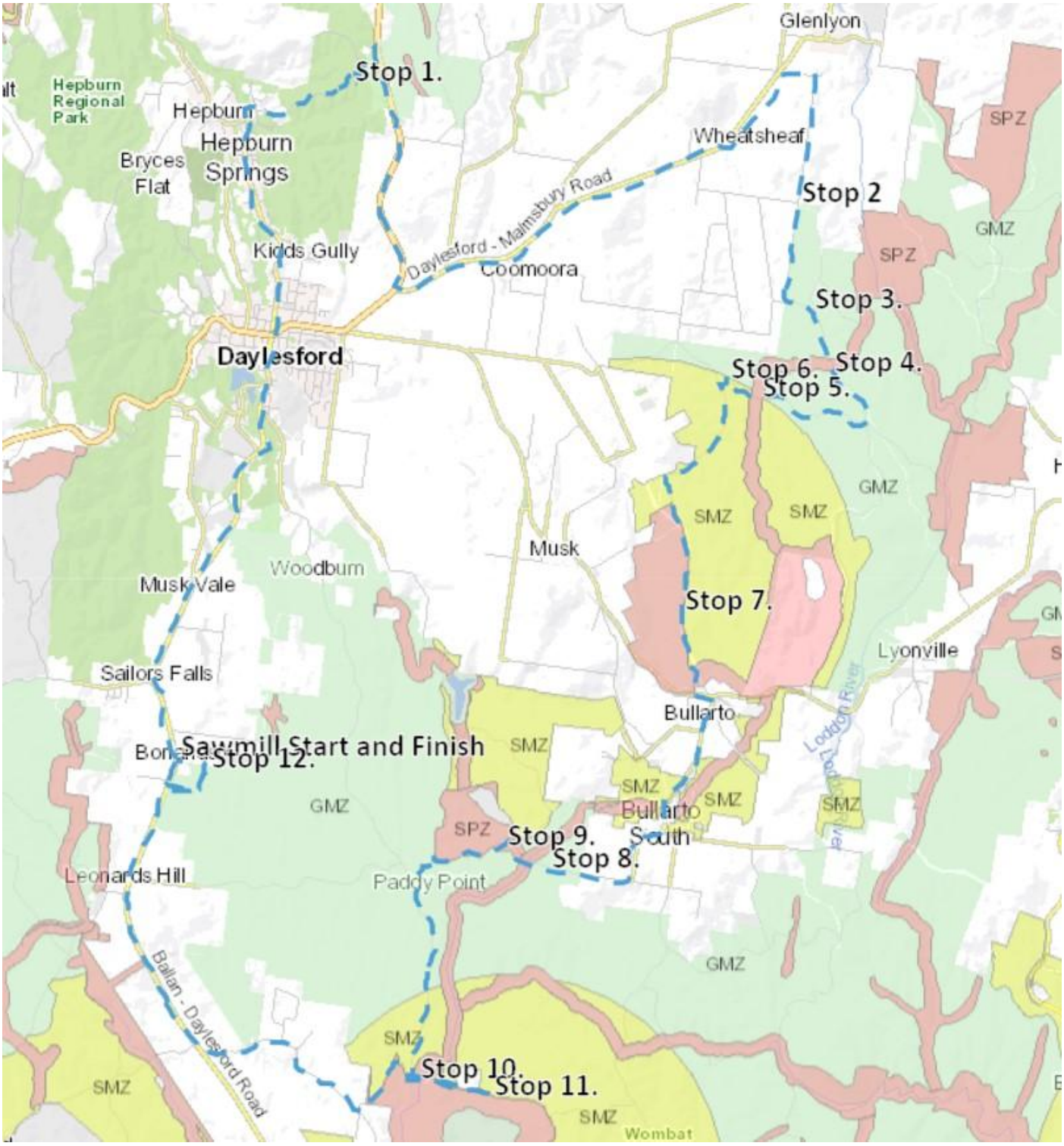
Djarra Wombat Forest Tour

Tuesday 28th November 2023



Djarra Wombat Forest Tour

Start: Meet at Sawmill,

Daylesford Ballan Road. Sailors Falls

Introduction:

We have been working on land use issues around the Womba Forest for over 30 years. What we would like to show you today is a tour through the forest from north to south. We will show areas that have significant legacies from the un-sustainable industrial logging that occurred from the late 1980's. We will show you healthy forest areas that represent the Wombat Forest when we arrived in the late 1980's. A tall open ecologically functioning mixed species forest.

The Wombat Forest is located in the headwaters to six river systems, Loddon, Coliban, Campaspe, Lerderderg, Werribee and Moorabool rivers. Rivers that flow through Dja Dja Wurrung, Wadawurrung country. There are aspects of the current state of the forest structure that will have impacts on water yield for the next 50 to 100 years. The tour will look at what some healthy waterways and discuss the impact of the intense regrowth that now covers up to 40 000ha.

Habitat, forest structure and fire effects - past, current and future threats will be explored at some of the stops.

The tour will finish at a stand of trees that is the closest we have of what the forest looked like in the past.

STOP 1: 50M west of cnr Mannings Rd and Back Hepburn Rd

EVC… Heathy Dry Forest

ELEVATION… 570m, 11.8km north divide

DISTURBANCE… Historic Gold Mining, planned burn 2021

LAND TENURE… Parks Victoria

Discussion: Fire effects of burns that are too hot. The forest on the other side of the road had a planned burn in 2018

STOP 2: Sharpes Lane 30m north of House no 304 (red and white tape on tree)

EVC… Herb-Rich Foothill Forest

ELEVATION… 630m, 9.7km north divide

DISTURBANCE… Shelterwood one-1987. Shelterwood two- 1998, planned burn 2013

LAND TENURE… General Management Zone (GMZ)

Discussion: This stop is at the boundary between an unlogged and a logged area .

The north block shows the forest structure pre industrial logging, the area to the south is a forest coupe that had a heavy shelterwood one cut with a very hot regeneration burn fuelled by heavy loads of logging slash. The regrowth was intense, as the old bush workers would say "thick as the hairs on a dogs back". You are looking at 32-year-old regrowth trees. The area then received a Shelterwood 2 harvest in 1998 when remaining sawlog (overwood) was taken theoretically leaving behind a single age class of trees. There was a fuel reduction burn in 2013 which 'got away' and caused some mortality in the regrowth. It also cooked the nutrients in the soil setting back the growth of the trees.

Coupe No.	**06/192/501/005**
Coupe Name	**Boundary**
Harvest period	**Shelterwood 1 1987, Shelterwood 2 1998**
Planned burn	**2013**

Record	**coupe area**	**B+**	**C**	**D**	**D1**	**D+ tot**	**res**
98-2000 WUP	39ha	700	1300	500		2500	800

STOP 3: Cnr No Name Track and Boundary Track Wheatsheaf

EVC… Herb-Rich Foothill Forest

ELEVATION… 640 m/ 8.9km north divide

DISTURBANCE….

- East side of intersection-Shelterwood One (actually heavy Seedtree)
- North side of intersection- Shelterwood one-1987. Shelterwood two- 1998
- West side- Shelterwood One- 1996
- Planned burn 2013

LAND TENURE… General Management Zone (GMZ)

Discussion: The area on the East side of the intersection (Loop Track 06/208/505/009) – had an intense Shelterwood 1 harvest in 2000 followed by a very hot regeneration burn. This area was seeded with messmate. As you can see 23 years later this has resulted in chocked up, over stocked, suppressed scrub that in no way represents a healthy forest.

The area on the west side (Sharpes Lane 06/192/501/002) had a much lower intensity shelterwood one cut in 1996. The emphasis during this logging operation had been on minimum under storey disturbance. This has resulted in a far healthier forest structure, open, younger regeneration, intact understory flora. A functioning eco-system, that sustains both flora and fauna, including large owl species.

Area to the north west is the southern end of the coupe discussed at stop 2. It had an intense shelterwood one cut in 1987, followed by regeneration burn. Regrowth response is very thick. Area had shelterwood two cut in 1998. The machinery created some disturbance which released some of the regrowth. A fuel reduction burn in 2013 got away, and became very hot, damaging some young trees. The bigger impact of intense fire in these forests is the destruction of soil biota and humas layers, setting back the growth potential of the site.

STOP 4: SPZ on Boundary Track

EVC… Herb-Rich Foothill Forest

ELEVATION… 710m /8.4km north divide

DISTURBANCE- Historic Stand Improvement Selection logging until the 1980's Illustrates what periodic thinning can achieve over 80 years.

- North-West- Mature Forest stand, represents what the Wombat was like pre-shelterwood (in the 1980's)
- West side- Shelterwood One- 1980. Shelterwood two- 1994. Intense burn- 2002.
- South-West- Shelterwood One- 1989. Helicopter ignited burn 1990????

LAND TENURE… Special Protection Zone (SPZ)

Discussion: The strip of bush on the right (west) is a wildlife corridor the Wombat Forest Society successfully had designated as a SPZ during the drafting of the Midlands Forest Management Plan in the early 1990s. This stand represents what most of the Wombat Forest looked like in the 1980's, tall, open forest, understorey in place, riparian lines vegetated.

This is the result of selective thinning carried from the 1940's until the 1980's. This logging method was called Timber Stand Improvement, where the best trees were preserved, and poorer quality (in terms of timber value)suppressed trees were removed and milled locally. The timber cutters had allocated areas of forest which they worked for the sawmill they carted logs for. The families worked these same areas for over 3 generations to gradually restore the Wombat Forest following its destruction in the gold rush. An 1895 Victorian parliament Royal Commission described the Wombat Forest as the "Ruined Forest'.

This illustrates what can be achieved with periodic thinning. They only went into each area about once in every ten to fifteen years and thinned the forest. They also threw matches into heads and debris as they went home each night and allowed the fire to trickle around the patch in the cool of the night.

Now look to the left, the wall of young, crowded regrowth, competing for sun, water and nutrients. How do we get what's on the left to look like what's on the right in 60 years?

Mixed species forest like the Wombat, are not killed by wildfire, like Ash Forests. Ash forest have evolved a mechanism for self-thinning and they historically climax with a wildfire then a single age regrowth occurs and the dominate trees get away and the sub-dominant suppress or die.

Mixed species, mixed age forests are not usually killed by fire. They have evolved bark that protects them. They do not have an evolved mechanism to self-thin. The thick regrowth on the left will not readily self-thin. These forests regenerated from extreme weather events (recent wind storm), disease, drought, old trees falling over and opening up gaps in the canopy for light to hit the ground.

With lower rainfall from climate change, increased risk of fire, will these currently over stocked areas ever going to return to what we see on the right, or will it collapse and drier species start to change the Wombat?

The coupe to the south west was an experimental area that had three different regeneration burns techniques. The area we are looking at was lit from a helicopter. Further on down the road, via usual hand ignition and the western lower slopes a light burn.

This area is another example of too much regeneration. They are also just over 30-year-old trees. The crowns have rounded off, which indicates the tree has stopped growing and the coupe is 'locking up', preventing the canopy height from reaching its potential. Too many stems competing suppresses growth. Healthy growing young eucalypts have pointed crowns, showing it is growing. As we drive around, look at the young trees, see if the crowns are rounded or pointy.

As we drive down Kangaroo Creek Road you will see the forest on the right transition from intense regrowth to a more open forest, tall trees with young trees amongst it. Lots of under-story plants. A healthy forest structurally. This was the area done with a cool burn.

STOP 5: Kangaroo Creek crossing (100m from Spout Track)

EVC… Sedgy Riparian Woodland

ELEVATION… 600m/ 7.25 north divide

DISTURBANCE… main arm of Kangaroo Creek Natural State

LAND TENURE… Special Protection Zone (SPZ)

Discussion: Here is the other major upper tributary creek in the Loddon system, Kangaroo Creek. It has not been disturbed by logging. There is a wide ferny and sedgy riparian area, a common feature of Wombat Forest waterways. The banks are well vegetated. There are large trees with big hollows. We can hear Powerful and Barking owl here some nights. There is good canopy cover over the creek, helping to keep the water cool.

We have crossed some floodway's parallel to the creek. This section of Kangaroo creek, in full flood can reach 50-100 meters wide here.

STOP 6: Kangaroo Creek Rd 150m from cnr of Osbournes Rd

EV… Herb-Rich Foothill Forest

ELEVATION… 620m/ 7.1 north divide

DISTURBANCE…

- North…Shelterwood One. 1993. One regeneration burn and two subsequent FRB's due to private land interface.
- South…Shelterwood 2…2000. Burnt 2015.

LAND TENURE… General Management Zone (GMZ)

Discussion: The area on the right has had a shelterwood one cut, a regeneration burn and because it backs onto private properties, received Fuel Reduction Burns every 5-10 years. The fire has resulted in the trees forming epicormic growth up their trunks. Indication the burn was hotter than it needed to be?

The fire has produced little or no thinning. An adjacent area to the west of here had a burn at the same time, that was very hot, caused close to 100% leaf drop, burnt all understory species and has resulted in

a number of trees dying. This also abuts private properties, but are the regularity of burns here making the forest more or less bushfire buffers or adding to the fore?

STOP 7: Osbournes Rd 3.4 km from cnr of Kangaroo Creek Rd

EVC… Shrubby Foothill Forest

ELEVATION… 730m/ 3.7 km north divide

DISTURBANCE…

- East side- Shelterwood One 1989. Shelterwood two 2000
- West side- No logging in modern era. SPZ for Powerful Owl.

LAND TENURE… Special Protection Zone/Special Management Zone (SPZ/SMZ)

Discussion: This is a good example of the large number of trees that were blown over in the wind storm. This wind came from due south, a direction that is rare in this area, possibly a factor in the number of large trees blown over. Their roots were not used to resisting winds from the south.

VicForests are now out of the picture, after taking what they wanted however it suited them whilst showing a complete lack of respect for the Wombat Forest, the Djarra people and the local Wombat Community. We have been left with this storm legacy. Here we are less than a kilometre, North of Bullarto, with this fuel load on the ground.

This debris should also be seen as a resource, firewood is a renewable energy, used by most households across the area and beyond. Some of the tree trunks are beautiful timbers when milled. Is there a way of turning this into a financial resource? Can some be cut into firewood and delivered to elderly or needy households, to warm them over winter- for free! A positive social outcome. Can some be salvaged and processed for local artists and timber workers?

The above ideas will never remove all of the storm damage, but it is an important element to consider in the future. Fire? will there be regeneration? Is the tangled mess of trees conducive to good faunal habitat, does it allow normal movement for ground dwelling species? Can birds of prey get to small possums on the ground with the tree trunks as they are?

STOP 8 500m East Stewart Creek Rd

EVC… Shrubby Foothill Forest

ELEVATION… 750m /on divide top of catchment

DISTURBANCE… Single tree Selection 1950

LAND TENURE… Special Protection Zone (SPZ)

Discussion: top of catchment.

This is the top of the divide. Water that falls on the north goes down the Loddon system to the Murray and into the ocean in South Australia. Water falling om the South enters the Werribee River system and flows into Port Phillip Bay.

The area to the north is an SPZ as it is the catchment for Wombat Reservoir which supplies Daylesford with water. Note that this patch of forest has had no logging and one characteristic is there is very little tree regrowth and a grassy understorey.

The south side shows more damaged forest from the wind storm two years ago.

STOP 9: Paddys Point

EVC… Shrubby Foothill Forest

ELEVATION… 730/ on divide top of catchment

DISTURBANCE…

- South-Shelterwood one 1983. Shelterwood Two- 2001
- North- Shelterwood One- 2000
- South west- Shelterwood One- 1997
- West- Shelterwood One- 1976. Shelterwood two- 1995.

LAND TENURE… General Management Zone (GMZ)

Discussion: This is the top of the divide. This area was intensely logged, in reality Seedtree clearfell. It was when both export woodchips and sawlogs quotas, pushed logging across the Wombat Forest at that time to take more and more trees, leaving less and less. The regeneration burns were very hot and created the wheatfield type regrowth. The high density of regrowth trees will impact water yield.

This is the top of the divide, where shallow soil is of a less quality, and maintaining water drainage lines vital. This is a recharge area for both surface and groundwater.

The lower quality soil, with nutrients, biota and humas cooked off in the burn, means these coupes with their wheatfield of regrowth, will struggle for the nutrients to grow. If there is on average one tree stem per square meter, the stocking would be 10, 000 trees per hectare. Early reports comment that the Wombat Forest averaged 5-8 large trees per acre. 25 to 40 trees per hectare.

With climate modelling showing rainfall in this area will decrease, how does this forest naturally self-thin from 10, 000 trees per hectare to 40? The intense regrowth is a huge risk for wildfire and pest and other infestations that occur in unbalanced or unhealthy ecosystems.

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STOP 10 Werribee River Crossing on Farm Rd

EVC… Shrubby Foothill Forest

ELEVATION… 630m / 3.3 km south divide

DISTURBANCE…

- North-Shelterwood One- 1997
- South- No record of logging, probably Single tree selection from 1930's to 1980's.
- North west -Shelterwood One- 1984.

LAND TENURE… Special Protection Zone/Special Management Zone (SPZ/SMZ)

Discussion: This is where the upper Werribee River passes under the road. The river is well shaded, the banks stable with the abundance of grasses and shrubs and the overstorey keeps the water cool. The rivers upper ephemeral tributaries are the gullies we observed at the Stewart's Creek Road and Leonard's Hill/Bullarto Road.

This stretch of forest along the north side of Farm Road, before and after the old seed farm (grassed cleared paddocks now), there are stands of mature messmate and gums that are the closest to what the forest is reported to look like. Tall trees, widely spaced and little understorey.

The forest to the south of Farm Road is a known Greater Glider area and is an SPZ protecting the habitat characteristics the gliders need. Particularly the wide-open forest under the canopy, enabling the Gliders to glide.

Good forest what to aim for and potential of the seed farm site