Wider revegetation areas are also more resilient to wind and drought, thus decreasing the likelihood that trees will come down across a paddock every time there is a storm. Also, it is unrealistic to expect a Koala to cross an entire paddock just to get to a couple of trees!

A fence may be actively restricting cattle - hence the need for barbed wire and/or electric wiring. Kangaroos and wallabies are most at risk of these devices. They will either go under the lowest wire, or over the highest wire. Measures to assist passage of native wildlife include:

1. Run any barbed/electrified wire at positions other than the top and bottom strand
2. Install wildlife gates such as depicted in the photo below. It only takes a few; animals will find them. Information about wildlife-friendly fencing can be found at www.wildlifefriendlyfencing.com

Wildlife-friendly stock fencing. This wildlife 'gate' on a property in Moorooduc, allows wildlife such as kangaroos and wallabies, but not cattle, to pass through. Photo: Michele Sabto

Plant supply & install

The cost of plant supply and installation varies widely, depending on three main points:

1) The overall number of plants purchased in a single order, i.e. he more purchased, the cheaper they get.
2) The planting density, i.e. how many plants per acre installed. The closer they are, the faster it is to install which leads to more significant cost savings than cost savings related to bulk orders.
3) Access to AND AROUND the planting site.

Nurseries may require a deposit, and may even offer a discount. There are large up-front outlays in growing plants, which specialist indigenous nurseries are sensitive to when quoting a price.

Supply & install guards

The supply and installation of guards is a relatively expensive activity. Guards are included on sites if there is reason to assume they are needed. If rabbits, wallabies and/or kangaroos are on the property, guards should be considered.

The correct guard must be chosen for the situation. It is a common misconception that guards are 100% effective in protecting plants from animals, especially kangaroos/wallabies. Guards can also make weed maintenance more difficult. For kangaroos, taller guards may be required.

Recycled card guards or coreflute guards with one hardwood stake (aprox $2.50) are recommended. The expense is really in the installation and, similar to plant installation pricing, depends on spacing, access, hardness of the ground etc. For most sites in this biolink, installing guards on a plant spacing of approx. 1 plant per m^2 would cost about $3.50 per guard. This is more than the cost of the plant itself so it adds to the project cost.

Consider the removal and disposal of guards about three years (or less in many cases) after installation. Not all guards are biodegradable, so it is important to check this before purchasing. Removal of guards is not priced as the assumption is that all guards will be removed by the landholder.

Logs on ground

Most landholders with acreage accumulate branches, logs and leaf litter of indigenous plants, which should be left in situ or if not, placed around a bushland or revegetation area or into a creek, rather than burning or chipping. Landholders could also offer to take these from neighbours who are intent on burning or chipping.

Installing nest boxes above ground

Ten thousand seedlings will not produce one usable tree hollow for maybe 20 years! Ready-made nestboxes and 'How-to-Install' guides are available from Merricks Coolart Catchment Landcare (MCCL). They are custom-made for the actual creatures the project is trying to attract, and have been researched and developed over a number of years, so they are very effective. MCCL have experience building and installing nest boxes and the Mornington Peninsula Landcare Network often runs nestbox-building workshops which are advertised in the monthly Peninsula Landcare newsletter (emailed to all Landcare members).

Nest boxes require some maintenance to the extent that they may be colonised by feral creatures such as Indian Mynas, exotic bee species (Italian Honey Bee), Starlings and European Wasps.

Appendix 2: EVCs

About EVCs

What is an Ecological Vegetation Class?

Native vegetation in Victoria has been classified into distinctive groupings known as Ecological Vegetation Classes or EVCs. These groupings are based on floristic, structural and ecological features of the vegetation. The Department of Sustainability and Environment (DSE) have defined over 300 EVCs within Victoria. Each EVC has been assigned a distinct descriptive name (e.g. 'Coast Banksia Woodland) and number (e.g. 002). A list of the EVCs, and descriptions, on the Peninsula can be found at:

> https://www.mornpen.vic.gov.au/files/assets/public/new-website-documents/your-property/environment/flora-amp-fauna/docs/mornington-peninsula-evc-profiles.pdf

In this plan EVCs on each property have been ground truthed and are listed in this plan.

The Victorian Government's Naturekit website has an easy-to-use mapping tool open to the public which includes finding out which EVCs are in any particular area that the user inputs: https://www.environment.vic.gov.au/biodiversity/naturekit

What are bioregions?

EVCs are classified according to the geographic area or bioregion in which they occur. Victoria has been divided into 28 bioregions - the Mornington Peninsula occurs within the Gippsland PlainsBioregion. The bioregional conservation status of an EVC is an assessment of its conservation status within a particular bioregion based on a number of factors including how commonly it originally occurred, its current level of depletion and current level of degradation. For example, the EVC Grassy Woodland (no. 122) has a bioregional conservation status of vulnerable within the Gippsland Plains Bioregion.

Why use EVCs?

EVCs are a useful way to describe different types of vegetation; it means everyone across Victoria is using the same system and common terminology when talking about vegetation. Becoming familiar with the EVC maps and profiles for a given area is a great starting point to help understand the natural environment. Recognising how the composition and structure of native vegetation in an area changes and

how these changes relate to soil, topography and other features can help understanding of the broader ecological picture of what is happening in any given area. EVC profiles can also be used as a guide to help restore a particular EVC.

Limitations of EVCs

EVC are a somewhat simplified way to look at vegetation - we humans have a tendency to want to categorise the natural world into distinct units such as EVCs, but nature is not so straight forward, plants do not always arrange themselves into clear, distinct groupings. It can be difficult for the untrained eye (and sometimes the trained one!) to discern just what EVC a certain patch of vegetation should be categorised as - especially if the vegetation is highly modified through weed infestation.

For landholders new to the concept, it's important not to get too bogged down in the finer details - there is no need to draw a definitive line in the sand on any given site where one EVC stops and another starts (most of the time in nature there is almost always a gradual change where EVC overlap one another anyway). Think of EVCs as a useful tool for describing vegetation and use the profiles provided by the Shire to help to understand more about the bushland in your area.

Appendix 3: Devilbend Hastings Biolink Plan works plans and costings estimates

Appendix 3: Devilbend Hastings Biolink works plans and costings estimates

SUMMARY			
Property no.	**Address**	**Works area (ha)**	**Subtotal**
Property 1	108 Graydens Rd	4.53	$46,168
Property 2	110 Graydens Rd	1.51	$30,040
Property 3	Moorooduc Saddle Club, 552 Derril Rd, Moorooduc	6.71	$52,296
Property 4	176 Tuerong Rd Tuerong	8.72	$33,664
Property 5	86-112 Tuerong Rd	21.40	$174,080
Property 6	35 Woodlands Rd	3.00	$80,512
Property 7	168 Graydens Rd	3.56	$102,000
Property 8	170 Graydens Rd	1.52	$66,990
Property 9	Devilbend Golf Club, 48 Loders Rd, Moorooduc	4.33	$42,976
Biolink extra activities	Dependent on circumstances, see 'Biolink extra activities' sheet	Dependent on circumstances, see 'Biolink extra activities' sheet	Dependent on circumstances, see 'Biolink extra activities' sheet
Total		**55.28**	**$628,726**

Devilbend Hastings Biolink, Extra Activities		
Activity	**Description**	**Cost**
Project Management	Managing Biolink funding, including: funding allocation, engaging and managing contractors, ordering revegetation materials, coordinating working bees, coordinating workshops, reporting. Dependant upon size and management requirements of project: an additional 10 to 20% on top of estimated costs *It is Landcare practice that where a grant is being applied for to undertake any works set out in LMPL biolink plans, the Landcare group will request a co-contribution of approximately 10% of the grant to the property to put towards engaging a project coordinator to supervise the grant acquittal*	10-20%
Pest Animal Workshop	Workshop on-site at Biolink property. Pest animal management control & techniques - rabbit & foxes.	$600
Fauna Monitoring Workshop & Recording / Reporting of fauna capture data	Workshop on-site at Biolink property covering how to use & install fauna cameras. Landcare supply fauna cameras to interested Biolink members to observe & record fauna within Biolink works areas, particularly pre/post restoration works. Collation of data recorded on fauna cameras, reporting of data.	$600
Bushland restoration principles and techniques workshop	On site at a Biolink property.	$600
Seed collection and direct seeding.	On site on a Biolink property demonstrating seed collection and direct seeding techniques. Will assist landholders to identify collect and spread native seeds on their property to encourage bushland regeneration	$600

Property 1, 108 Graydens Rd, Moorooduc

Summary			
	P1	**P2**	**Total**
Area (ha)	3.53	1	4.53
Perimeter (lm)	852	1072	1924
Description	This paddock contains a low-medium quality Lowland Forest EVC, consisting primarily of an intact Eucalypt canopy, with a degraded ground flora layer, containing pockets of indigenous vegetation. Evidence suggests this paddock was never heavily grazed, and when the occasional stock was removed many years ago, blackberry has taken the opportunity to infest the area. Gorse infestations are also present. However natural regeneration is occuring and these works will assist these species to recruit.	This linear strip of open paddock will become a habitat vegetation link to the Bittern Bushland Reserve. One dam on Kings Creek has already been planted, and a MW grant may continue to allow funding to plant and treat weeds on the banks. Currently land is largely unused, with a small section allocated to growing cut flowers.	NA
Year 1	$14,864	$3,548	$18,412
Year 2	$14,144	$1,088	$15,232
Year 3	$9,792	$2,732	$12,524
Years 1-3	**$38,800**	**$7,368**	**$46,168**

Year 1					
P1			P2		
Woody Weeds	**Quantifiable Outcome**	**Cost**	**Ground flora treatment**	**Quantifiable Outcome**	**Cost**
Treatment of woody weed species: Pine, Ash and other assorted. Cut paint, Frill/fill, Chainsaw. 4 people x 8 hours one visit	Treatment of 100% mature specimens. <20% saplings.	$2,256	Spot Spray Western fenceline for Blackberry and other assorted weeds. 1 person 4 hours. Then spot spray where cut flowers were grown	100% blackberry treated. Spot Spray other weedy species present	$272
Blackberry Treatment	**Quantifiable Outcome**	**Cost**	**Planting Prep**	**Quantifiable Outcome**	**Cost**
Treatment of blackberry, use rig spray where appropriate, and knapsack where off target species exist. 2 people knapsacking x 8 hours, Spray rig 2 operators x 8 hours	90% blackberry treated. <10% to produce seed	$2,496	Spot Spray locations for planting. Can be 1x1 foot spots and/or larger zones for clumped planting. 1 person 8 hours 3-4 weeks before planting	planting locations free from weeds.	$544

Year 1 (continued)					
P1 (continued)			P2 (continued)		
Gorse Treatment	**Quantifiable Outcome**	**Cost**	**Planting**	**Quantifiable Outcome**	**Cost**
Depending on season treated, large specimens baring seed pods may have to be cut and painted and removed from site and burnt. Spray Rig 2 operators x 8 hours plus Knapsack, Cut Paint 4 people x 8 hours	100% seed baring Gorse treated. 50% seedlings treated	$3,584	500 tubestock, comprising of: 300 Eucalypt species, and 200 shrub and tree species from Lowland Forest EVC. Scattered with some grouping of species. Plants and installation	Canopy layer planted. Long term this will shade out paddock for future planting.	$1,644
Ground Flora	**Quantifiable Outcome**	**Cost**	**Planting Maintenance**	**Quantifiable Outcome**	**Cost**
Identify pockets of good quality ground flora and work out from these areas. Handweed, knapsack. 3 people x 8 hours 4 yearly visits	Pockets of reminent vegetation identified, buffer created. No weeds to set seed in these zones	$6,528	Brushcut, handweed and or Knapsack in and around planted tubestock to reduce pressure from paddock grasses. 1 person 8 hours early and late spring	Pressure reduced from paddock grass competition.	$1,088
		$14,864			**$3,548**
YEAR 1: $18,412					

Year 2					
P1			P2		
Woody Weeds	**Quantifiable outcome**	**Cost**	**Planting Maintenance**	**Quantifiable outcome**	**Cost**
Follow up on saplings. 2 people x 8 hours one visit	<10% occurance of woody weed saplings	$1,088	Brushcut, handweed and or Knapsack in and around planted tubestock to reduce pressure from paddock grasses. 1 person 8 hours early and late spring	Pressure reduced from paddock grass competition.	$1,088
Blackberry Treatment	**Quantifiable outcome**	**Cost**			
Follow up on Blackberry. Sweep entire zone for blackberry resprouting or not treated last season. 6 people x 8 hours	100% blackberry treated.	$3,264			
Gorse Treatment	**Quantifiable outcome**	**Cost**			
Sweep across entire zone, knapsacking/handpull/cut paint gorse saplings to prevent reaching maturity. 6 people x 8 hours	>70% saplings treated, <5% to reach flowering stage	$3,264			
Ground Flora	**Quantifiable Outcome**	**Cost**			
Working in the identified zones, continue to prevent weed seed drop and extend zones where possible. Handweed, knapsack. 3 people x 8 hours 4 yearly visits	No weeds to set seed. Zones extended.	$6,528			
		$14,144			**$1,088**
YEAR 2: $15,232					

Year 3					
P1			P2		
Gorse & Blackberry Treatment	**Quantifiable outcome**	**Cost**	**Planting Maintenance**	**Quantifiable outcome**	**Cost**
Follow up run on both species, sweep through entire zone, spot spray, handpull, cut paint. Late Spring/early summer; 6 people x 8 hours	>80% blackberry and Gorse treated. <5% to reach flowering stage	$3,264	Brushcut, handweed and or Knapsack in and around planted tubestock to reduce pressure from paddock grasses. 1 person 8 hours early and late spring	Pressure reduced from paddock grass competition.	$1,088
Ground Flora	**Quantifiable outcome**	**Cost**	**Planting**	**Quantifiable outcome**	**Cost**
Working in the identified zones, continue to prevent weed seed drop and extend zones where possible. Handweed, knapsack. 3 people x 8 hours 4 yearly visits	No weeds to set seed. Zones extended.	$6,528	Assuming that MW Grants hav been applied for and implimented, planting adjacent to MW works/planting	500 riparian species. Plants and installation	$1,644
		$9,792			**$2,732**
YEAR 3: $12,524					

Years 4 & 5
Gorse and blackberry will persist as a problem due to stock in the seed bank, so annual sweeps to prevent seedlings maturing will be required. Recruitment of indigenous species should be occuring in zones identified, and works should continue on extending and linking these areas. Consideration for infill planting of shrub species from Lowland Forest EVC in P1, seed can be collected from parent plants on site, and from Bittern Bushland Reserve. P2 plantings can be extended north and south from the banks/MW works

Property 2, 110 Graydens Rd, Moorooduc

Summary				
	P1	**P2**	**P3**	**Total**
Area (ha)	0.28	0.82	0.41	1.51
Perimeter (lm)	222	412	836	1470
Description	At the top of Kings Creek, this zone has a reminant eucalypt and indigenous ground flora species. A population of Swamp Rats inhabitat the area, and are currently using the blackberry as shelter. There is already natural regeneration occuring, and with regular treatment, these species can be further promoted. Seed may be collected and propagated from these species.	Lowland Forest and Swampy EVC's exist and the soil is damp or sodden for mush of the year. Pasture grasses dominate, and transitioning will be done in a staged approach over a number of years so as not to take on more than can be maintained easily.	Boardering Biolink Works Zones on the neighbouring property, this zone contains some blackberry which requires erradication to prevent it impacting the works.	
Year 1	$6,940	$2,442	$272	$9,654
Year 2	$6,512	$1,088	$272	$7,872
Year 3	$6,240	$6,274	$0	$12,514
Years 1-3	**$19,692**	**$9,804**	**$544**	**$30,040**

Year 1								
P1			P2			P3		
Woody Weeds	**Quantifiable Outcome**	**Cost**	**Ground flora treatment**	**Quantifiable Outcome**	**Cost**	**Blackberry Treatment**	**Quantifiable Outcome**	**Cost**
Treatment of woody weed saplings, handpull and cut & paint. 1 person x 4 hours	<1% occurance of woody weed species	$272	Regular slashing to be undertaken by landowner to reduce seed drop of pasture grasses.	<20% to produce seed	na	Spot spray blackberry along property boundary. Once person 4 hours, once in spring	100% treated	$272
Blackberry Treatment	**Quantifiable Outcome**	**Cost**	**Planting**	**Quantifiable Outcome**	**Cost**			
Knapsack treatment of Blackberry patch, cut and paint where off target vegetation occurs. 1 person 4 hours. Spring/Summer.	100% treatment of blackberry. Leave canes in-situ for Swamp Rat Habitat	$272	Scattered planting of E. ovata to the NE of P2, and Melaleuca ericafolia and squarossa in the damper SW side to commence establishment of canopy. 100 of each with stakes for ID when slashing and labour	Establishment of overstory	$1,354			

Year 1 (continued)								
P1 (continued)			P2 (continued)			P3 (continued)		
Planting	**Quantifiable Outcome**	**Cost**	**Planting Maintenance**	**Quantifiable Outcome**	**Cost**			
Planting of Rubus parvifolius to replace blackberry habitat. 40 Tubestock	Blackberry habitat replaced with Raspberry	$156	Brushcutting/knap sack to assist planting. One person x 8 hours twice in spring.	Reduce pasture grass pressure on planting	$1,088			
Grass Slashing	**Quantifiable Outcome**	**Cost**						
Timed slashing/mowing of paddock grasses in open areas to reduce seed set.	<20% to set seed.	To be done by owner on a needs basis						
Ground Flora Treatment	**Quantifiable Outcome**	**Cost**						
Treatment of ground flora weeds in north west corner where indigenous ground flora exists to reduce competitionand promote natural regeneration. Handweed, knapsack. 2 people x 8 hours 6 yearly visits (three in spring-early summer)	50% reduction of ground flora weeds in worked areas	$6,240						
		$6,940			**$2,442**			**$272**
YEAR 1: $9,654								

Year 2								
P1			P2			P3		
Blackberry Treatment	**Quantifiable Outcome**	**Cost**	**Ground flora treatment**	**Quantifiable Outcome**	**Cost**	**Blackberry Treatment**	**Quantifiable Outcome**	**Cost**
Follow-up treatment of Blackberry patch, cut and paint where off target vegetation occurs. 1 person 4 hours. Spring/Summer.	100% treatment of blackberry. Leave canes in-situ for Swamp Rat Habitat	$272	Regular slashing to be undertaken by landowner to reduce seed drop of pasture grasses.	<20% to produce seed	na	Follow up: Spot spray blackberry along property boundary. Once person 4 hours, once in spring	100% treated	$272
Grass Slashing	**Quantifiable Outcome**	**Cost**	**Planting Maintenance**	**Quantifiable Outcome**	**Cost**			
Timed slashing/mowing of paddock grasses in open areas to reduce seed set.	<20% to set seed.	To be done by owner on a needs basis	Brushcutting/knap sack to assist planting. One person x 8 hours twice in spring.	Reduce pasture grass pressure on planting	$1,088			
Ground Flora Treatment	**Quantifiable Outcome**	**Cost**						
Treatment of ground flora weeds in north west corner where indigenous ground flora exists to reduce competitionand promote natural regeneration. Handweed, knapsack. 2 people x 8 hours 6 yearly visits (three in spring-early summer)	50% reduction of ground flora weeds in worked areas	$6,240						
		$6,512			**$1,088**			**$272**
YEAR 2: $7,872								

Year 3					
P1			P2		
Grass Slashing	**Quantifiable Outcome**	**Cost**	**Ground flora treatment**	**Quantifiable Outcome**	**Cost**
Timed slashing/mowing of paddock grasses in open areas to reduce seed set.	<20% to set seed.	To be done by owner on a needs basis	Regular slashing to be undertaken by landowner to reduce seed drop of pasture grasses.	<20% to produce seed	na
Ground Flora Treatment	**Quantifiable Outcome**	**Cost**	**Planting Maintenance**	**Quantifiable Outcome**	**Cost**
Treatment of ground flora weeds in north west corner where indigenous ground flora exists to reduce competitionand promote natural regeneration. Handweed, knapsack. 2 people x 8 hours 6 yearly visits (three in spring-early summer)	50% reduction of ground flora weeds in worked areas	$6,240	Brushcutting/knapsack to assist planting. One person x 8 hours twice in spring.	Reduce pasture grass pressure on planting	$1,088
			Planting	**Quantifiable Outcome**	**Cost**
			Clustered planting of 1000 wetland sedges and rushes in the damper SW side. Scattered planting of 300 Lowland Forest EVC shrubs with stakes for Id when maintaining. Tubestock stakes and labour	Staged planting	$5,186
		$6,240			**$6,274**
YEAR 3: $12,514					

Years 4 & 5
With a continued effort, the regeneration of indigenous species, in particular P1 should now be occuring. As the plantings in P2 establish, infill planting can continue, moving out from the clustered plantings. Annual Blackberry patrol should occur across all works zones to ensure it's eradication. The regular slashing down of paddock grasses will supress them. To move quicker as the canopy species establish, consideration of scalping the grass layer back and either direct seeding or high density planting.

Property 3, Moorooduc Saddle Club, 552 Derril Rd, Moorooduc

Summary			
	P1	**P2**	**Total**
Area (ha)	5.88	0.83	6.71
Perimeter (lm)	1185	801	1986
Description	This Lowland Forest EVC Bushland is under threat from Sweet Pittosporum and Boneseed infested understory, evidence shown by canopy dieback. If something is not done sooon, the risk of losing the Messmates is high. Other woody weeds include Broom and Acacia species	The riparian strip along the Devilbend Creek dam. Thick with Sweet Pittosporum and other woody weeds, works here will allow sunlight to stimulate some natural regeneration. Works here can be undertaken with MW grants.	NA
Year 1	$17,432	NA	$17,432
Year 2	$17,432	NA	$17,432
Year 3	$17,432	NA	$17,432
Years 1-3	**$52,296**	**NA**	**$52,296**

Year 1					
P1			P2		
Woody Weeds	**Quantifiable Outcome**	**Cost**	**Woody Weeds**	**Quantifiable Outcome**	**Cost**
A systematic approach starting at the southern end (upstream) and taking on 1/3 per year. This will allow the bushland to ajust, and the habitat value of the weeds maintained during the process. Cut & paint, Drill & Fill; 25 people x 8 hours.	1/3 area treated for 100% mature woody weeds. <10% to produce seed	$13,600	To be undertaken with MW Grants	area treated for 100% mature woody weeds. <10% to produce seed	NA
Planting	**Quantifiable Outcome**	**Cost**	**Planting**	**Quantifiable Outcome**	
Infill planting of shrub species appropriate to Lowland Forest EVC to replace middle story. 1000 tubestock and labour	Shrubs to replace middle story	$3,832	To be undertaken with MW Grants	Shrubs to replace middle story	NA
		$17,432			**NA**
YEAR 1: $17,432					

Year 2					
P1			P2		
Woody Weeds	**Quantifiable outcome**	**Cost**	**Woody Weeds**	**Quantifiable Outcome**	**Cost**
Continuing from last year taking on another 1/3 this year. This will allow the bushland to ajust, and the habitat value of the weeds maintained during the process. Cut & paint, Drill & Fill; 25 people x 8 hours.	1/3 area treated for 100% mature woody weeds. <10% to produce seed	$13,600	To be undertaken with MW Grants	area treated for 100% mature woody weeds. <10% to produce seed	NA
Planting	**Quantifiable Outcome**	**Cost**	**Planting**	**Quantifiable Outcome**	
Infill planting of shrub species appropriate to Lowland Forest EVC to replace middle story. 1000 tubestock and labour	Shrubs to replace middle story	$3,832	To be undertaken with MW Grants	Shrubs to replace middle story	NA
		$17,432			**NA**
YEAR 2: $17,432					

Year 3					
P1			P2		
Woody Weeds	**Quantifiable outcome**	**Cost**	**Woody Weeds**	**Quantifiable Outcome**	**Cost**
Continuing from last year finishing the last 1/3. Follow up sweep across the whole site. Cut & paint, Drill & Fill; 25 people x 8 hours.	100% area treated for 100% mature woody weeds. <10% to produce seed.	$13,600	To be undertaken with MW Grants	area treated for 100% mature woody weeds. <10% to produce seed	NA
Planting	**Quantifiable Outcome**	**Cost**	**Planting**	**Quantifiable Outcome**	
Infill planting of shrub species appropriate to Lowland Forest EVC to replace middle story. 1000 tubestock and labour	Shrubs to replace middle story	$3,832	To be undertaken with MW Grants	Shrubs to replace middle story	NA
		$17,432			**NA**
YEAR 3: $17,432					

Years 4 & 5
Seed bank will contain years worth of Sweet Pittosporum and Boneseeed, so sweeps each year to treat any seedlings to prevent them reaching maturity.

Property 4, 176 Tuerong Rd, Tuerong

Summary			
	P1	**P2**	**Total**
Area (ha)	4.97	3.75	8.72
Perimeter (lm)	1005	1092	2097
Description	This stand of Lowland Forest EVC extends into the paddock from Woodlands Reserve. An intact canopy exists, and a moderate but low diverse shrub layer, and a lower quality ground flora layer due to a history of grazing. Pockets of indigenous species occur, despite the threat from Gorse, Sweet Pittosporum and Sweet Vernal Grass.	This strip of Eucalypt creates a buffer from the bushland next door. Occasionally grazed the Sweet Pittosporum has been kept at bay, however with the exclusion of stock they will make a comeback. This area will be linked to a biolink work zone next door, and the Woodlands Reserve.	
Year 1	$12,016	$4,592	$16,608
Year 2	$5,440	$2,368	$7,808
Year 3	$7,072	$2,176	$9,248
Years 1-3	**$24,528**	**$9,136**	**$33,664**

Year 1					
P1			P2		
Gorse and Sweet Pittosporum Treatment	**Quantifiable Outcome**	**Cost**	**Wildlife Access**	**Quantifiable Outcome**	**Cost**
Handpull, Cut & Paint of shrubs and seedlings. Yearly sweep to prevent seed drop from mature plants 8 people x 8 hours, one sweep in spring.	100% area swept for 100% mature plants, and 70% seedlings. None to set seed.	$4,352	Installation of 4 Safe Wildlife Fence crossings, liase with landowner on what stock and where.	Fence crossing alternatives for Kangaroos and Wildlife	$800
Ground Flora Treatment	**Quantifiable Outcome**	**Cost**	**Planting**	**Quantifiable Outcome**	**Cost**
Identify small high quality patches for intensive handweeding, and brushcut paddock weeds during mid-late spring. Mosaic and disturbance scalping of Sweet Vernal Grass with brushcutter. Collect and scatter of indegenous seed. Include maintenance of in-fill planting. Two people x 8 hours, 5 visits across year	High Quality patches identified, no weeds to set seed within those patches. 10% area brushcut for weed seed reduction and to promote native grass.	$5,440	Infill planting of diverse shrub and ground flora species consistant with Lowland Forest EVC. 400 Tubestock and installation	Gorse replaced with indigenous vegetation	$1,424

Year 1 (continued)					
P1 (continued)			**P2 (continued)**		
Fencing	**Quantifiable Outcome**	**Cost**	**Fencing**	**Quantifiable Outcome**	**Cost**
Fencing along Eastern side of P1, going around stock water source on west side. Approx 400m. Gates and configuraton to be decided	Stock to be excluded from zone	Too variable to quote	Fencing along Eastern side of P2. Approx 500m. Gates and configuration to be decided	Stock to be excluded from zone	Too variable to quote
Wildlife Access	**Quantifiable Outcome**	**Cost**	**Blackberry Treatment**	**Quantifiable Outcome**	**Cost**
Installation of 4 Safe Wildlife Fence crossings, liase with landowner on what stock and where.	Fence crossing alternatives for Kangaroos and Wildlife	$800	Treat isolated blackberry infestations throughout area. Use of one person on spray rig and onother on knapsack x 8 hours one visit in late spring	90% blackberry treated	$1,184
Planting	**Quantifiable Outcome**	**Cost**	**Gorse Treatment**	**Quantifiable Outcome**	**Cost**
Infill planting of diverse shrub and ground flora species consistant with Lowland Forest EVC. 400 Tubestock and installation	Gorse replaced with indigenous vegetation	$1,424	Treatment of Gorse infestations. Combination Spray Rig, knapsack and Cut & Paint. 2 people x 8 hours one visit	100% mature Gorse treated. None to produce seed	$1,184
		$12,016			**$4,592**
YEAR 1: $16,608					

Year 2					
P1			P2		
Gorse and Sweet Pittosporum Treatment	**Quantifiable Outcome**	**Cost**	**Blackberry Treatment**	**Quantifiable Outcome**	**Cost**
Handpull, Cut & Paint of shrubs and seedlings. Yearly sweep to prevent seed drop from mature plants 8 people x 8 hours, one sweep in spring.	100% area swept for 100% mature plants, and 70% seedlings. None to set seed.	$4,352	Follow-up treatment of isolated blackberry infestations throughout area. Use of one person on spray rig and onother on knapsack x 8 hours one visit in late spring	90% blackberry treated	$1,184
Ground Flora Treatment	**Quantifiable Outcome**	**Cost**	**Gorse Treatment**	**Quantifiable Outcome**	**Cost**
Identify and extend small high quality patches for intensive handweeding, and brushcut paddock weeds during mid-late spring. Mosaic and disturbance scalping of Sweet Vernal Grass with brushcutter. Collect and scatter of indegenous seed. Include maintenance of in-fill planting. Two people x 8 hours, 5 visits across year	High Quality patches extended, no weeds to set seed within those patches. 10% area brushcut for weed seed reduction and to promote native grass.	$5,440	Follow-up treatment, combination Spray Rig, knapsack and Cut & Paint. 2 people x 8 hours one visit	100% mature Gorse treated. 80% seedlings. None to produce seed	$1,184
		$5,440			**$2,368**
YEAR 2: $7,808					

Year 3					
P1			P2		
Woody Weed Treatment	**Quantifiable outcome**	**Cost**	**Blackberry and Gorse Treatment**	**Quantifiable outcome**	**Cost**
Sweep through tho handpull or cut & paint any seedlings from the seed bank. 3 people x 8 hours one yearly visit.	<10% present, none to set seed.	$1,632	Follow up on both species, knapsack, or cut & paint. 2 people x 8 hours, one visit in spring	<10% present, none to set seed	$1,088
Ground Flora Treatment	**Quantifiable Outcome**	**Cost**	**Woody Weed Treatment**	**Quantifiable outcome**	**Cost**
Identify and extend small high quality patches for intensive handweeding, and brushcut paddock weeds during mid-late spring. Mosaic and disturbance scalping of Sweet Vernal Grass with brushcutter. Collect and scatter of indigenous seed. Include maintenance of in-fill planting. Two people x 8 hours, 5 visits across year	High Quality patches extended, no weeds to set seed within those patches. 10% area brushcut for weed seed reduction and to promote native grass.	$5,440	Sweep for any seedlings. 2 people x 8 hours one annual visit	<10% present, none to set seed	$1,088
		$7,072			**$2,176**
YEAR 3: $9,248					

Years 4 & 5
Due to the enduring seed viability of Gorse, and the high chance of Sweet Pittosporum coming in from neighbouring properties, annual sweeps will be required to ensure that infestations do not re-establish. As stock are being excluded, regeneration will be occuring. Further infill planting can be considered, particularly around the dam in P2 once blackberry and gorse have been supressed. Consideration to remove fencing on the southern property boundary on the two works zones, and

Property 5, 86-112 Tuerong Rd, Tuerong

Summary	
	P1
Area (ha)	21.4
Perimeter (lm)	2252
Description	This very large bushland zone borders Woodlands Reserve and a neighbouring private property that is included in this biolink plan. Consisting primarily of Lowland Forest EVC, the area had been divided in half east-west and previously grazed. Since stock removal, Sweet Pittosporum and Boneseed have infested the bushland. Despite the infestation, there is still good species diversity including a number of orchid species. A mob of Kangaroos frequent the area.
Year 1	$54,400
Year 2	$54,400
Year 3	$65,280
Years 1-3	**$174,080**

Years 1-3								
Year 1: P1			Year 2: P1			Year 3: P1		
Woody Weeds	**Quantifiable outcome**	**Cost**	**Woody Weeds**	**Quantifiable outcome**	**Cost**	**Woody Weeds**	**Quantifiable outcome**	**Cost**
Commencing from the western boundary, a combination of cut & paint, frill & fill and handpull to treat 1/3 of the area. The western area has the lower % of infestation. A staged approach will maintain the habitat value of the woody weeds, and allow for easier follow up treatment. 100 people x 8 hours.	1/3 area starting from western side treated for 100% mature and 70% saplings. No mature weeds to drop seed in worked area.	$54,400	Commencing from the Eastern boundary, a combination of cut & paint, frill & fill and handpull to treat another 1/3 of the area. The eastern area is adjacent to another Biolink Works Zone, so works here will assist both properties. A staged approach will maintain the habitat value of the woody weeds, and allow for easier follow up treatment.	1/3 area starting from eastern side treated for 100% mature and 70% saplings. No mature weeds to drop seed in worked area.	$54,400	A combination of cut & paint, frill & fill and handpull to treat the remaining 1/3 of the area. A follow up across the whole area to treat any remaining woody weeds that may have matured since initial treatment three years ago. 120 people x 8 hours.	1/3 area starting from western side treated for 100% mature and 70% saplings. No mature weeds to drop seed in worked area.	$65,280
		$54,400			**$54,400**			**$65,280**

Years 4 & 5
Seed stock from decades of weed growth will exist, thus follow up across the whole site is recommended every two years to prevent any additions to the seed bank. Priority is western side, then the east side, then the middle. Where dense thickets of boneseed may exist, use of clopyralid herbicide may be considered to reduce off target damage.

Property 6, 35 Woodlands Rd, Tuerong

Summary	
	P1
Area (ha)	3
Perimeter (lm)	1035
Description	This bushland parcel is adjacent to the Woodland Bushland Reserve. Previously a Landcare Property under the last landowner, the new landowner wishes to continue the lagacy. Due to bushfire risk, the landowner has chosen to slash the thick bracken, which has created a 'natural' disturbance event, allowing other species to boom after being shaded out by the bracken for many years. This however has opened the area for infestation by weeds, thus this worksplan intends to prevent infestations occuring, and promote indigenous species recruitment.
YEAR 1	**$28,288**
YEAR 2	**$25,024**
YEAR 3	**$27,200**
TOTAL	**$80,512**

Year 1								
P1								
African Daisy Treatment	**Quantifiable Outcome**	**Cost**	**Sweet Vernal Treatment**	**Quantifiable Outcome**	**Cost**	**Other assorted weeds**	**Quantifiable Outcome**	**Cost**
Treatment of Senecio pterophorus. Handpull, cut & paint or knapsack herbicide application. Whole area swept in winter/early spring to treat before flowering and seed production in late spring / summer. 6 people x 8 hours over one or two sweeps.	No S. pterophorus to flower and produce seed.	$3,264	Anthoxanthum odoratum is extremely difficult to treat, and is highly invasive. A multi-layered approach using a range of techniques will be needed. Eradication out of areas with high indigenous species richness (handweeding, careful knapsacking using specific herbicides), supression (brushcutting, handweeding, seed head removal, knapsacking) and management (in areas where there is low species richness and the infestation is already established). Site will need to me mapped out and key areas identified for focused treatment. Regular scheduled control. 6 people x 8 hours, 7 yearly visits, 3 of those in spring.	<1% occurance in small identified high quality zones, 50% reduction of occcurance across the rest of the site.	$22,848	Treatment of any other emerging weeds across the zone. 2 people twice a year.	No new weeds to reach maturity.	$2,176
YEAR 1	**$28,288**							

Year 2		
P1		
African Daisy Treatment	**Quantifiable Outcome**	**Cost**
Treatment of Senecio pterophorus. Handpull, cut & paint or knapsack herbicide application. Whole area swept in winter/early spring to treat before flowering and seed production in late spring / summer. 6 people x 8 hours over one or two sweeps.	No S. pterophorus to flower and produce seed.	$3,264
Sweet Vernal Treatment	**Quantifiable Outcome**	**Cost**
A multi-layered approach using a range of techniques will be needed. Eradication out of areas with high indigenous species richness (handweeding, careful knapsacking using specific herbicides), supression (brushcutting, handweeding, seed head removal, knapsacking) and management (in areas where there is low species richness and the infestation is already established). Refer to map for key areas identified for focused treatment. Regular scheduled control. 6 people x 8 hours, 7 yearly visits, 3 of those in spring.	<1% occurance in small identified high quality zones, 50% reduction of occcurance across the rest of the site.	$22,848
Other assorted weeds	**Quantifiable Outcome**	**Cost**
Treatment of any other emerging weeds across the zone. 2 people twice a year.	No new weeds to reach maturity.	$2,176
YEAR 2	**$25,024**	

Year 3		
P1		
African Daisy Treatment	**Quantifiable Outcome**	**Cost**
Treatment of Senecio pterophorus. Handpull, cut & paint or knapsack herbicide application. Whole area swept in winter/early spring to treat before flowering and seed production in late spring / summer. 4 people x 8 hours over one or two sweeps.	No S. pterophorus to flower and produce seed.	$2,176
Sweet Vernal Treatment	**Quantifiable Outcome**	**Cost**
A multi-layered approach using a range of techniques will be needed. Eradication out of areas with high indigenous species richness (handweeding, careful knapsacking using specific herbicides), supression (brushcutting, handweeding, seed head removal, knapsacking) and management (in areas where there is low species richness and the infestation is already established). Refer to map for key areas identified for focused treatment. Regular scheduled control. 6 people x 8 hours, 7 yearly visits, 3 of those in spring.	<1% occurance in small identified high quality zones, 50% reduction of occcurance across the rest of the site.	$22,848
Other assorted weeds	**Quantifiable Outcome**	**Cost**
Treatment of any other emerging weeds across the zone. 2 people twice a year.	No new weeds to reach maturity.	$2,176
YEAR 3	**$27,200**	

Years 4 & 5
Regeneration of indigenous species will be in full swing, and works over the last few years will have prevented infestations occuring. The instance of African Daisy should be very low, and while Sweet Vernal Grass still exists, the key areas (mostly in the north of the works zone) are weed free. A sweep through for weeds should be undertaken twice a year to prevent maturity. Treatment of Sweet Vernal can be reduced to focus on key areas.

Property 7, 168 Graydens Rd, Moorooduc

Summary						
	P1	**P2**	**P3**	**P4**	**P5**	**Total**
Area (ha)	1.1	1.19	0.96	0.18	0.13	3.56
Perimeter (lm)	394	626	478	185	270	1953
Description	This dam takes the run-off from Graydens Rd. Built some time ago and planted with 'natives', the area also contains indigenous ground cover species that can be utilised for recruitment. Disturbance from woody weed removal will promote germination of weeds and indig species, and regular treatment will supress weeds and promote recruitment.	Previously a paddock, this area is adjacent to a Devilbend Tributary which will be receiving works under MW Funding. Previously EVC Lowland Forest / Grassy Woodland, the landowner has commenced revegetation, and this is to be extended upon each year. Regular slashing of open areas to supress pressure on these areas, and brushcutting around indigenous Juncus species will assist in natural regeneration. Mulch created onsite can be utilised to extend revegetation areas.	Previously a paddock, this area is thick with pasture grass, however indigenous species occur along western fenceline and border of P1. A swale run-off from Graydens Rd will receive works from MW Grant Funding which can be planted out with wetland species to improve water quality to the Devilbend Tributary. Once again a staged approach working from good areas, adjacent works zones, and utilizing onsite mulch to create reveg zones will transform the paddock over time.	This area has an existing reminant overstory and is currently under restoration by the landowner. Adjacent to a Biolink Work Zone on the neighbouring property west, and Shire roadside reserve/Devilbend Golfcourse to the north, this zone will connect and extend on existing habitat. Use of onsite mulch will assist in supressing ground flora weeds assist in revegetaion and assist in future recruitment of indig species.	This strip will create a link of vegetation along the property. Approx 10m wide it will create a 20m buffer in combination with the neighbouring property. A small strip between the paddock and property boundary contains woody weeds and blackberry.	NA
Year 1	$36,936	$13,672	3,264	$4,908	$4,352	$63,132
Year 2	$3,808	$4,364	$3,264	$7,084	$2,992	$21,512
Year 3	$3,264	$4,364	$3,264	$3,744	$2,720	$17,356
Years 1-3	**$44,008**	**$22,400**	**9,792**	**$15,736**	**$10,064**	**$102,000**

Year 1					
P1			P2		
Water Lily Treatment	**Quantifiable Outcome**	**Cost**	**Planting in new bed**	**Quantifiable Outcome**	**Cost**
Vegetative removal of *Nymphaea mexicana*. 4 staff using canoe/kayaks x 8 hours one visit in summer (when water level is likely to be lower	Treatment of 80% water lily	$2,176	Planting of Grassy Woodland EVC Species in newly formed garden bed. Focus on low vegetation so as not to block view. 3000 tubestock and installation	Planting to replace removed vegetation, 60% grasses and ground flora, 30% shrubs and , 10% small trees	$10,680
Ground Flora Treatment	**Quantifiable Outcome**	**Cost**	**Black Berry Treatment**	**Quantifiable Outcome**	**Cost**
Knapsack, handweed and brushcut of ground flora weeds to promote the recruitment of indigenous ground cover species and to support planting. 5 yearly visits, 4 seasonal and extra in spring to prevent weed seed production. Collection of Indig Seed during spring and scattering across site in Autumn. 1 person x 8 hours 5 visits per year	100% of area treated. <5% weed seed production from grasses. 100% agapanthus treated. Direct seeding to occur when appropriate.	$2,720	Spot Spraying of Blackberry present after woody weed removal. 1 person 4 hours	100% blackberry treated	$272
Planting	**Quantifiable Outcome**	**Cost**	**Ground Flora Treatment**	**Quantifiable Outcome**	**Cost**
High density planting of Lowland Forest / Swampy / Riparian EVC species to establish ground cover and reduce erosion. 3 plants per sq. metre. Mulch to be supplied and spread by landowner. 9000 tubestock and installation.	Planting to replace removed vegetation, 60% grasses and ground flora, 30% shrubs and trees, 10% wetland	$32,040	Combination of knapsacking, Brushcutting and Handweeding in and around indigenous vegetation, and where plantings have/will occur. Special attention to prevent weed seed production. Working from the good areas out. 1 Person x 8 hours, 4 yearly seasonal and one extra visit in spring. Slashing of all other open areas, particularly during spring to prevent paddock grass seed production to be undertaken by landowner.	<10% weed seed production around existing indigenous and planted species. Slashing of paddock grasses at intervals to prevent seed production.	$2,720
			Planting in Paddock	**Quantifiable Outcome**	**Cost**
			Planting of EVC Lowland Forest species, working out from existing	Existing reveg zone extended by minimum 100%	TBA
		$36,936			**$13,672**
YEAR 1 (P1 & P2 ONLY)	**$50,608**				

Year 1 (continued)								
P3			P4			P5		
Ground Flora Treatment	**Quantifiable Outcome**	**Cost**	**Ground Flora Treatment**	**Quantifiable Outcome**	**Cost**	**Woody Weeds**	**Quantifiable Outcome**	**Cost**
Identifying and working out from existing indigenous vegetation along P1 and western fenceline with a combination of brushcutting, knapsack and handweeding. Brushcutting, and knapsack treatment to create a buffer along the swale to assist works undertaken under MW Grant. Slashing of all other open areas, particularly during spring to prevent paddock grass seed production to be undertaken by landowner. 1 person x 8 hours every second month.	<20% weeds to occur in identified zones and swale buffer.	$3,264	Brushcut, knapsack and handweed of ground flora weeds, to supress pressure on reveg and prevent seed production. As revegetation occurs the amount of handweeding required may increase. Increased application of herbicide may be required around the perimeter to create a buffer. 1 person x 8 hours, 6 strategic yearly visits.	<20% of weed species to produce seed. <5% weed occurance in mulched areas.	$3,264	Cut & paint, frill & fill. A strategic approach may be required to maintain some vegetation cover (of native, not indig), focusing on treating high threat weeds and seed baring individuals such as boneseed first. 2 people x 8 hours with chipper. Mulch NOT CONTAINING WEED SEED to be used onsite in P5 for planting.	100% boneseed treated, 50% other species.	$1,632
Planting	**Quantifiable Outcome**	**Cost**	**Planting**	**Quantifiable Outcome**	**Cost**	**Blackberry Treatment**	**Quantifiable Outcome**	**Cost**
Planting of Eucalupt and tree species scattered across site, stakes and tree guards to assist during slashing. Undertaken by MP Koala Foundation.	EVC Lowland Forest species planted across zone.	TBA	Infill planting of shrub and ground cover species to mimic the Lowland Forest EVC strata. Diverse and dense planting focusing on mulched and prepped areas, pushing out each year. 500 hiko/tubestock and labour for one day.	Increased density and species diversity	$1,644	Spot Spraying of blackberry along fenceline. 1 person 4 hours. Cut and paint only if off target species exist.	70% treated	$272
						Planting preperation and maintenance	**Quantifiable Outcome**	**Cost**
						Slashing of paddock grasses to be undertaken by landowner and Spot spray areas 3-4 weeks before planting. Use of onsite mulch to assist. 1 person 4 hours knapsack application for preparation. 1 person x 8 hours, 4 yearly visits maintenance; brushcut and knapsack. Slashing of open areas/fenceline to be undertaken by landowner	Area prepped for planting and no weeds to exist where plants are to be installed (not whole area but spots/buffers for each plant or group of plants. After planting pressure from paddock grasses to not impact planting.	$2,448
						Planting	**Quantifiable Outcome**	**Cost**
						Planting to be undertaken by MP Koala Foundation. Stake and Guard to assist in future maintenance.	EVC Lowland Forest species planted across zone.	TBA
		$3,264			**$4,908**			**$4,352**
YEAR 1 (P3-P5 ONLY)	**$12,524**							
YEAR 1 TOTAL (P1-P5)	***$63,132***							

Year 2					
P1			P2		
Woody Weeds	**Quantifiable outcome**	**Cost**	**Ground Flora Treatment**	**Quantifiable Outcome**	**Cost**
Treatment of another 50% of remaining woody weed species, keeping an eye out for seedlings. 1 person x 8 hours	Reduction of woody weeds by another 50% (total now 75%) to retain some habitat.	$1,088	Continued combination of knapsacking, Brushcutting and Handweeding in and around indigenous vegetation, and where plantings have/will occur. Special attention to prevent weed seed production. Working from the good areas out. 1 Person x 8 hours, 4 yearly seasonal and one extra visit in spring. Slashing of all other open areas during spring to prevent paddock grass seed production to be undertaken by landowner.	<5% weed seed production around existing indigenous and planted species. Slashing of paddock grasses at intervals to prevent seed production.	**$2,720**
Ground Flora	**Quantifiable outcome**	**Cost**	**Planting**	**Quantifiable Outcome**	**Cost**
Knapsack, handweed and brushcut of ground flora weeds to promote the recruitment of indigenous ground cover species and to support planting which may occur under Melbourne Water Grants. 5 yearly visits, 4 seasonal and extra in spring to prevent weed seed production. Collection of Indig Seed during spring and scattering across site in Autumn. 1 person x 8 hours 5 visits per year	100% of area treated. <5% weed seed production from grasses. 100% agapanthus re-treatment. Direct seeding to occur when appropriate. Recruitment of indigenous species may require a higher level of handweeding to occur.	$2,720	Infill and extension of reveg zones with ground covers, grasses and shrubs. Continue staged approach to prevent 'biting off more than landowner can chew'. Conservative amount of 500 hiko/tubestock to increase density and species diversity. Plants and Labour for one day. Reliant on areas prepped with mulch and/or treated for Ground Flora Weeds	Increased density and species numbers in reveg zones	**$1,644**
		$3,808			**$4,364**
YEAR 2 (P1 & P2 ONLY)	**$8,172**				

Year 2 (continued)								
P3			P4			P5		
Ground Flora Treatment	**Quantifiable Outcome**	**Cost**	**Ground Flora Treatment**	**Quantifiable Outcome**	**Cost**	**Woody Weeds**	**Quantifiable Outcome**	**Cost**
Continue working out from existing indigenous vegetation along P1 and western fenceline with a combination of brushcutting, knapsack and handweeding. Brushcutting, and knapsack treatment to create a buffer along the swale to assist works undertaken under MW Grant. Slashing of all other open areas, particularly during spring to prevent paddock grass seed production to be undertaken by landowner. 1 person x 8 hours every second month.	<20% weeds to occur in identified zones and swale buffer. Buffer extended and indigenous vegetation zone extended by 25%.	**$3,264**	Continued maintenance: Brushcut, knapsack and handweed of ground flora weeds, to supress pressure on reveg and prevent seed production. As revegetation occurs the amount of handweeding required may increase. Buffer maintained. 1 person x 8 hours, 6 strategic yearly visits.	<10% of weed species to produce seed. <5% weed occurance in mulched areas.	**$3,264**	Handpull, cut & paint Frill & Fill. Focus on high threat weeds first, in particular seedlings since last treatment. Further thinning of 'native' trees and low threat woody weeds. 1 person 8 hours one visit.	100% boneseed seedlings treated, 50% treatment of other species. Transitioning as planting establishes.	$544
			Planting	**Quantifiable Outcome**	**Cost**	**Blackberry Treatment**	**Quantifiable Outcome**	**Cost**
			If weed supression and occurance is successful and space for planting opens up continue infill planting of shrub and ground cover species to mimic the Lowland Forest EVC strata. Diverse and dense planting focusing on mulched and prepped areas, pushing out each year. 500 hiko/tubestock and labour for one day.	Extent of area planted increased, density and species diversity increased	**$1,644**	Spot Spraying of blackberry along fenceline, easier access after woody weeds have been thinned. 1 person 4 hours. Cut and paint only if off target species exist.	100% treated	$272
						Planting Maintenance	**Quantifiable Outcome**	**Cost**
						Brushcut, knapsack and Slashing. Maintenance of planting 1 person 8 hours 4 yearly visits. Open areas to be slashed by landowner	Paddock grasses not to impact planting	**$2,176**
		$3,264			**$7,084**			**$2,992**
YEAR 2 (P3-P5)	**$13,340**							
YEAR 2 TOTAL (P1-P5)	***$21,512***							

Year 3					
P1			P2		
Woody Weeds	**Quantifiable outcome**	**Cost**	**Planting Maintenance**	**Quantifiable Outcome**	**Cost**
Treatment of any remaining non-native and weed species. Special attention to seedlings. 1 person 8 hours	100% area treated. <1% woody weed species to occur.	$1,088	Continued combination of knapsacking, Brushcutting and Handweeding in and around indigenous vegetation, and where plantings have/will occur. Special attention to prevent weed seed production. Working from the good areas out. 1 Person x 8 hours, 4 yearly seasonal and one extra visit in spring. Slashing of all other open areas during spring to prevent paddock grass seed production to be undertaken by landowner.	<5% weed seed production around existing indigenous and planted species. Slashing of paddock grasses at intervals to prevent seed production.	$2,720
Ground Flora	**Quantifiable outcome**	**Cost**	**Planting**	**Quantifiable Outcome**	**Cost**
Seasonal sweep to prevent weed ancroachment and seed production of weeds. Special attention to indigenous recruitment areas and where direct seeding has occurred. 1 person 8 hours 4 yearly visits	100% area treated. <1% ground flora weed species to occur.	$2,176	Infill and extension of reveg zones with ground covers, grasses and shrubs. Continue staged approach to prevent 'biting off more than landowner can chew'. Conservative amount of 500 hiko/tubestock to increase density and species diversity. Plants and Labour for one day. Reliant on areas prepped with mulch and/or treated for Ground Flora Weeds	Increased density and species numbers in reveg zones	$1,644
		$3,264			**$4,364**
YEAR 3 (P1 & P2)	**$7,628**				

Year 3 (continued)								
P3			P4			P5		
Ground Flora Treatment	**Quantifiable Outcome**	**Cost**	**Ground Flora Treatment**	**Quantifiable Outcome**	**Cost**	**Woody Weeds and Blackberry**	**Qualtifiable Outcome**	**Ground flora treatment**
Continue working out from existing indigenous vegetation along P1 and western fenceline with a combination of brushcutting, knapsack and handweeding. Brushcutting, and knapsack treatment to create a buffer along the swale to assist works undertaken under MW Grant. Slashing of all other open areas, particularly during spring to prevent paddock grass seed production to be undertaken by landowner. 1 person x 8 hours every second month.	<20% weeds to occur in identified zones and swale buffer. Buffer extended and indigenous vegetation zone extended by another 25%.	$3,264	Continued maintenance: Brushcut, knapsack and handweed of ground flora weeds, to supress pressure on reveg and prevent seed production. As revegetation occurs the amount of handweeding required may increase. Buffer maintained. 1 person x 8 hours, 6 strategic yearly visits.	<5% of weed species to produce seed. <5% weed occurance in mulched areas.	$3,264	Sweep of fenceline to treat any remaining or emerging species. Some larger 'native' trees may exist. 1 person 8 hours, one visit in spring/summer.	100% treatment of high threat seedlings and blackberry.	$544
			Direct Seeding	**Quantifiable Outcome**	**Cost**	**Planting Maintenance**	**Quantifiable Outcome**	**Cost**
			Seed produced in this (and any other zone) to be collected (generally in spring) and scattered across whole site in Autumn to assist on natural regeneration. 1 person x 4, one hour visits (three to collect, one to direct seed). Including some travel time. Seed to be stored in containers on site by landowner.	Seed dispersal assisted across property	$480	Brushcut, knapsack and Slashing. Maintenance of planting 1 person 8 hours 4 yearly visits. Open areas to be slashed by landowner	Paddock grasses not to impact planting	**$2,176**
		$3,264			**$3,744**			**$2,720**
YEAR 3 (P3-P5)	**$9,728**							
YEAR 3 TOTAL (P1-P5)	***$17,356***							

Years 4 & 5
Transitioning the property is well under way, and future works should now focus heavily on A) not letting the last 3 years go backward with regular maintenance sweeps of works zones , and B) continuing to extend size, density and diversity of the established revegetated and restoration areas. Slashing, mowing and brushcutting will need to continue in the plantings and where open paddock grasses exist, however these areas should now be starting to reduce in size. Continued application of MW grants and contact with MP Koalas will assist with infilling species, and weed control within those zones. Weeds coming in from outside the property will still occur so monitoring the property for seedlings on a regular basis is important. Continue working our from the areas, never biting off more than can be maintained.

Property 8, 170 Graydens Rd, Moorooduc

Summary				
	P1	**P2**	**P3**	**Total**
Area (ha)	0.42	0.7	0.4	1.52
Perimeter (lm)	495	666	459	1620
Description	This small pocket of the property was set aside and planted with 'native' tree and shrub species. The ground flora layer has suprisingly high indigenous species diversity, likely due to being fenced and the land never grazed. The 'native' plants, while providing habitat will be slowly transitioned out and replaced with indigenous species, however this is not a high priority. High Threat Weeds (and State Prohibited Weed Spiny Broom) have encroached from the neighbouring road reserve to the north, and require immediate treatment. This zone abuts a Biolink Work Zone on the neighbouring property.	In the middle of the property, this damp gully has the upper banks of a Devilbend Tributary. Swampy Riparian Woodland EVC has been infested with Sweet Pittosporum, Boneseed blackberry and an assortment of other weeds. The tributary in the middle of the area will be covered under MW Grants, so this zone will complement and enhance the works to the north and south. This Zone abuts a Biolink work Zone on the neighbouring property	This small vegetated patch contains a decomissioned dam that collected runoff from Graydens Rd. Thick with Swamp Paperbark, an assortment of weeds are beginning to establish. Numerous indigenous ground cover species exist, and with some encouragement, should begin to recruit and establish when the pressure of the weeds is reduced. This zone abuts a Biolink Work Zone on the neighbouring property.	NA
Year 1	$10,880	$7,616	$5,518	$24,014
Year 2	$10,880	$7,616	$3,264	$21,760
Year 3	$10,336	$7,616	$3,264	$21,216
Years 1-3	**$32,096**	**$22,848**	**$12,046**	**$66,990**

Year 1								
P1			P2			P3		
Woody Weeds	**Quantifiable Outcome**	**Cost**	**Woody Weeds**	**Quantifiable Outcome**	**Cost**	**Woody Weed Treatment**	**Quantifiable Outcome**	**Cost**
Cut & Paint, Frill & Fill of high threat weeds. Any Spiny Broom *Calicotome spinosa* with viable seed should be removed from site and disposed of. Treatment of 5% of the mature 'native' trees, and all sapplings. 80% treatment along eastern fenceline. 6 people x 8 hours one visit.	100% of mature high threat weeds and 'native' saplings treated. 5% 'native' trees treated.	$3,264	Systematic and annual Cut & Paint, Handpull, Frill & Fill of woody weeds, namely Sweet Pittosporum at high infestation rate. Consider creating a burn pile as many contain fruit and the removal of biomass will assist in follow up treatment. 10 people x 8 hours, over multiple visits. Commencing on East and working west.	Reduction of Woody Weeds by >30% across the zone. Aim for 100% site covered by end of year three.	$5,440	Cut & Paint, Frill & fill, handpull. Sweep to treat Sweet Pittosporum, Boneseed, Gorse, Sallow Wattle, Pine, Pin Cusion Hakea. After these species, other 'native' non indig species can be targeted, at disgression of Landowner. 4 people x 8 hours one visit.	100% area covered for >80% listed species.	$2,176
Blackberry Treatment	**Quantifiable Outcome**	**Cost**	**Blackberry Treatment**	**Quantifiable Outcome**	**Cost**	**Ground Flora and Scramblers**	**Quantifiable Outcome**	**Cost**
Knapsack fenceline and small thickets and cut & paint where indigenous plants exist. Care must be taken to minimise off target. Spring/Summer. Two people x 8 hours, one visit	80% of blackberry treated, <5% off target.	$1,088	Knapsack of blackberry present, sheering down thickets for access and follow up treatment. 4 people x 8 hours, over two visits in spring and summer.	50% reduction of blackberry.	$2,176	Initial sweep to treat assortment of weeds present, Agapanthus, Blue-Bell Creeper, Blackberry. Knapsack, handpull, cut & paint. Three people x 8 hours ,2 sweeps spring and autumn.	80% reduction is assorted weeds present across the site.	$3,264

Year 1 (continued)								
P 1 (continued)			P2 (continued)			P3 (continued)		
Ground Flora	**Quantifiable Outcome**	**Cost**			**Cost**	**Planting**	**Quantifiable Outcome**	**Cost**
Handweed sessions with follow up spot spray with knapsack. Because this area has indigenous species present in the ground flora layer, careful handweeding and spot spray techniques are required. Identifying and prioritising quality areas to start works, and to push out from are paramount. 2 people x 8 hours, 6 yearly visits.	20% overall reduction of ground flora weeds, and patches where indig species are in abundance are relieved from weed competition.	$6,528				In-fill shrub planting to replace 'native' species treated now and in the future. 20 x tubestock and installation	Indigenous Shrubs species planted to replace 'native' shrubs.	$78
		$10,880			**$7,616**			**$5,518**
YEAR 1: $24,014								

Year 2								
P1			P2			P3		
Woody Weeds	**Quantifiable Outcome**	**Cost**	**Woody Weeds**	**Quantifiable Outcome**	**Cost**	**Ground Flora and Scramblers**	**Quantifiable Outcome**	**Cost**
Cut & Paint, handpull of high threat weeds. Any Spiny Broom *Calicotome spinosa* seedlings can be hanpulled or knapsacked. Treatment of another 20% of the mature 'native' trees, and all sapplings. 80% treatment along eastern fenceline. 6 people x 8 hours one visit.	100% of mature high threat weeds and 'native' saplings treated. 20% 'native' trees treated.	$3,264	Systematic and annual Cut & Paint, Handpull, Frill & Fill of woody weeds, namely Sweet Pittosporum at high infestation rate. Consider creating a burn pile as many contain fruit and the removal of biomass will assist in follow up treatment. 10 people x 8 hours, over multiple visits. Commencing on East and working west.	Reduction of Woody Weeds by >30% across the zone. Aim for 100% site covered by end of year three.	$5,440	Second sweep to treat assortment of weeds present, Agapanthus, Blue-Bell Creeper, Blackberry. Knapsack, handpull, cut & paint. Three people x 8 hours, 2 sweeps spring and autumn.	<10% assorted weeds present across the site.	$3,264
Blackberry Treatment	**Quantifiable Outcome**	**Cost**	**Blackberry Treatment**	**Quantifiable Outcome**	**Cost**			
Follow up knapsack fenceline and small thickets and cut & paint where indigenous plants exist. Care must be taken to minimise off target. Spring/Summer. Two people x 8 hours, one visit	100% of blackberry treated, <5% off target.	$1,088	Knapsack of blackberry present, sheering down thickets for access and follow up treatment. 4 people x 8 hours, over two visits in spring and summer.	50% reduction of blackberry.	$2,176			

Year 2 (continued)								
P1 (continued)			P2 (continued)			P3 (continued)		
Ground Flora	**Quantifiable Outcome**	**Cost**						
Handweed sessions with follow up spot spray with knapsack. Because this area has indigenous species present in the ground flora layer, careful handweeding and spot spray techniques are required. Identifying and prioritising quality areas to start works, and to push out from are paramount. 2 people x 8 hours, 6 yearly visits.	20% overall reduction of ground flora weeds, and patches where indig species are in abundance are relieved from weed competition.	$6,528						
		$10,880			**$7,616**			**$3,264**
YEAR 1: $21,760								

Year 3								
P1			P2			P3		
Woody Weeds	**Quantifiable Outcome**	**Cost**	**Woody Weeds**	**Quantifiable Outcome**	**Cost**	**Ground Flora and Scramblers**	**Quantifiable Outcome**	**Cost**
Cut & Paint, Frill & Fill of high threat weeds. Any Spiny Broom *Calicotome spinosa* with viable seed should be removed from site and disposed of. Treatment of 20% of the mature 'native' trees, and all sapplings. 80% treatment along eastern fenceline. 6 people x 8 hours one visit.	100% of mature high threat weeds and 'native' saplings treated. 20% 'native' trees treated.	$3,264	Systematic and annual Cut & Paint, Handpull, Frill & Fill of woody weeds, namely Sweet Pittosporum at high infestation rate. Consider creating a burn pile as many contain fruit and the removal of biomass will assist in follow up treatment. 10 people x 8 hours, over multiple visits. Commencing on East and working west.	Reduction of Woody Weeds by >30% across the zone. Aim for 100% site covered by end of year three.	$5,440	Third sweep to treat assortment of weeds present, Agapanthus, Blue-Bell Creeper, Blackberry. Knapsack, handpull, cut & paint. Three people x 8 hours, 2 sweeps spring and autumn.	<10% assorted weeds present across the site.	$3,264
Blackberry Treatment	**Quantifiable Outcome**	**Cost**	**Blackberry Treatment**	**Quantifiable Outcome**	**Cost**			
Knapsack fenceline and small thickets and cut & paint where indigenous plants exist. Care must be taken to minimise off target. Spring/Summer. One person x 8 hours, one visit	100% of blackberry treated, <5% off target.	$544	Knapsack of blackberry present, sheering down thickets for access and follow up treatment. 4 people x 8 hours, over two visits in spring and summer.	80% reduction of blackberry.	$2,176			
Ground Flora	**Quantifiable Outcome**	**Cost**						
Handweed sessions with follow up spot spray with knapsack. Because this area has indigenous species present in the ground flora layer, careful handweeding and spot spray techniques are required. Identifying and prioritising quality areas to start works, and to push out from are paramount. 2 people x 8 hours, 6 yearly visits.	20% overall reduction of ground flora weeds, and patches where indig species are in abundance are relieved from weed competition. Recruitment and spread of indigenous vegetation should start occuring	$6,528						
		$10,336			**$7,616**			**$3,264**
YEAR 1: $21,216								

Years 4 & 5
A significant amount of Weed seed exist in these works zones in particular the spiny broom which could potentially have seed in the soil for the next decade. Continuing to prevent Woody weeds and blackberry from producing fruit will assist the natural regeneration from Bing outcompeted. The ground floor layer in P1 will be increasing in Strength and may possibly even be recruiting into the work zone in the neighbouring property.

Property 9, Devilbend Golf Club, 48 Loders Rd, Moorooduc

Summary	
	P1
Area (ha)	4.33
Perimeter (lm)	1378
Description	This bushland parcel sits between the fairways and the neighbouring properties included in this Landcare Biolink Plan. Woody weeds are a major threat to this area, and canopy stress has been observed from the understory infestation of Sweet Pittosporum. Spiny Broom, a Regionally Prohibited Weed has been observed as well as Gorse and Flax Leaf Broom. It is a landowner obligation to manage Spiny Broom.
Year 1	$14,688
Year 2	$14,688
Year 3	$13,600
Years 1-3	**$42,976**

Year 1		
P1		
Spiny Broom	**Quantifiable Outcome**	**Cost**
A dedicated effort to treat this species, cut & paint mature plants, knapsack or handpull seedlings. If baring seed pods, consider removal and disposal. Map area treated and any isolated plants for future follow up. 5 people x 8 hours one annual visit	100% mature plants treated. <20% seedlings remain.	$2,720
Gorse and Flax-leaf broom Treatment	**Quantifiable Outcome**	**Cost**
Use of specific herbicide via knapsack, cut & paint or handpull. 4 people x 8 hours one annual visit.	100% mature plants treated. <20% seedlings remain.	$2,176
Woody Weed Treatment	**Quantifiable Outcome**	**Cost**
Starting at a designated location, systematically treating 1/3 of the area, primarily for Sweet Pittosporum. A staged approach will maintain the mid story habitat. 18 people x 8 hours over one treatment run.	1/3 area treated for 100% mature sweet pittosporum. <20% saplings remain.	$9,792
		$14,688
YEAR 1: $14,688		

Year 2		
P1		
Spiny Broom	**Quantifiable Outcome**	**Cost**
Follow-up search and destroy, cut & paint mature plants, knapsack or handpull seedlings. If baring seed pods, consider removal and disposal. Map area treated and any isolated plants for future follow up. 5 people x 8 hours one annual visit	<10% remain on site, no mature plants.	$2,720
Gorse and Flax-leaf broom Treatment	**Quantifiable Outcome**	**Cost**
Follow up; Use of specific herbicide via knapsack, cut & paint or handpull. 4 people x 8 hours one annual visit.	<20% seedlings remain.	$2,176
Woody Weed Treatment	**Quantifiable Outcome**	**Cost**
Continue on, systematically treating another 1/3 of the area, primarily for Sweet Pittosporum. A sweep through of last years area to treat any that have matured. 18 people x 8 hours over one treatment run.	2/3 area treated for 100% mature sweet pittosporum. <20% saplings remain.	$9,792
		$14,688
YEAR 2: $14,688		

Year 3		
P1		
Spiny Broom	**Quantifiable Outcome**	**Cost**
Follow-up search and destroy, cut & paint mature plants, knapsack or handpull seedlings. If baring seed pods, consider removal and disposal. Map area treated and any isolated plants for future follow up. 3 people x 8 hours one annual visit	<5% remain on site, no mature plants.	$1,632
Gorse and Flax-leaf broom Treatment	**Quantifiable Outcome**	**Cost**
Follow up; Use of specific herbicide via knapsack, cut & paint or handpull. If none are located, use this to treat Sweet Pittosporum nstead 4 people x 8 hours one annual visit.	<5% seedlings remain.	$2,176
Woody Weed Treatment	**Quantifiable Outcome**	**Cost**
Continue on, systematically treating another 1/3 of the area, primarily for Sweet Pittosporum. A sweep through of last years area to treat any that have matured. 18 people x 8 hours over one treatment run.	Whole area treated for 100% mature sweet pittosporum. <20% saplings remain.	$9,792
		$13,600
YEAR 3: $13,600		

Years 4-5
The seed bank from the woody weed species will be present for many years, so yearly sweeps on the Spiny Broom locations, and sweeps for the other species every two years. The removal of this weedy understory will promote, hopefully indigenous species to regenerate, and relieve the stress on the Eucalypt species.