



Forestry in the box-ironbark Bendigo Forest Management Area

November 2006

ISSN 1440-2262

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A brief history of our forests

The discovery of fertile land by Major Mitchell in 1836 saw much of central Victoria taken up by extensive grazing leases. The initial impact of colonisation was minimal, however the discovery of gold in 1851 set in motion dramatic long-term changes to our forests. Original stands of box-ironbark were exploited to provide timber and fuel for the mining industry and associated settlements and forested land was cleared for further agricultural use, ie cropping and horticulture.

In the 1890s the expanding railway system across Victoria made additional demands for heavy construction and sleeper timbers. By this time the need for proper management of the now diminished forest estate was becoming apparent. This saw the creation of the Forests Commission, which quickly put in place forest utilisation controls, based on scientific forest management practices. The emerging foresters surveyed and reserved many valuable forests. They sought to raise community awareness of forest values, concentrating on the need to repair the adverse effects from exploitation and the desire to prevent further reduction of forest through fragmentation.

During the depression in the 1930s and the 2nd world war in the 1940s, much demand was put on these forests. Licensed forest operators along with workforces of unemployed men and prisoners-of-war camps undertook supervised works. Extensive areas were harvested for firewood and charcoal production to sustain domestic industries and hospitals largely starved of coal and liquid fuel due to the demands of war. Demand continued right through to the early 1980s with many of the urban telephone poles, railways sleepers and firewood taken out of these forests.

In 1981 the Land Conservation Council (LCC) investigation led a government approved study of the area. This resulted in a number of state forest areas being added to the parks and reserve system, primarily for conservation purposes.

In 2001 a further study was conducted with the Victorian Government endorsing the Environment Conservation

Council's (ECC) final recommendations included in the Box-Ironbark Forests and Woodlands Investigation – Final Report. This resulted in further substantial areas of state forest placed into the reserve system in recognition of the conservation, historic and recreation values of the region.

Today, the Bendigo Forest Management Area (FMA) encompasses some 1.9 million hectares of public and private land, with around 180,000 ha made up of parks or reserves and 112,000 ha set aside as State Forest. Approximately 61 percent of State forest or 68,000 ha is deemed suitable for timber harvesting operations.

A 'multiple-use' Forest

Many towns and cities in central Victoria are surrounded by box-ironbark parks and forests and rely upon them for a range of values. The forests play an important economic role within the region and are recognised as significant sources of highly durable timbers and firewood, honey and gold. They are also used for a variety of recreational pursuits and are managed for their flora and fauna. Overall, they are multiple use, community forests.



Timber resource values

- ◆ High quality furniture and outdoor timber products
- ◆ Timber flooring and decking for the housing industry
- ◆ Naturally durable fencing timbers – poles, posts and strainers
- ◆ Garden timbers for landscaping
- ◆ Domestic firewood collection

Other resource values

- ◆ Honey and bee's wax
- ◆ Eucalyptus oil, cough lozenges, cleaning products, essential oils
- ◆ Gravel and crushed rock – for roads, concrete, railway, domestic use etc.



Recreation values

- ◆ Passive activities include bush-walking, picnicking, fishing, camping, bird watching and nature observation.
- ◆ Active pursuits include car rallies, gold prospecting, orienteering, horse riding, hunting, four-wheel driving and music festivals.
- ◆ A number of formal recreation sites and over 2000 kms of forest roads are maintained, and available for public use.

Biodiversity and cultural values

- ◆ Remnants of aboriginal occupation can be found throughout these forests. They include traditional rock wells for the collection of water, ancient burial grounds and scar trees.
- ◆ The gold rush was perhaps the biggest influence on the box-ironbark landscape by non-indigenous inhabitants. Today, mineshafts, tailings and horse drawn puddlers remain as the most obvious inclusions to the landscape from this era.
- ◆ The box-ironbark forests are renowned for their rich and unique flora and fauna. Wildflowers such as orchids and everlastings, shrubs that include heaths, bush peas and wattles, and dominant eucalypt trees are but a few of the flora present in the box-ironbark. Faunal species include grey kangaroos, wallabies, eagles and kites, possums and a number of lizard and insect species. The local forests are particularly important because they are also the preferred habitat of several of Victoria's threatened species including the brush-tailed phascogale (tuan), sugar glider, powerful owl, swift parrot and the diamond firetail.

Conservation measures

Harvesting operations are regulated by both the statewide *Code of Forest Practices for Timber Production (1996)* and statewide management procedures. These procedures

include the requirement to retain a minimum number of "habitat" trees during all harvesting operations. Examples of habitat trees include those that have existing branch or trunk hollows, or are potentially hollow bearing, possess wide crowns or have a high potential to produce nectar. Pest plant and animal programs are undertaken annually across State forest in collaboration with Good Neighbour programs and works set up by the local catchment management authority to assist in the eradication of noxious weeds and pest animals. Another conservation measure undertaken in State forest involves the ecological burning of areas to meet biodiversity requirements.



◆ *A Forest Officer marking a habitat tree*

Tree management (silvicultural) systems applied in The Bendigo FMA

The Public Land Stewardship – Forests section of DSE (Department of Sustainability and Environment) is responsible for the management of timber harvesting operations within state forest.

The underlying aim of silvicultural systems applied in the Bendigo FMA is to continually improve the existing forest structure by promoting health and growth of stands. This is achieved with thinning operations to promote a healthy multi-aged forest with more larger trees for conservation purposes and the remainder as a continued timber resource. No clear-felling occurs in the box-ironbark except where salvage operations are required after severe storm damage or wildfire.

STAGE ONE – early thinnings (firewood)

Firewood is produced from (1) the residue of other operations and (2) thinning operations. Suppressed, poorly-formed or unhealthy stems are removed to maximise the growth and health of retained trees ('thinning from below'). These retained stems benefit from reduced competition for light, nutrients and water. Forest regeneration occurs primarily from new growth sprouting from the cut stumps, known as 'coppicing'. Almost all the forests in the area today are coppice re-growth forests and have been selectively cut several times over.



A firewood thinned area soon after harvesting. The decomposing leaves and small branches will add nutrients to the soil and help increase growth rates of remaining stems

STAGE TWO – later thinning (valued residual log)

A second thinning operation will occur 10-15 years later, primarily for outdoor products, flooring, decking and fencing timbers. At this time, stems within the small-to-medium diameter range are selectively removed. This ‘thinning from below’ stage releases the remaining larger trees to grow on and become either future hollow bearing and branchy habitat style trees or bigger and better sawlog trees.



A thinning operation for fencing timbers

STAGE THREE – single tree selection (sawlogs)

The final stage involves a ‘single tree selection system’, where individual solid trees of medium-to-large diameters are chosen for removal. Forest stands by this stage are multi-aged in nature and contain trees that are varying heights. Removing some of the larger trees promotes the regeneration and growth of smaller stems that are often laying dormant in the undertsorey, waiting to be ‘released’.

The harvesting principles outlined above allow for these forest to always be treed, even the areas being cut, and this provides year round habitat and food for all the living organisms dependent on the forest for survival. It also allows the forester to have a continuous renewal timber resource that can be handed over to future generations, for their timber needs.



A final harvesting for sawlogs.

The Wood Utilisation Plan and the Public consultation process

Each year, DSE prepares a 3 year Wood Utilisation Plan (WUP). This plan outlines areas (known as coupes) proposed for harvesting over a 3 year period.

The draft WUP is prepared in consultation with business units in DSE, such as Fire Management and Biodiversity section. It is then advertised in Melbourne and put in local newspapers for public comment. At this time, comment is encouraged by interest groups, local industry and other key stakeholders. By early April each year, the final WUP is endorsed and ready for use.

The various stages of WUP development are there to make sure that the government as well as the community have time to look all aspects of the WUP and to ensure that things such threatened species and habitat protection are given due diligence before harvesting commences.

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Further information

Please call the Department of Sustainability and Environment Customer Service Centre on 136 186.

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