Does early Colonial Art provide an accurate guide to the nature and structure of the pre-European forests and woodlands of South-Eastern Australia?
A study focusing on Victoria and Tasmania

By

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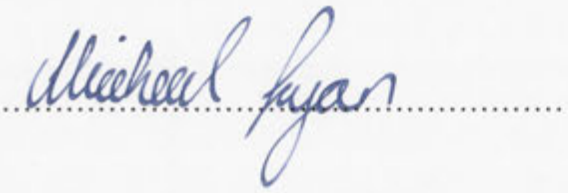
Candidate's Declaration

I declare that this is the original work of Michael Francis Ryan of 84 Somerville Rd Yarraville, Victoria submitted in fulfilment of the requirement for the degree of Master of Forestry at the Australian National University.



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Abstract

This study explores early colonial Australian artwork and its use in assessing the nature and structure of the pre-European forests and woodlands of South-Eastern Australia. It also investigates the depiction of fire, as a major landscape-shaping process, in this period of Australian art. For the purposes of this study, the "early colonial period" is defined as that from 1788 to the gold rushes of the 1850s and 1860s. This period was chosen because the artists would have had the opportunity to depict landscapes largely as they were prior to European settlement. This study is not concerned with the aesthetics of colonial landscape art, but what the artwork can reveal about the forests and woodlands of South-Eastern Australia in the period.

The sub-thesis first reviews the artists of the period, and identifies the relevance of their work to the purpose of the study. It then examines whether the artwork of particular artists is useful for identifying Ecological Vegetation Classes in Victoria. Finally, it looks at the extent to which depictions of fire are helpful in understanding fire in the colonial landscape.

There is a significant body of artwork dating from soon after first settlement that is relevant for its depiction of the pre-European forested landscape. This artwork is rarely the equivalent of a photographic reproduction, as the artist's intentions and training play a role in their depiction of a landscape. It is, however, the first visual record of this landscape. Additional investigation was often required to verify the accuracy of artists' depictions of particular scenes. This investigation was conducted through on-site assessment of remnant vegetation, and assessment of changes that may have occurred in the time since settlement. Results of the study suggest that the work of many artists can provide an excellent guide to nature and structure of the pre-European forests and woodlands of South-Eastern Australia.

There is also a further small body of artwork depicting fire in the colonial landscape. Due to the difficulties in observing and recording fire first hand, this work is often dramatisations of early forest fire or fire as observed from a distance. While fire, smoke or hollowed out trees are shown in a number of paintings, the immediate aftermath of fires and the recovering vegetation is rarely depicted.

Introduction

The aim of this study is to use early colonial artwork to identify the nature of the pre-European forests and woodlands of South-Eastern Australia, and to establish whether early colonial artwork is a useful guide as to the vegetation at the time. It is confined to South-Eastern Australia as this restricts the study largely to the temperate climatic zone with which I am most familiar. Climatic zone is also important when considering fire effect, intensity, frequency and the time of year of significant fires. For practical reasons, this zone restricts the study to what can reasonably be achieved within the scope of this sub-thesis.

The study is presented as four main chapters. The first is an exploration of the artists of the time and their relevance to landscape art in South-Eastern Australia. The second chapter is confined to Victoria, and uses a number of important landscape artwork pieces to assess whether they are useful in vegetation classification. Given the importance of fire in landscape architecture, the third chapter explores the depiction of fire in colonial artwork. The concluding chapter is a summation of the work that examines the main findings and the extent to which this artwork informs us about the nature and structure of the pre-European forests and woodlands of South-Eastern Australia.

It was initially my intention to examine some of the causal factors behind natural forest expansion in Australia. As a reference point, I wanted first to understand what the forests and woodlands were like the time of European settlement. The approach was to look at the nature of forests and woodlands at the time of European settlement. I then intended to consider the same forests and woodlands at the introduction of photography in the mid to late 1800s, use case studies from the earliest aerial photography in the 1930s, compare this with current forest cover and determine the factors that led to forest encroachment onto cleared land. This was a somewhat ambitious project and did not progress, in the work reported here, past the stage of investigating forests and woodlands at the time of first European settlement.

To proceed further on this study, it is important to consider "what is a forest"?

From a definitional viewpoint, forests are defined according to the National Forest Inventory (2005):

> *"...an area, incorporating all living and non-living components, that is dominated by trees having usually a single stem and a mature or potentially mature stand height exceeding 2 metres and with existing or potential crown cover of overstorey strata about equal to or greater that 20 percent.... It is also sufficiently broad to encompass areas of trees that are sometimes described as woodlands."*

This definition relies on crown cover and projective foliage cover as follows:

> *Woodland: 20-50 percent crown cover (10-30 percent projective foliage cover),*
>
> *Open Forest: 51-80 percent crown cover (30-70 percent projective foliage cover); and*
>
> *Closed Forest: 81-100 percent crown cover (>70 percent projective foliage cover).*

For practical purposes I use the term "forest" as defined above but at times I also use "forest" as the all encompassing term for "wooded land". The strict term "woodland" is confined to the National Forest Inventory definition above, but in addition, the term "open woodland" is used where crown cover falls below 20 percent. While "open woodland" is not included in the definitions above, it is nevertheless useful in this study. So the definition broadly used is as follows:

> *Open Woodland: less than 20 percent crown cover (<10 percent projective foliage cover).*

The discussion on Australian forest definitions and what is, or is not, a forest has been explored in Hnatiuk *et al* (2003). It is not so critical however, to adhere to precise definitions when there is no accurate way of measuring crown cover, or projective foliage cover, in artwork. For that matter, the precision of early painters to exactly record these details is not sufficient to allow accurate measurement, so some flexibility is considered acceptable.

Australia's colonial artwork begins from the arrival of the first fleet in Botany Bay in 1788. This brought with it some skilled artists who have recorded many aspects of the life in the early colonies, such as the convict artist Thomas Watling (1762-1806) who had been a professional artist in London before being transported for forgery in 1790. On the first fleet itself were a number of accomplished artists - such as John Hunter, the Captain of HMS Sirius; William Bradley the first lieutenant; Philip Gidley King, the second lieutenant; and George Raper, a midshipman (Hamlyn 1971). Their artwork, however, centered on the new colony, which is not the focus of this study. The convicted forger and prolific artist Joseph Lycett, who arrived in the colony in 1814,

extended landscape art far beyond the initial limits of settlement, and was especially notable in his recording of aboriginal management. However, it is the artists and artwork from further south - in Victoria, and to a lesser extent Tasmania, - that are of primary interest for this study.

In Tasmania, George Tobin's depictions of Bruny Island date back to 1792, and allow species, general forest structure and the specific locations to be identified. The surveyor Thomas Scott, while not considered an artist, sketched rural scenes and made notes as to forest cover and areas "clear of timber". This was useful at the time for identifying areas for grazing, but is also useful as a guide for the contemporary understanding of pre-settlement forest cover. Later artists, such as John Glover in the 1830s, recorded a wealth of early settlement landscapes. The identifiable locations and botanical details provide an excellent record of early colonial Tasmanian forests and woodlands.

In Victoria, relevant art dates from Major Mitchell's expedition in 1836. Paintings by the surveyor Robert Hoddle from 1840 show the open woodlands around early Melbourne. Duncan Elphinstone Cooper, in Western Victoria, painted around his farm near Ararat in the 1840s and produced valuable depictions of the early landscape and its vegetation. The gold rushes of the 1850s brought a major population increase, and the greatest impact to date on the nature and structure of the gold field forests and woodlands. It also brought artists such as Eugen von Guérard, who left a wealth of landscape paintings and sketches of early Victoria, Tasmania, New South Wales and South Australia.

Some of this early artwork is topographically and botanically precise. Other artwork is less literal or accurate, whether intentionally or not. Based on the time after settlement in which artwork was painted or sketched, in conjunction with an assessment of the current vegetation of those areas, one can gain a sense of the accuracy and reliability of artists and their work. Vegetation types can be clearly identified from the work of a number of artists. This can be compared with both the modelled distribution of pre-settlement forests and mapping of current forest types to determine the extent to which this early artwork is a useful guide to the nature and structure of pre-settlement forests and woodlands.

Fire is depicted in a small but significant body of work. Frequently it is as a dramatisation of events, such as major wildfires of 1851 or smaller but locally

significant wildfires. More frequently it is fire observed from a distance, as smoke, or as distant flames that some artists recorded. Rarely is the aftermath of fire shown, either as the resulting blackened landscapes or regenerating and recovering forests.

1. Early colonial landscape artists of South-Eastern Australia

Colonial landscape art refers to the body of artwork undertaken for art's sake, for commercial sale, and as a record of the environment, during the period of 1788 through to 1901. This includes sketches and watercolours undertaken for pleasure, as in the case of Duncan Elphinstone Cooper (1813/14-1904); as a record of the environment for surveying purposes, such as by Robert Hoddle (1794-1881); as records of explorer expeditions, in the case of John Lewin (1769-1819); or for commercial sale, such as the works of Eugen von Guérard (1811-1901). The colonial painters, by definition, painted during the period from first European settlement until Federation in 1901. They came from a variety of backgrounds, both professional and amateur, and included naval artists, surveyor and explorer artists, convict artists, visiting artists, free settler artists and freelance professional artists (Jones 1988).

This diversity is illustrated by the variety of circumstances of a number of the well known colonial artists. William Westall (1781-1850) was the landscape artist to Captain Matthew Flinders aboard HMS Investigator. The Naval officer George Tobin (1768-1838), on Captain William Bligh's ship, worked in his spare time to produce drawings and watercolours of the new landscape (Jones 1988). Thomas Watling (1762-1806) and Joseph Lycett (1774-1827) were both convicted of forgery and sent to Australia, and subsequently (at times) practised their art for more "honest" purposes. John William Lewin (1769-1819) came as a free settler to make a living as a professional artist and Eugen von Guérard (1811-1901) came to make his fortune searching for gold; however, to Australia's good fortune, he was unsuccessful and reverted to his earlier profession as a landscape artist (Gleeson 1971, Bonyhady 1987).

It is the artists from the beginning of the colonial period whose work is most relevant to understanding the pre-European forested landscape. As will be discussed in the following section, this early period is essentially that before large-scale European alteration of the landscape, and preceding substantial change in indigenous land management. The period of most relevance in Victoria is from settlement between 1835 until the early 1850s in Central and Western Victoria, and the 1850s to the 1860s in far Eastern Victoria. In Tasmania, artistic representations following colonisation start from 1792, and major landscape changes had occurred by the 1830s. While New South Wales

is not a focus of this study, many well known artists from the very early colonial period made numerous depictions of the landscape of the temperate climatic zone of Southern NSW. I also review some of this work, as artists like Joseph Lycett are the first to depict fire, and these depictions are likely to have a wider applicability.

Large scale alteration of the South-Eastern Australian landscape accelerated with the massive increase in population associated with the gold rush era in Victoria. Perhaps the more subtle landscape change, but arguably equally significant, was the change in indigenous management, as the indigenous population diminished due to disease and displacement from traditional lands, as depicted in Figure 1.1 (Archer 1998). After the 1860s, photography became more widespread and, where available, was a more reliable tool in recording the landscape. Artists such as Alfred Abbott (1832-72) and Nicholas Caire (1837-1918) photographed extensively in Tasmania and in Victoria from the mid to late 1850s (State Library of Tasmania 2007a).

Artists' rationale for painting can influence their depiction and accuracy of the landscape. For instance, professional artists selling for-profit, such as Joseph Lycett, Eugen von Guérard and John Glover, may add or remove some landscape components, such as certain trees or understorey, if these did not suit the final saleable painting (Bonyhady 1987). An amateur, painting more as a record of the landscape, such as in the case of Robert Hoddle, or painting for their own enjoyment and record, such as Duncan Elphinstone Cooper, did not have these commercial imperatives. Likewise commissioned works undertaken to provide a record of the landscape for pastoral exploration, as in the case of Thomas Scott, can be considered a reliable account of forest cover.

The review in this Chapter of the relevant major artists from the early to mid colonial period forms a basis for assessing the significance of their work in interpreting the landscape, and documenting the early management of forested and wooded land, in South-Eastern Australia.

1.1. The timeframe for Landscape change

Two important questions arise in using early colonial art to interpret the landscape:

1. Were the artists painting the landscape before substantial European modification?
2. Did the artists accurately depict the landscape?

The Australian landscape would have been little affected by European settlement, except in the immediate vicinity of the settlements, until substantial population change in both indigenous and colonial populations in the early to mid 1800s. Archer *et al* (1998) describes the beginning of the Aboriginal population decline from 1800, with the greatest rate of decline between 1820 and 1840, largely through the impact of disease (see Figure 1.1). The colonial European population increased substantially from 1830, surpassing that of indigenous people in 1840. The greatest rate of increase was from 1850, with the onset of the gold rushes, as shown in Figure 1.1.

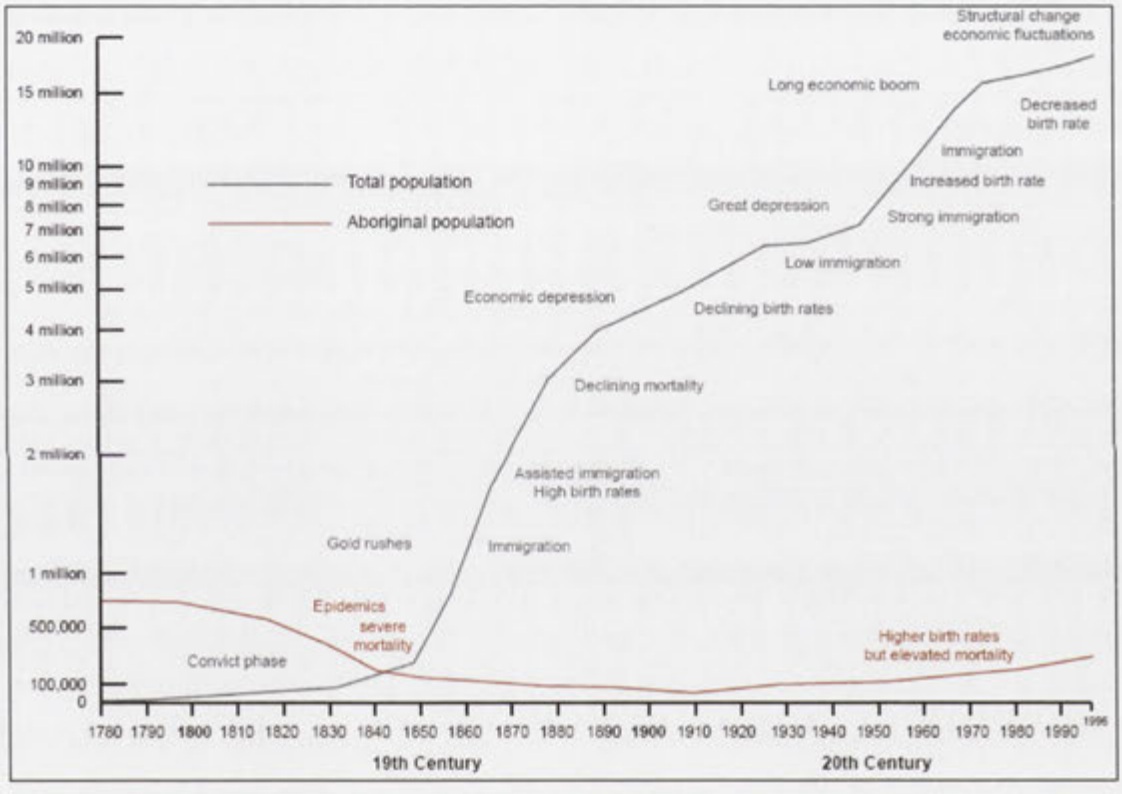

Figure 1.1: Australian population change 1780-1995 (from Archer *et al* 1998)

It is thus likely that the indigenous population of Victoria would have continued their existence outside of the immediate influence of the early colonial settlements, in much the same way as they had prior to European settlement, until the late 1830s to 1840s. In Tasmania, the Aboriginal population was effectively eliminated by the 1830s (Hansen 2004). It is the rapidity of landscape change, following the exclusion of traditional management practices, and the introduction of European practices, that makes this period important for the purposes of this study. One of the most important management

changes would have been the changing use of fire. A number of studies provide descriptions of the Aboriginal use of fire - including Ryan *et al* (1995), Bowman (1998), Flannery (1998), and Gammage (2002) - and note the changes wrought by settlement.

Further evidence allows us to refine the timeline for when the most relevant artwork has been undertaken. Melbourne was founded in 1835 and was still a tiny colony in 1840. Much of Victoria remained relatively undisturbed during the 1840s until the major changes of the 1850s with the onset of the gold rushes (see Figure 1.1). The first census in Victoria was Sunday, March 2 1851, when the population was 77,345; by the end of the decade it was over 500,000 (Parliament of Victoria 2006). This is what makes the artwork of Duncan Elphinstone Cooper (1813-1904) important, as it was painted during the period 1842-1853 in the Western Districts of Victoria (Brown 1987). As noted above, settlement in Tasmania was from the late 1700s, with relevant artwork - such as that of George Tobin from 1792, and some pieces associated with the early French expeditions - correspondingly earlier.

Peach's (2001) chart, illustrating when Europeans first began exploring the regions of Australia (Figure 1.2), is also helpful for this study. Until 1820, exploration was confined to the Sydney region extending inland to Bathurst and surrounds and along the East coast of Tasmania. While a settlement had been attempted in 1803 in Port Phillip, it was unsuccessful - although it did result in the European, William Buckley, living with the local Aborigines for the next 30 years (Booth 1873). 1820-1830 saw the exploration across to Adelaide, of much of Tasmania, up to Brisbane, and the settlements in Western Australia. The decade 1830-1840 corresponded with the increase in the European population (Figure 1.1) and saw exploration of much of the south-east of Australia and the southern coastal fringe. Exploration alone does not lead to change in the landscape. However, landscape change can occur quickly after settlement of a particular area, due to the substantial immigrant population, the consequent spread of diseases in indigenous population, the resultant changes in indigenous land management and immigrant demands for agricultural land and natural resources. This analysis confirms that the period up until the 1850s is the most important for identifying the pre-European forested landscape in southern Australia.

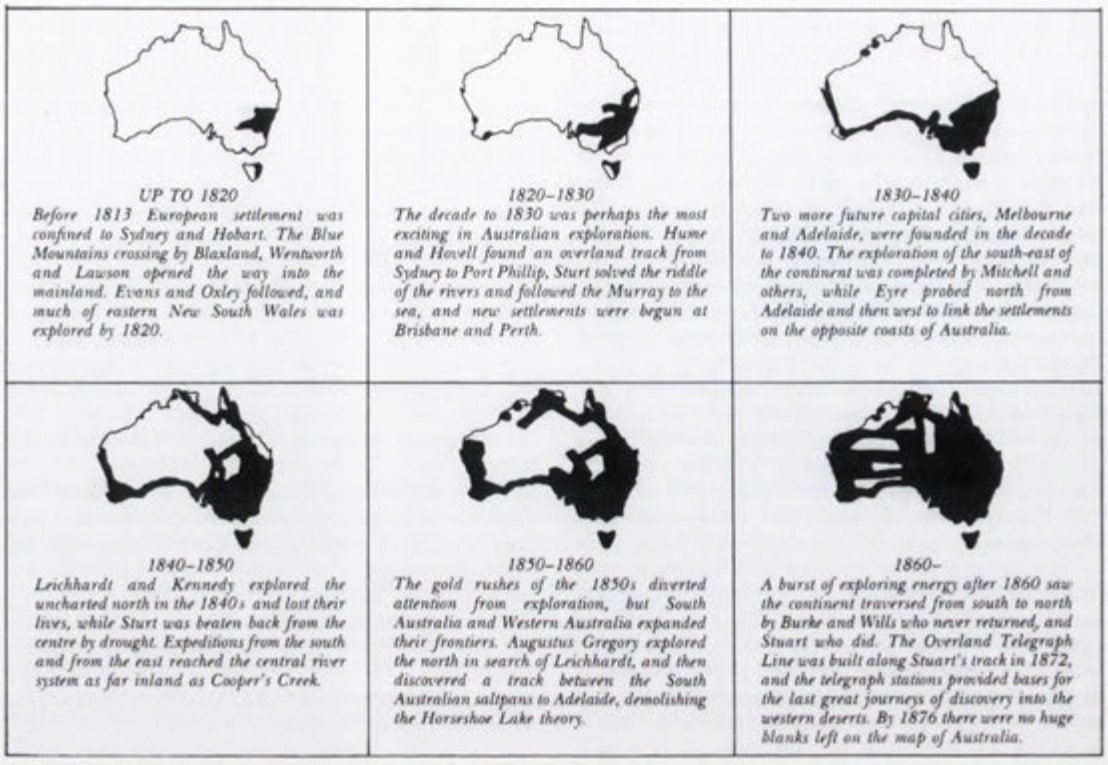

Figure 1.2: Timeline for exploration of Australia (from Peach 2001)

The timeframe of landscape change is one important component of this analysis; the next is that of the artists themselves. The artists depict their new environment according to their training, their purpose in painting, the locations in which they had the opportunity to paint, or for that matter sketch as a basis for later paintings. The following section assesses the main artists of the relevant period in South-Eastern Australia, and the relevance of their works in landscape analysis.

1.2. The early colonial artists

This section discusses relevant early colonial artists and their work. The discussion is structured in terms of the genre of artist: I have used the categories "travelling", "convict", "professional", "surveyor and explorer", and "amateur" for this purpose and discussed the artists in approximate order from when they began painting in the new colonies. In each of the following sections, I summarise the principal relevant features of each artist's work. The section concludes with a summary of the utility of each artist's work for the purposes of this study.

1.3.The Travelling Artists

With no photographic record available at the time of settlement, impressions generated by the travelling or naval artists were often the first published views of the new colonial landscape (Hackford Jones 1980).

1.3.1. George Tobin 1768-1838

George Tobin was the third lieutenant aboard Bligh's ship the *Providence*. During a two week stay in Adventure Bay on Bruny Island, Tasmania, in 1792, Tobin painted a series of 20 watercolours which are the first known European paintings of the region. These provide one of the earliest records of aspects of Bruny Island such as Figure 1.3 "*In Adventure Bay Van Diemen's Land*" from 1792. Many of the locations and broad topographic details and some understorey species can be identified. Some of these views record details such as the burn scars, the Aboriginal mia mia huts, and particular understorey species (for example the Tasmanian Blanket Leaf *Bedfordia salicina*). While a relatively small body of work, and substantially stylised, these pictures provide an excellent record of the pre-settlement landscape of Adventure Bay.

Figure 1.3: George Tobin 1768-1838 "*In Adventure Bay, in Van Diemen's Land*" 1792. State Library NSW

1.3.2. William Westall 1781-1850

William Westall was a landscape artist for Matthew Flinders aboard HMS Investigator in 1801. He painted a series of profile drawings of the coastline, such as Figure 1.4 "*Views on the East Coast*", in addition to sketches done whilst ashore. He had painted and sketched over 140 sketches of the Australian landscape ranging from Groote Island to Arnhem Land, and then around the Sydney region, with some very good sketches around the Hawkesbury River.

Westall shows a realistic portrayal of the landscape including the nature of the Australian light and some of the detail of the vegetation. His paintings and sketches were some of the first by a professional artist of the new colony. He left the colony in 1803 only to be shipwrecked and have to return to Sydney. He was able to return to England, via Ceylon, in 1804 (Gleeson 1971).

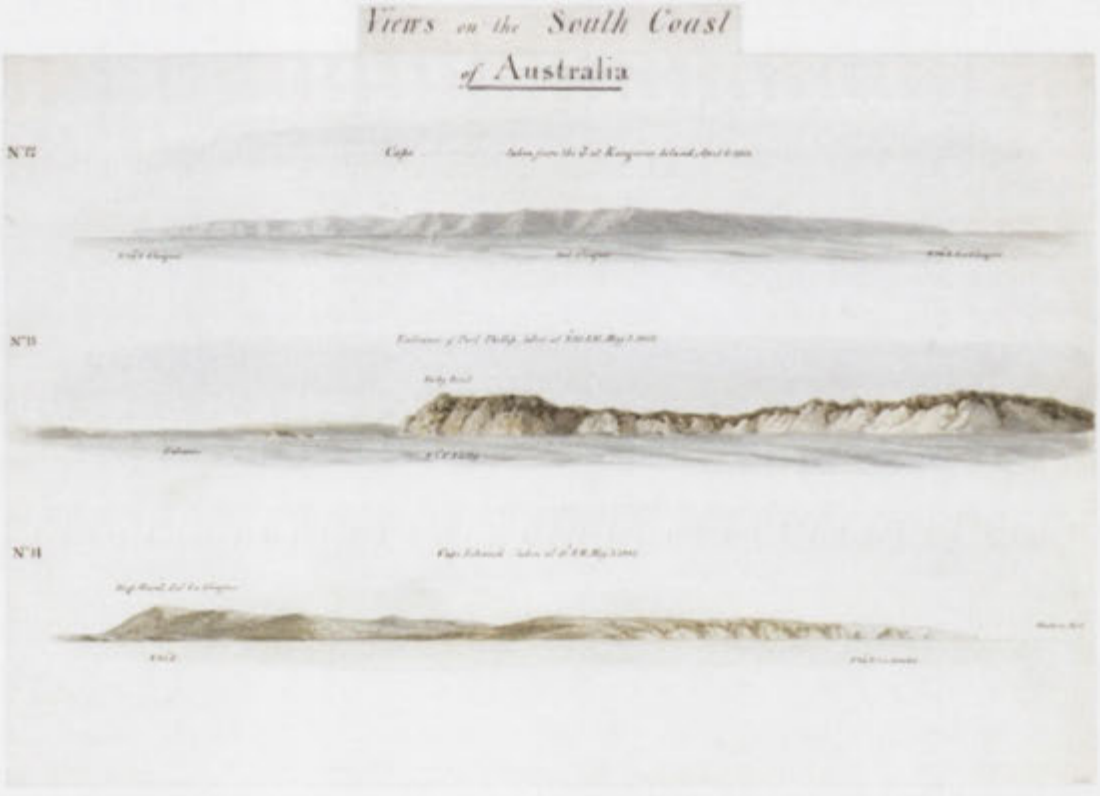

Figure 1.4: William Westall 1781-1850 "*Views on the East Coast 1802*" 1802

1.4. Convict Artists

1.4.1. Joseph Lycett 1775-1828

Joseph Lycett was a portrait painter and miniaturist in England, who appeared to have applied his talents to less honest artistic mediums, having being convicted of forgery in 1811. He was transported to New South Wales in 1814 and shortly after arrival was granted his ticket of leave. After brief employment with a brewer and publisher, he obtained employment with the police department (McPhee 2006).

Fifteen months after arrival, Lycett's use of a printing press to reproduce his artwork, which had a very close similarity to banknotes, led to his arrest and conviction for forgery. For this misdemeanour, he was sentenced to the colony's secondary place of punishment in Newcastle. During this period, he worked, and painted, for the regional commandant around Newcastle but also made journeys back to Sydney (Hoorn 1990).

After his release from Newcastle, Lycett painted around the Sydney region but often appears to have used secondary sources, or at least large elements from other artists such as John Heaviside Clark, John Lewin and George Evans, as the basis for his works. This may not have been a lack of originality; it may have in part been associated with the difficulty in accessing many sites to paint (Hoorn 1990).

Lycett's paintings concentrate on the Aboriginal use of and management of land, with hunting a strong theme. In this context, Lycett depicts the Aboriginal use of fire in the landscape. One of his most remarkable paintings is *"Aborigines using fire to hunt kangaroos"* (Figure 1.5). This shows two elements relevant to this study: firstly, the use of fire to "flush-out" kangaroos to facilitate hunting; secondly, the depiction of open grassy plains and the thicker forest in the gullies. His depictions of Aboriginal hunting methods shows clearly the use of the woomera throwing stick, the 3 pronged spear, boomerang and other hunting tools. Botanical elements can also be recognised with casuarinas, acacias, and some of the understorey species.

Lycett is an important colonial artist, and one of the first to depict fire in the landscape in a manner other than for cooking. Lycett is known to have painted with the specific intent of sale to an English audience with his release of a bound collection of paintings *"Views in Australia"* in 1824 and 1825 (Hoorn 1990). Lycett has a distinctive stylisation, especially in the dense dark walls of forest and abrupt boundaries between

forest and grassland. It would be useful to identify specific locations and compare these with contemporary views to obtain some measure of whether elements of artistic licence were included to make the paintings more visually appealing for later sale. It is generally accepted that Lycett painted predominately or perhaps exclusively in New South Wales, as his paintings of Tasmania appear to be from secondary sources (Hoorn 1990). He nevertheless has some of the most important early colonial paintings of the landscape and its management in early colonial Australia.

Figure 1.5: Joseph Lycett 1774-1827 "*Aborigines Using Fire to Hunt Kangaroos*" 1817. National Library of Australia

1.4.2. Thomas Watling 1762-1806

Thomas Watling, like Lycett, was one of the convict artists; he was arrested in 1790 on a charge of forgery (Gleeson 1971). Watling was able to use this time as a convict promoting his "artistic talents" drawing birds, Aboriginals, and the settlement for the Surgeon General and the Judge Advocate of the colony. After his pardon in 1796, Watling left the colony but, like Lycett, appears to have continued his less honest artistic endeavours, as he was again charged with forgery in 1806 but was not convicted. His paintings are only of New South Wales, predominately the Sydney region, so are of limited relevance to this study.

1.5. Professional Artists

Pictorial recording of the early colonial landscape and of events fell most frequently into the realm of professional artists; as photography was unavailable until the 1850s. Even after the introduction of photography, the slow and cumbersome equipment meant that drawing and paintings were still an important part of recording the colonial landscape and events. As an example, Booth (1873) in his "*Australia in the 1870s*" used sketches and lithographs predominately from Samuel Prout and Nicholas Chevalier, rather than photography, to demonstrate the landscape, events and issues of the time.

1.5.1. Mary Morton Allport 1806-1895

Mary Allport moved from England to Tasmania in 1831, where she painted the island's flora and fauna in some intricate detail (Phipps 1986). Perhaps her most well known piece is "*Telopea punctata, from the pass above Barrett's mill 1840*" (Figure 1.6). This particular piece shows important detail, not so much in the close-up of the flower, but in the background natural setting of the large eucalypts. These are evidently recovering from bushfire, judging by the epicormic growth (dormant buds under the bark that sprout after the crown of a tree is killed) on a number of the trees.

She is only the second artist after Glover to have recorded this feature in early landscape paintings. As Tasmania's first professional female artist, she has a special place in Australia's colonial art history, and has the Allport Gallery in Hobart named after her. The detail in which she painted Tasmania's flora and fauna, along with the background landscape attributes, make her paintings useful contextual pieces for the depiction of the early Tasmanian colonial landscape.

Figure 1.6: Mary Allport 1806-1895 "*Telopea punctata from the mountain pass above Barrett's mill (flowered Waratah)*" 1844 State Library of Tasmania

1.5.2. Louis Buvelot 1814-1888

Louis Buvelot was born in Switzerland and studied in both Paris and Switzerland. He worked in Brazil in the 1850s and undertook some of the earliest photography in India in the early 1860s. Ill health on both occasions made him return to Switzerland. The severe Swiss winters assisted his decision to move to Australia in 1865 where he set up a photographic shop in Bourke Street Melbourne (Gleeson 1971). Buvelot has painted some important scenes around Melbourne. Scenes such as Figure 1.7, "*Near Fernshaw*" from 1873, capture the detail and light of the landscape, as well as the shape of the Australian eucalypts. From the presence of the track itself, the open distribution of the retained trees and the amount of light in the foreground, this appears to be an already disturbed landscape, as discussed in further detail in Chapter 2.

One of Buvelot's influences on Australian art was through his teaching at the Heidelberg school. His teaching of students such as Tom Roberts, Frederick McCubbin and Arthur Streeton to paint the same scenes at different times of the day fostered an appreciation for the Australian light, as is evident from Figure 1.7.

Buvelot painted more than 30 years after the settlement of Victoria when the Victorian gold rush was largely finished, and the population was in excess of 500,000 people. He is acknowledged as an important artist of the later colonial period, but his paintings are of limited relevance to the depiction pre-European landscape.

Figure 1.7: Louis Buvelot 1814-1888 "*Near Fernshaw*" 1873 National Library of Australia

1.5.3. Nicolas Chevalier 1828-1902

Nicolas Chevalier was born in St Petersburg and, like Buvelot, of Swiss parentage. He studied painting in Switzerland and arrived in Australia in 1854, where he took up work at the Melbourne Punch newspaper (Bonyhady 1987). Some of his paintings in country Victoria, such Figure 1.8, "*Basin Banks*" in Western Victoria, show his importance as an early Australian artist. Chevalier went on painting expeditions with von Guérard, and his reputation was considered first equal to and then to have surpassed that of von Guérard in the 1860s (Bonyhady 1987).

While Chevalier painted later in the colonial period, his pictures record important change in the Australian landscape, especially some of his lithographs produced in Booth's "*Australia in the 1870's*" (Booth 1873). He also made an extensive record of Gippsland and East Gippsland, where he had travelled and painted with his friend von Guérard (Howitt Walker 1971), generating some useful paintings of this region.

Figure 1.8: Nicholas Chevalier 1828-1902 "*Basin Banks*" 1874 Private Collection

1.5.4. Thomas Clark 1814-1883

Thomas Clark, like von Guérard, came to Australia as an already moderately successful artist in 1852. He does not have an extensive collection of landscape paintings, and for the first four years painted only a limited number of landscapes around Melbourne. Clark has some useful landscapes of the Western Districts, such as the often painted "*Falls of the Wannon*" (Figure 1.9), from his travels in the late 1850s; however, he remained a minor artist during this period.

Figure 1.9: Thomas Clark 1814-1883 "*Falls of the Wannon*" 1870 The National Gallery of Victoria

1.5.5. Benjamin Duterrau 1767-1851

Benjamin Duterrau also arrived in Australia late in his career. He was 65 when he immigrated to Tasmania in 1832 from England (Bonyhady 1985). He had been a minor artist to England but made a major contribution to colonial art in Tasmania. Most importantly, Duterrau recorded the Tasmanian Aboriginals' hunting and ceremonial celebrations. A number of his portraits are displayed at the Tasmanian Museum and Art Gallery. These group portraits provide part of the visual record of the Tasmanian Aboriginals, and their hunting methods. His work is of limited relevance from the point of view of landscape identification but important for the context of Aboriginal land management. Figure 1.10 "*A view of Hobart town taken from Kangaroo Point*" shows one of his few landscape views.

Figure 1.10: Benjamin Duterrau 1767-1851 "*A view of Hobart town taken from Kangaroo Point*" 1836 National Library of Australia

1.5.6. Augustus Earle 1793-1838

Augustus Earle was born in London in 1793, the son of James Earle also a painter. Augustus' brother, Ralph Earle became a well-known portrait painter in America and the elder of his two sisters Phoebe, painted fruit and flower pieces (Hackford Jones 1980). Augustus Earle studied at the Royal Academy in London before travelling to the United States and then South America.

Earle appeared quite an impulsive and adventurous painter, and rather than waiting for his intended ship to Calcutta in 1824, he headed off on an earlier ship which subsequently foundered at Tristan da Cunha. While Earle took the time to explore the Island and paint, he was abandoned by the ship, and spent eight months there before being rescued. This inadvertent waylaying was the reason for his arrival in Hobart in 1825. During this short visit, he painted views around Hobart before taking a ship to Sydney in May 1825.

In 1826 he published a set of "*Views in Australia*" using a lithographic press and hand colouring the prints. A second important publication was produced when he returned to

England in 1829, with his "*Views in New South Wales and Van Diemen's Land: Australian Scrapbook, 1830*". Earle's artwork is an excellent record of some of the early European settlement landscape, with some 230 paintings and sketches predominately in the Blue Mountains, the Illawarra, New Zealand and some from Van Diemen's Land, which he painted years later from his original sketches (Hackford Jones 1980).

A good example of his work is shown in Figure 1.11 "*View from the Summit of Mt York toward Bathurst Plains, Convicts Breaking Stones*". Finding the contemporary view of this site is made difficult by the currently-named Mt York being a different Mountain to that so named and painted in 1826.

Figure 1.11: Augustus Earle 1793-1838 "*View from the Summit of Mt York toward Bathurst Plains, Convicts Breaking Stones*" 1826 National Library of Australia

1.5.7. Samuel Thomas Gill 1818-1880

Gill is a remarkable artist with a volume of work almost unprecedented for the period. He painted extensively throughout the 1850s and 1860s in Victoria and, especially, South Australia. His most prolific works are of people and their interaction with the landscape, covering bushranging, Aboriginal land management, the gold rush era and the early exploration. He observed the start of the Sturt expedition in 1846 and

accompanied Horrocks on the ill-fated exploration through the Clare Valley and into the Flinders ranges where Horrocks subsequently died of an accidental gunshot wound (Hamlyn 1970). His scenes are undoubtedly Australian and he published two major collections, "*Victorian gold diggings and the diggers as they are*" (1853) and the "*Australian sketchbook*" (1865). An interesting piece of work of one of Gill's landscapes is shown in Figure 1.12 "*Ballaarat from Mount Buninyong*", depicting open woodland. This is of relevance to the vegetation structure description in Chapter 2 in the discussion of Mount Warrenheip and Mount Buninyong.

A further book, a collaborative effort with a NSW surgeon J. T. Doyle "*Dr Doyle's sketches in Australia*", was never published but contains further views of Victoria and NSW. An example of this work by J. T. Doyle is shown in Chapter 2, Figure 2.11 "*Entrance to Fern Tree Gully Gippsland*".

The extensive work of Gill makes him an important artist of the period. His depictions of the landscape, and of the interactions of the Aboriginal and European inhabitants, make his works relevant especially around the goldfields region of Ballarat, Bendigo and across into South Australia. One cautionary note is that Gill's artwork concentrated on the human elements, with the landscape as a backdrop to the central theme.

Figure 1.12: S. T. Gill 1818-1880 "*Ballaarat from Mount Buninyong*" 1855

1.5.8. John Richardson Glover 1767-1849

John Richardson Glover is arguably one of Australia's, and certainly Tasmania's, most important colonial artists. He arrived in Australia in 1830, aged 63, moving to Tasmania to be closer to his sons who had immigrated sometime before. Glover, like von Guérard, was already a successful artist in Europe, based in England. He had painted throughout England and Europe from the beginning of his artistic career in the 1790s until he moved to Australia and, in doing so, amassed a small fortune (Hansen 2005).

Glover's paintings of Tasmania provide an important record of the landscape at the beginning of the settler-induced changes to this environment. "Patterdale", his property in Northern Tasmania, was one of the first in the region, and was settled at the time when the Aboriginal communities were being removed from the landscape (Hansen 2005). The importance of this is that the landscape was still very close to its pre-European traditionally managed state. The detail in which Glover painted is sufficient to distinguish many understorey species, the general location, and sometimes the very specific location through landmarks and building structures. A good example is "*Mills Plains*" (Figure 1.13), from the hills overlooking the valley in which his homestead is sited, where both Ben Lomond and Ben Nevis can be seen in the background.

Glover, despite being a man in his 60s and weighing 18 stone, travelled much of Tasmania and painted a vast and beautiful body of artistic works in his newly settled home. His paintings have a certain stylisation to them, especially his earlier works, with the serpentine trees being a distinguishing feature as can be seen in Figure 1.13. Hansen (2004) explains that this is a characteristic of some of the midland trees such as *E. ovata* and *E. pauciflora.* Field inspections confirm some of these characteristics, although they are perhaps not as exaggerated as Glover portrays. This is evidenced by a comparison of his final painting (Figure 1.13) with the preceding sketch of the scene (Figure 1.14) and a contemporary view of the approximate site (Figure 1.15). Glover at times distorts or simplifies for decorative effect and includes the Aboriginal tribes when their numbers were already vastly diminished (Hansen 2004). This does not detract from the value of his work as records of the early Tasmanian landscape, nor for him being one of Tasmania's most important early artists.

Figure 1.13: John Glover 1767-1849 "*Mills Plains*" 1832-34 Art Gallery South Australia

Figure 1.14: John Glover 1767-1849 "*Mills Plains sketch*" 1832 Tasmanian Museum and Art Gallery

Figure 1.15: Michael F Ryan "Mills Plains current view" 2005

1.5.9. Henry Gritton 1818-1873

Henry Gritton moved to Victoria in 1853 from England. Gritton had worked as a painter and then a photographer in Tasmania from 1856-1862. An example of his work is "*Merri Creek near Dight Falls*" (Figure 1.16). Some of his paintings are from his photographs; this makes them useful examples in which the painting can be compared

directly with the original scene. Overall, however, he is a minor artist late in the period of interest.

Figure 1.16: Henry Gritton 1818-1873 "*Merri Creek near Dights Falls*" Unknown date State Library Victoria

1.5.10. Eugen von Guérard 1811-1901

Eugen von Guérard is one of Australia's most well-known colonial artists. He was a successful landscape artist in Europe who was trained in painting in Düsseldorf, Germany. His father Bernhard von Guérard (1771-1836) had worked as a portrait painter and a painter of miniatures for the Court of Emperor Franz I (Bruce 1980). Eugen von Guérard after painting around Europe, especially in Italy, was persuaded to seek his fortune in the Victorian goldfields in 1852. Australia is fortunate that von Guérard was unsuccessful as a digger, and resumed his career as a painter in 1854.

Von Guérard painted all over South-Eastern Australia throughout the 1850s to the 1870s until he left Australia for Europe in 1882. The beautiful detail attributed to his paintings and the relative accuracy in his landscape depiction provides a valuable record of much of the early colonial landscape. One depiction of the landscape, the painting of Tower Hill in 1855, was used to guide the contemporary revegetation of this park in the 1980s

and 1990s (Parks Victoria 2005). While von Guérard came later in the colonial period, he also painted in many areas which were still considered "wilderness" including paintings in the Otways, East Gippsland and parts of the Yarra Ranges, such as Figure 1.17 "*Part of Yarra Ranges*". Von Guérard painted large-scale landscapes and it is the clear identification of the sites he has painted along with the attention to detail that made him an important artist for landscape analysis. Dacre Smith in his book "*Views of Victoria, in the Steps of von Guérard*" (Smith 1984), has put together a remarkable comparison of the original paintings with his own painting of these sites, providing a fascinating comparison of these points in time.

As an aside, von Guérard's Christian name is either "Eugen" or "Eugene"; however given the artist himself signed "Eugen", I will use the artists own spelling of his name, unless quoting another source where the author has used "Eugene".

Figure 1.17: Eugen von Guérard 1811-1901 "*Part of Yarra Ranges*" 1857 State Library New South Wales

1.5.11. John William Lewin 1769-1819

John William Lewin arrived in Sydney in January 1800 as a free settler. He had training as a natural history draughtsman, most likely under the tuition of his father William Lewin, who was also a natural-history draughtsman and author of the seven volume work "*Birds of Great Britain*".

As a natural-history draughtsman, Lewin painted details of flora and fauna. His first book was published in London in 1805 on "*Prodromus Entomology, Natural History of Lepidopterous Insects of New South Wales*". He then produced "*Birds of New Holland*" in 1808, which was subsequently the first illustrated book to be engraved and printed in Australia in 1813 (Phipps 1986). It is these natural-history paintings of the details of Australia's flora and fauna for which Lewin is most famous.

Lewin also undertook portrait-work in Sydney and made his foray into landscape paintings both around Sydney and in the company of James Grant on his expedition to Bass Strait and then to the Hunter River in 1801. Later, in 1815, he accompanied Governor Macquarie to inspect the new town of Bathurst (Phipps 1986).

Gleeson (1971) makes the comment that Lewin's landscape paintings were rather "clumsy and amateurish"; however, by not using an established artistic style, he was able to produce watercolours true to the character of the landscape he was painting. His simple style can be seen in Figure 1.18 "*Scene of Australian Bush 1810*" showing the dense, almost closed forest of eucalypts along with other unidentified trees, which have the form of pine trees.

As his painting skills developed, so did the detail in them such as Figure 1.19 "*Two Kangaroos in the Landscape*", where the background shows the kangaroos in a grassland with scattered thickets of what appears to be white cypress pine (*Callitris glaucophylla*).

Lewin is an important early colonial painter for his works in New South Wales and especially around the Sydney region. He does not appear to have painted in any other parts of Australia.

Figure 1.18: John William Lewin 1770-1819 "*Scene of Australian Bush 1810*" 1810

Figure 1.19: John William Lewin 1770-1819 "*Two Kangaroos in Landscape*" 1819 National Library of Australia

1.5.12. Conrad Martens 1801-1878

Conrad Martens was born in England in 1801 and had a strong artistic heritage from his father's side, with two elder brothers also being artists (Hamlyn 1971, Dundas 1979). Martens worked in England during the 1820s before travelling to India in 1833. However, he disembarked instead at Rio de Janeiro and made his way to Montevideo where the HMS Beagle was docked. Included in this ship's complement was Charles Darwin, along with the artist Augustus Earle. Martens replaced Earle due to Earle's ill health and he then stayed with the Beagle for two years whilst it made its survey of the South American coast. Martens made his way to Australia in 1835 and painted around the Sydney region, and then more widely throughout New South Wales.

His works also include paintings in South-Eastern Queensland and he is known to have visited Tasmania and Melbourne (Hamlyn 1971). His paintings are, at times, quite detailed, showing clearly an Australian landscape. His paintings show detail such as burn scars and epicormic growth. While Conrad Martens is one of Australia's important early colonial artists, his work is largely limited to NSW.

1.5.13. Louisa Anne Meredith 1812-1895

Louisa Anne Meredith was born in England and moved to Tasmania in 1839, where she produced over 140 pencil drawings, and paintings of Tasmania, along with a body of the earliest photographs from the late 1850s. Her paintings include remarkably detailed botanical illustrations such as "*Eucalyptus globulus (Tasmanian bluegum)*" (Figure 1.20) and illustrations of Tasmania's fauna, along with sketches of the landscape (State Library of Tasmania 2007b). Her sketches are from later in the settlement of Tasmania, and her painting, photography, and writing on the flora and fauna of Tasmania, are of relevance to understanding landscape change in Tasmania.

Figure 1.20: Louisa Anne Meredith 1812-1895 "*Eucalyptus globulus* (*Tasmanian bluegum)*" 1860 State Library of Tasmania

1.5.14. John Skinner Prout 1806-1876

John Skinner Prout was a predominantly self-taught artist from England who arrived with his family in Sydney in December 1840. His early paintings in Australia were mostly around Sydney and in 1843 he produced a volume of lithographs "*Sydney Illustrated*" (Hamlyn 1971). He painted in Tasmania from 1840-1847 and visited Melbourne and Geelong producing a series of six lithographs titled "*Views of Melbourne and Geelong*" in 1847. During this visit, he took along the younger Simpkinson De Wesselow, with whom he painted a number of similar scenes.

Figure 1.21: John Skinner Prout 1806-1876 "*The River Barwon, Victoria*" 1847 Booth's Australia

Prout returned to England with his family in 1848 but continued drawing illustrations for books of Australia. He returned to Australia in 1851-52. Some of his finest lithographs were produced in "*Australia in the 1870s*" (Booth 1873), showing life around Australia. It is this important series of lithographs with their identifiable locations that makes some of Prout's work relevant for landscape analysis, with "*The River Barwon, Victoria*" (Figure 1.21) being a good example.

1.5.15. Edward Roper 1830-1904

Edward Roper made two visits to Australia, the first during the 1850s and the second during the 1870s (Gleeson 1971). The visit of the 1850s resulted in his paintings of the colonial goldfields. The 1870s visit was used for material for which he painted his most recognised piece "*Kangaroo hunt under Mount Zero*" (Figure 1.22).

Roper's paintings in Australia are limited to these visits, which occurred later in the colonial period. They are relevant to the component on landscape change, especially his Christmas card series showing early timber cutting and possum shooting; both rather unusual subjects for Christmas cards! Overall, they are limited in their usefulness in describing the early landscape.

Figure 1.22: Edward Roper 1833-1909 "*A Kangaroo hunt under Mount Zero*" 1880 National Library of Australia

1.5.16. William Strutt 1826-1915

Williams Strutt arrived in Melbourne in 1850s and is known for his grand group portraits and capturing of dramatic events. One of his best known Australian pieces is "*Race for Life, Black Thursday*" (Figure 1.23), showing the panic of people fleeing the 1851 bushfire, and painted from a sketch in 1863 (Curnow 1980).

Figure 1.23: William Strutt 1825-1915 "*Race for life, Black Thursday 6th Feb 1851*" 1863 Ian Potter, Museum of Art, University of Melbourne

Strutt worked as an illustrator for the *Illustrated Australian Magazine,* a publication by the Ham Brothers, who were also prolific producers of lithographic prints. Strutt produced few landscape paintings, but does have useful sketches and paintings of fire in the landscape (Ryan 2005).

1.5.17. Isaac Whitehead 1819-1881

Isaac Whitehead is a later addition to this review as, while his works are the subject of discussion in Chapter 2, there are both very few pieces of his work cited in literature or displayed in galleries, and he worked much later in the colonial period. He is not described in three major reviews of colonial artists: Bonyhady (1987), Gleeson (1971) and Jones (1988), but is mentioned in Bonyhady (1984). His paintings of the wet forests of Victoria are magnificent both in their size and grandeur of the paintings (See Figure 2.1 and 2.2) and in the Mountain Ash forests they depict. Whitehead was also a picture framer and his frames in the National Gallery in Canberra reflect the grandeur of his paintings. He also framed for many other well known colonial artists such as Eugene von Guérard, Louis Buvelot and Nicholas Chevalier (Art Gallery South Australia 2008, Espinoza 1999).

Figure 1.24: Isaac Whitehead 1811-1881 "*Spring Morning near Fernshaw*" 1880 National Gallery of Victoria

Whitehead was born in Ireland and arrived in Victoria in the late 1850s. Although this is late in the period of interest, some detailed views he painted of the Central Highlands of Victoria merit his inclusion in this review. While his landscapes are painted much later in the time of settlement, his depictions of the wet forests are apparently prior to significant colonial disturbance. A good example from the Art Gallery of Victoria is "*Spring Morning near Fernshaw*" (Figure 1.24), showing Mountain Ash forests along what is now referred to as the Black Spur. I initially suspected that this had been painted looking north close to Dom Dom saddle with the edge of Mt Strickland in the background, but finding this exact topographic position was difficult as the sharp ridge in the centre is not easily found. The other possibility is near the old Fernshaw Village located within the now closed Melbourne Water catchments, to which there is no public access.

1.6. Surveyor and Explorer Artists

The surveyor and explorer artists provide some of the most interesting and relevant artwork of the pre-European landscape, as they were usually the first Europeans to set foot in these areas. A number of explorers including Oxley, Hume and Hovell, Sturt and Strzelecki were searching for new ground for grazing. Others such as Stuart, or Burke and Wills, had the purpose of finding inland seas, or crossing the continent (Peach 2001). These explorations brought with them artists or, in some cases, the leaders such as Major Thomas Mitchell or John Oxley produced their own sketches.

The surveying artists provide a completely different field of artwork to those of others, because they were painting, or sketching, in order to record a landscape, rather than to provide an image for public sale. This makes their records and observations of the landscape highly valuable for the purposes of this study.

1.6.1. Ludwig Becker 1808-1861

Ludwig Becker was born in Damstadt, Germany and moved to Launceston in 1851 for political reasons (Jones 1988, Tipping 1969). Becker was already an accomplished artist and used this to assist in his travels in Tasmania by painting miniatures. In 1852 he moved to Victoria during the gold rush, trying out at gold digging around Bendigo. He also undertook sketches and paintings during this period holding an exhibition in

Melbourne in 1854 (Tipping 1969). One of the remarkable sketches is shown in Figure 2.72 of the Bendigo Goldfields.

It is not his paintings in Victoria for which Becker is best known but for his accompaniment of Burke and Wills on the ill-fated expedition to cross the continent from South to North. Becker died during this expedition from scurvy and dysentery but did leave important legacies of this trip with the first paintings and sketches of parts of the journey into inland Australia.

1.6.2. Robert Hoddle 1794-1881

Robert Hoddle was the pioneer surveyor of Melbourne and its surrounds, and he produced watercolours of the landscape of the Port Phillip area. Hoddle painted around Melbourne, the Canberra region, Monaro Plains in South-Eastern New South Wales, and Brisbane. His survey work around early Melbourne in the late 1830s, around the Canberra region in 1832-1835, the Yarra River and its surrounds in 1844-45, all provide excellent records of the early landscape in South-Eastern Australia (Colville 2004).

Figure 1.25: Robert Hoddle 1794-1881 "*View from Batman's Hill, Melbourne Port Phillip*" 1840 State Library New South Wales

The combination of written observations of his surveying work and his watercolours provide an important record of the early colonial landscape in Victoria and the Canberra

region. One highly useful landscape for this study is "*View from Batman's Hill, Melbourne Port Phillip 1840*" (Figure 1.25), which show the mountain ranges in the distance and the very open grasslands with occasional scattered trees. As Melbourne had only its first land sale in 1837, the date of the work is very close to initial settlement, and so his records and observations are of great relevance to understanding the pre-European landscape.

1.6.3. Charles Joseph La Trobe 1801-1875

Charles Joseph La Trobe was born in London in 1801. He received much of his early education in Switzerland before undertaking a teaching role in Manchester. After leaving this teaching position he worked as a tutor for a Swiss family. During this time he was able to begin two books which included sketches on the Swiss scenery (Blake 1975). La Trobe arrived in Melbourne in September 1839, when the population was 5,822. This makes the observations and work of La Trobe important, given it was at the beginning of European settlement in the district (Blake 1975).

La Trobe became the Lieutenant Governor of the new colony of Victoria in 1851. He produced an important series of letters and sketches of early Melbourne and surrounds, mostly now housed in the State Library of Victoria. Much of his sketching is based upon the beginning of settlement, his time in Switzerland, North America, Mexico, West Indies, and from travels across other parts of Australia. La Trobe's sketches and watercolours are more a recording of the landscape than a documenting of the vegetation in the landscape.

In most of his landscapes, while the topography is apparent, the vegetation is more a wash where tree cover and understorey are largely indistinguishable. A good example is the "*South end of Maria Island, Tasmania*", as shown in Figure 1.26. Most of his sketches and paintings in Victoria do not concentrate on the unadulterated landscape, or are of insufficient detail to be used for vegetation analysis. These works are published in the book "*Charles Joseph La Trobe Landscape and Sketches*" (Reilly 1999). Of greater use are his published letters, which provide further insight into the nature of the early colonial life and landscape (Blake 1975).

Figure 1.26: Charles Joseph La Trobe 1801-1875 "*South End of Maria Island Tasmania*" State Library of Victoria

1.6.4. Edward La Trobe Bateman 1816-1897

Edward La Trobe Bateman is the cousin of Charles Joseph La Trobe. His sketches show intricate detail, with one of his Melbourne sketches "*Jolimont, from the Hill behind the Yarra Yarra*" (Figure 1.27) showing the clear woodland structure of the vegetation. This sketch was undertaken in 1854, almost 20 years after settlement, and therefore depicts an altered landscape, especially considering the house in the middle ground; nevertheless this gives a good indication of the some of the early vegetation of the Melbourne region.

Bateman arrived in Australia in 1853, and shortly after travelled to the north-east Victorian goldfields of Ovens, with the writer William Howitt and his two sons (Howitt Walker 1971). This generated a series of 8 unsigned "pencil heightened with white" intricate sketches titled "Drawings of the Victorian Goldfields" (Dixson Gallery, State Library NSW). These show the goldfields from this period of the Ovens, Yackandandah and Euroa areas and were "believed to be the work of von Guérard"; an example is shown in Figure 1.28 "*The Government Camp. May Day Hill, Ovens, Australia*". La Trobe Bateman rarely signed his works, and sketched using "pencil heightened with white". His work shows intricate detail and this goldfield series shows the similar detail and style of sketches from around the Melbourne area as can be seen in Figure 1.27 from the "Jolimont series" (La Trobe Collection, State Library Victoria). Detail is especially evident in the leaf structure, the shadowing, the clouds, and in the depiction of the people. Eugen von Guérard was known to be working in the goldfields at that time, but in Ballarat (Bruce 1990), whereas Bateman was known to be working in the

North-East Goldfields (Howitt Walker 1971). I therefore believe these are the work of Bateman.

Figure 1.27: Edward La Trobe Bateman 1816-1897 "*Jolimont, from the hill behind the Yarra Yarra*" 1854 La Trobe Picture Collection, State Library of Victoria

Figure 1.28: Edward La Trobe Bateman 1816-1897 "*The Government Camp. May Day Hill, Ovens, Australia*" 1853 State Library of New South Wales

The conclusions arrived at above had also been arrived at by Dr Anne Neale, in an article in the Melbourne Art Journal, written 2 years earlier (Neale 2005). Her work outlines the conclusive evidence as to the authorship of these works, and goes much further to match them with descriptions written by William Howitt, from the very expeditions that described the views that Bateman sketched.

1.6.5. Major Thomas Livingstone Mitchell 1792-1855

Thomas Livingstone Mitchell was born in Scotland, and learnt his surveying skills in the army. He arrived in Australia in 1827, and took over from John Oxley as the Surveyor General. Mitchell was an accomplished surveyor; he also had skills as a geologist, a botanist and an artist. As the first European to arrive in many parts of Australia, his artwork and written accounts are of considerable relevance as a record of the landscape at the time of European settlement. Mitchell led four major expeditions in Australia. His expedition into Victoria which discovered "*Australia Felix*" in 1836 was his third (Department of Conservation and Environment 1990).

Figure 1.29: Major Thomas Livingstone Mitchell 1792-1855 "*View of backwater of the Murray River*" 1836 State Library New South Wales

Mitchell is more recognised as an explorer than an artist and undertook sketches rather than "paintings". His is also not an extensive collection but, nevertheless, his sketches

show some useful detail into the early Australian landscape. His Victorian expeditions into areas such as the Grampians and Arapiles, along with his views of the Murray River, were the first European views of this landscape. Figure 1.29 " *View of backwater of the Murray River*" is a good example of his work.

1.6.6. John Joseph William Molesworth Oxley 1785-1828

John Joseph William Molesworth Oxley was appointed Surveyor General of New South Wales in 1812. He was a naval officer and a surveyor, and it was his role as the Surveyor General of the colony that led him to undertake explorations inland of Sydney and Bathurst through to the Liverpool Plains. The area across to Bathurst had been explored in 1813 after the crossing of the Blue Mountains by Wentworth, Blaxland and Lawson who found the initial route through the mountains. George Evans then extended the exploration through to Bathurst (Peach 2001). Oxley had made several coastal explorations before exploring inland. He then undertook exploration of the Lachlan and Macquarie Rivers in 1817 and 1818, being convinced of the presence of an inland sea (Johnson 2001).

Oxley produced some good views from his exploration of the Bathurst and Liverpool Plains and the inland rivers; however, his work is confined to New South Wales and Queensland.

1.6.7. Thomas Scott 1800-1855

Thomas Scott arrived in Hobart from Scotland in 1820, after being trained as a surveyor. He became assistant surveyor and was responsible for much of the early settlement surveying (Crawford 1967). His exploration between 1822 and 1824 of the east coast produced a number of charts, maps, and sketches, many of which were put into a sketchbook entitled "*Sketches 1822, Van Diemen's Land*". This sketchbook has a hundred or so sketches, maps, and diagrams of the Tasmanian landscape.

His sketches specify the location of his works and include details such as whether the landscape was "clear of timber", or "plains", with a good example being "*Handsome Sugarloaf – York Plains, August 1821 bearing south*" (Figure 1.30). As Scott was examining particular areas for their suitability for settlement, he is amongst the first

Europeans to explore this land. Scott's work is therefore a most useful account of the pre-European landscape.

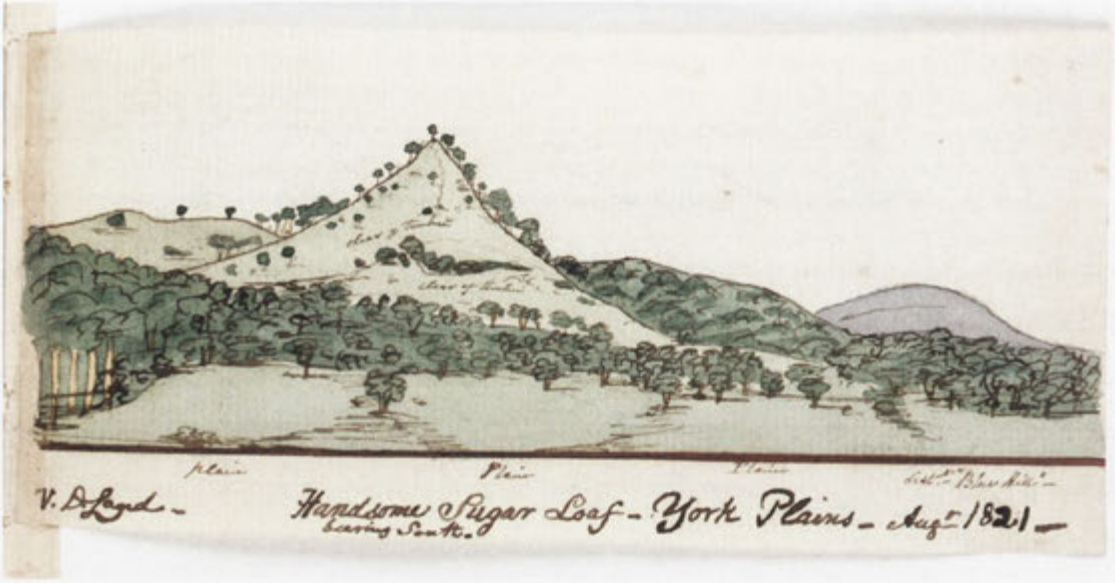

Figure 1.30: Thomas Scott 1800-1855 "*Handsome Sugarloaf-York plains-August 1821 bearing South*" 1821 State Library New South Wales

1.6.8. Owen Stanley 1811-1850

Owen Stanley painted 28 Tasmanian watercolours from 1840-1841. These are only a limited study, as he continued his travels into Papua New Guinea where the Owen Stanley Ranges are named after him. Other paintings from his travels on the HMS Rattlesnake were made off the coast of New South Wales and Queensland, and through to Papua New Guinea. His Tasmanian paintings are a limited body of work largely around Dentracasteaux channel, Hobart and the Tasman Peninsula. One piece is "*Mr Lacey's Timber Station Recherche Bay*" (Figure 1.31) which, given the recent environmentalist concern about the proposed selective timber harvesting on the land, is rather ironic in that the early structure depicted is a timber mill (Field 2007).

Figure 1.31: Owen Stanley 1811-1850 "*Mr Lacey's Timber Station Recherche Bay*" 1840 State Library Tasmania

1.7.Amateur Artists

1.7.1. George Thomas William Blamey Boyes 1787-1853

Boyes is perhaps known better for his diaries than his paintings; Chapman (1985) compiled three volumes of his diaries, from 1820-32, 1832-42 and 1842-53. These cover his arrival in New South Wales from England in 1824, and his move to Van Diemen's Land in 1826 when he was appointed Auditor; he later became acting Colonial Secretary. In addition to his valuable diaries, Boyes produced 44 watercolours and sketches from Tasmania with some good detail in the landscape views around Hobart.

1.7.2. Duncan Elphinstone Cooper (1813/14-1904)

Duncan Cooper is one of the most important artists to document the landscape in Western Victoria during the early part of settlement in the 1840s. He arrived in the Australia in 1841 from London, but had apparently also spent much time in India, where his father was part of the colonial army (Brown 1987).

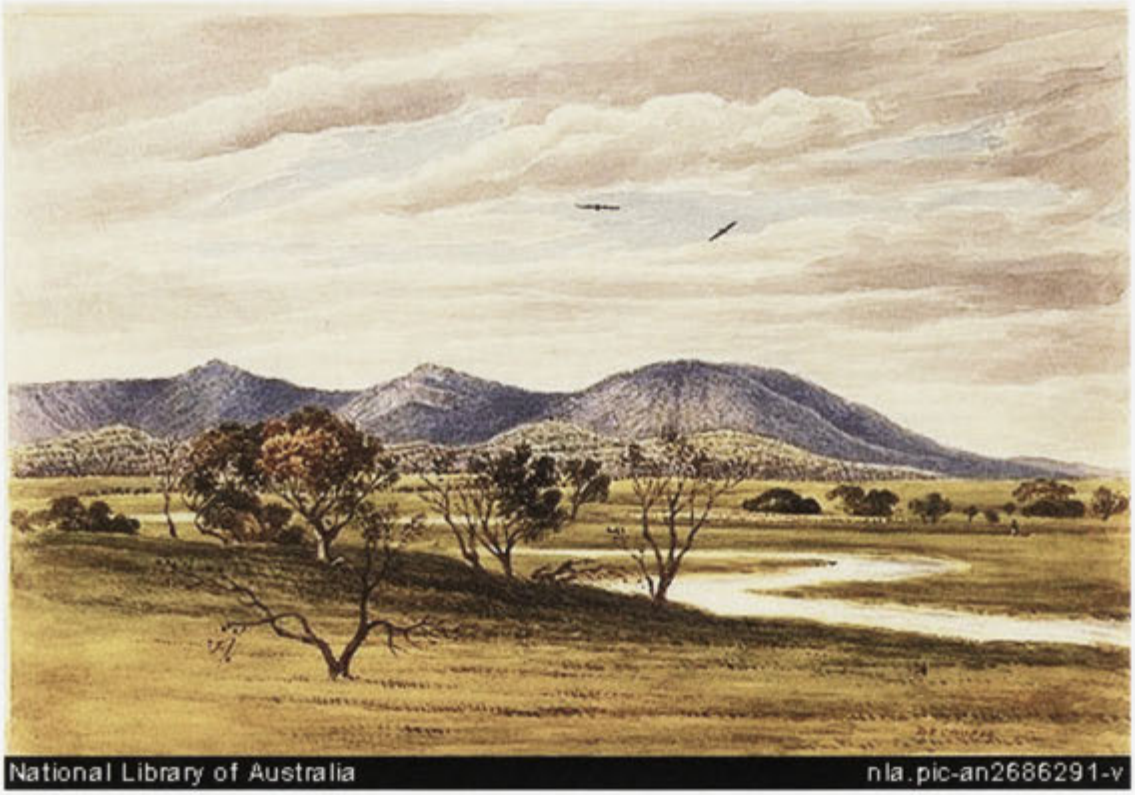

Figure 1.32: Duncan Cooper 1813-1904 "*Mount Cole with Pyrenees in distance*" 1845

Cooper moved to the site of the Challicum Hills, eight miles southwest of Mount Cole in Western Victoria, within two months of arriving in Melbourne. The accuracy of the topography, and easy identification of many locations, along with the timing of the paintings - both before and during the period of European-induced landscape change - makes these works highly significant. A good example is the painting "*Mount Cole, Pyrenees in Distance*" (Figure 1.32) showing the foreground vegetation with the original site identifiable by the location in proximity to Mt Cole itself.

By the time Cooper departed Australia in 1854 to settle back England, he had left some 54 sketches and watercolours of the property at Challicum and surrounds, along with a substantial written record of his time there through correspondence with friends and family. Cooper did not consider himself to be an "artist" and was painting for his own interest and record. His works can be considered relatively unadulterated landscape views; their comparison with contemporary views also bear out this contention (Ryan 2005).

1.7.3. Francis Guillemard Simpkinson De Wesselow, 1819-1906

Simpkinson De Wesselow came across to Van Diemen's Land from England as a volunteer on HMS Britannia, to meet up with his uncle, the Arctic Explorer Sir John Franklin, in Hobart. By unfortunate circumstance, his uncle was recalled to England and De Wesselow missed him. Nevertheless, he stayed in Tasmania working at the Rossbank Observatory until he left the island in 1848. During this time, he painted over 200 watercolours of various scenes throughout Tasmania, and the Port Phillip region of Victoria. He also linked up with John Skinner Prout and undertook a number of painting journeys with him, including one to Port Phillip region in 1847 (Angus 1985).

As an amateur artist, he painted a variety of landscapes, often with specific details regarding the location. Being more concerned with sketching the landscape, rather than producing images for sale, he has recorded details, such as wildfires and burning off, in at least three of his Tasmanian paintings and one of his Victorian paintings. "*Corio Bay from Barrabool Hills Australia Felix*" (Figure 1.33) is a good example of these.

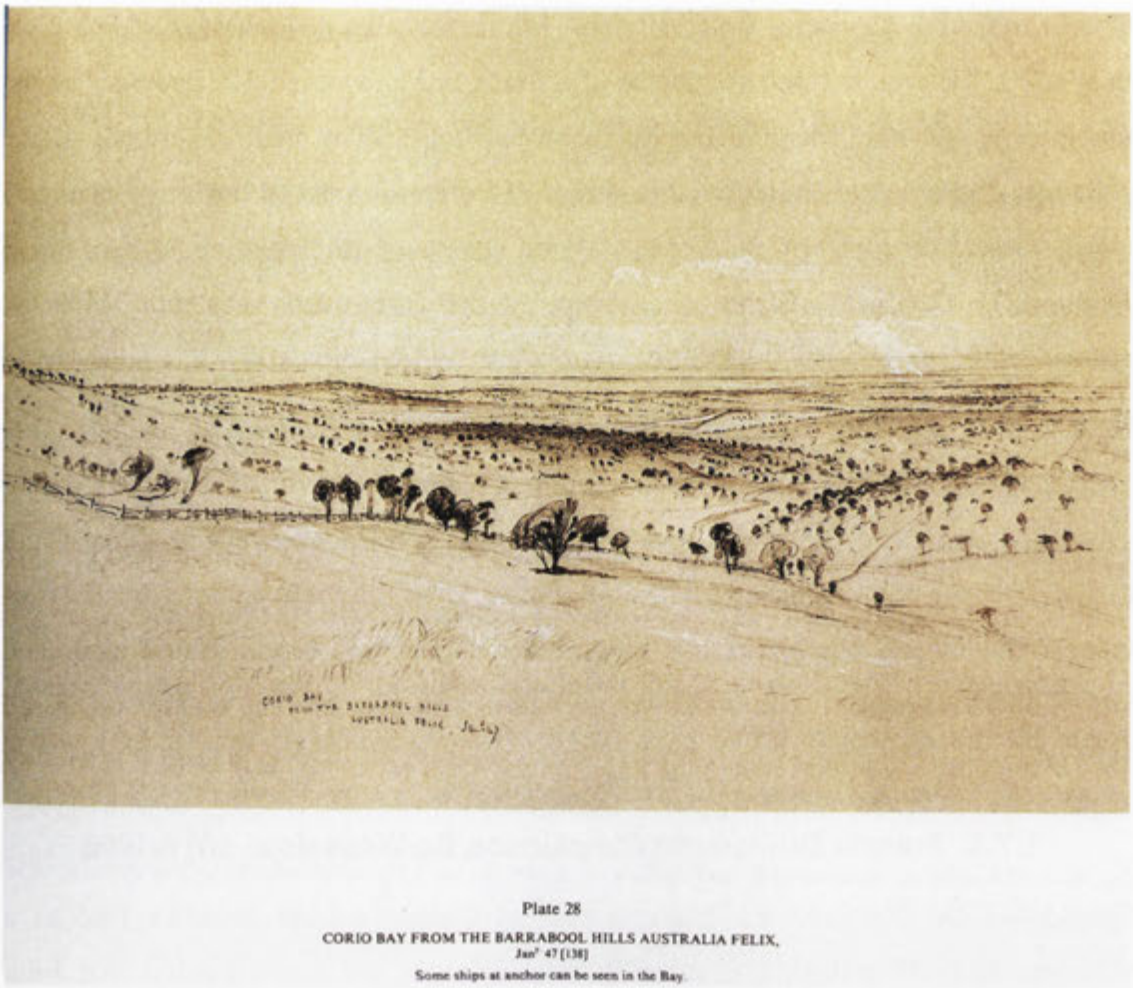

Plate 28

CORIO BAY FROM THE BARRABOOL HILLS AUSTRALIA FELIX.
Jan^{y} 47 [138]

Some ships at anchor can be seen in the Bay.

Figure 1.33: Francis Guillemard Simpkinson De Wesselow, 1819-1906 "*Corio Bay from Barrabool Hills Australia Felix*" Jan 1847 Tasmania Museum and Art Gallery

1.8.Artists' relevance for interpreting the pre-European landscape

This study of colonial artists is not concerned with the aesthetics, lighting, colour, commercial appeal, or the artist's ability to paint a tree. Rather, it is how they depicted structural attributes of the forested landscape. The components of the landscape that are worth analysis are attributes such as: identifiable species, location, forest structure, evidence of indigenous management, evidence of early colonial influence and fire history.

The commentary in Tables 1-3 summarises the relevance of the artist's work in each state according to when they were in Australia, the regions they painted and the main subjects of interest. The artists in this list have been discussed in the previous section. While the New South Wales region is of minor relevance to this study, it is included as so much early art was from NSW, the first colony. Excluding NSW from the study

would mean that the work of artists commonly recognised as early colonial painters, like John Lewin, Conrad Martins and Augustus Earle, would not be discussed. Similarly, it is helpful to discuss the work of artists like Joseph Lycett, which is particularly relevant to the early use and depiction of fire, the subject of chapter 3.

Artist	When in Australia	Regions painted	Usefulness for landscape analysis in South East Australia
George Tobin 1768-1838	1792	Bruny Island Tasmania	Excellent for Bruny Island, with defined locations and before settlement.
Joseph Lycett 1775-1828	1814-1822	Possibly Tasmania	Doubtful whether he actually ever visited Tasmania. Probable he used secondary sources therefore questionable value.
Thomas Scott 1800-1855	1820-1855	Tasmania	Not artistic but broad cartoon like sketches highly relevant for identifying forest/non forest in early survey work in Tasmania.
George Thomas William Blamey Boyes 1787-1853	1824-1853	Across Tasmania	Limited series of watercolours of early Tasmania. Not of great detail and few of unadulterated landscape so limited value. A collection of 44 views.
John Glover 1767-1849	1830-1849	Across Tasmania	The most important early Tasmanian artist with identifiable locations, botanical detail and a mass of work over 200 pieces.
John Skinner Prout 1806-1876	1840-1852	Across, Tasmania	Prout arrived later in settlement period in Tasmania but still has a limited body of useful works.
Eugen von Guérard 1811-1901	1852-1882	Across Tasmania	While an excellent artist with a high degree of topographic and botanical accuracy he was some 20-30 years after settlement.
Mary Morton Allport 1806-1895	1831-1895	Tasmania	Very important Tasmanian artist with considerable body of work from botanical detail to broad landscapes.
Benjamin Duterrau 1767-1851	1832-1851	Tasmania	Painter of portraits and group scenes especially of Tasmanian Aborigines. Some Tasmanian landscapes but later in settlement period.
Louisa Anne Meredith 1812-1895	1839-1895	Across Tasmania	Useful photographs for later in settlement of Tasmania and some 140plus pieces of artwork. As later in settlement, not considered reliable account of pre-European landscape.
Charles Joseph La Trobe 1801-1875	1839-1854	Victoria, Tasmania	Limited in detail and while topographically accurate, show little of vegetation detail so of limited relevance.
Owen Stanley 1811-1850	1840-41	Tasmania	Small collection later in settlement of Tasmania so of limited landscape analysis value.
Francis Guillemard Simpkinson De Wesselow, 1819-1906	1844-1848	Tasmania and some Victorian	Large series of watercolours accurately depicting landscape and management in Tasmania, Quite useful amateur work with little or no artistic licence being adopted.

Table 1: The artists of Tasmania in order of arrival in the colony.

Artist	When in Australia	Regions painted	Usefulness for landscape analysis in South East Australia
Thomas Livingstone Mitchell 1792-1855	1827-1855	Murray, Grampians, Macedon, NE Vic	Limited to very few works but useful as first European in many of these areas from his trip to discover "Australia Felix".
Robert Hoddle 1794-1881	1823-1881	Melbourne and surrounds	Hoddle's artwork is of considerable use in his early depictions of the Pre-European landscape in Melbourne and surrounds and the Monaro Plains.
Samuel Thomas Gill 1818-1880	1839-1880	Victorian Goldfields, esp. Bendigo	Predominately an artist depicting people and events, more so than landscapes. Large body of work with landscapes as context.
Charles Joseph La Trobe 1801-1875	1839-1854	Victoria,	Limited in detail and while topographically accurate, show little of vegetation detail so of limited relevance.
Louisa Anne Meredith 1812-1895	1839-1895	Melbourne, Mornington	Sketches and painting from the 1860s so quite late in the settlement period so not considered reliable account of pre-European landscape.
John Skinner Prout 1806-1876	1840-1852	Across Victoria	Some useful pieces from Victoria, especially Geelong and for his work with Booth's Australia in the 1870s. Topographically and vegetation appear accurate.
Duncan Elphinstone Cooper 1813-1904	1841-1854	Western Victoria	Excellent account of early vegetation in Western Victoria at the time of early settlement.
Francis Guillemard Simpkinson De Wesselow, 1819-1906	1844-1848	Geelong districts	Limited series of views from a visit to Victoria with Skinner Prout. Useful amateur work with little or no artistic licence being adopted.
William Strutt 1826-1915	1850-1862	Victoria,	Useful for depiction of fire but limited for landscape analysis.
Edward Roper 1830-1880	1850s, 1870s	Victoria	Limited value for later landscape change and land use. Christmas card series of curiosity value. Only small body of work.
Ludwig Becker 1808-1861	1851-1861	Bendigo,	Limited collection of paintings and sketches around the Bendigo Goldfields.
Eugen von Guérard 1811-1901	1852-1882	Across Victoria.	Excellent especially where he sought out "wilderness" areas. Locations defined and high degree topographic and botanical accuracy.
Thomas Clark 1814-1883	1852-1883	Victoria, South Australia	Limited number of works and after substantial landscape change.
Henry Gritton 1818-1873	1853-1873	Victoria	Minor artist of the period later in colonial period with small number of pieces.
Edward La Trobe Bateman 1816-1897	1853-1867	Victoria	A limited body of work later in settlement but excellent structural detail in the sketches. 29 pieces found to date.
Nicholas Chevalier 1828-1902	1854-1871	Victoria, New Zealand	Useful pieces in Victoria's remote locations as painted on expeditions with von Guérard.
Isaac Whitehead 1819-1883	Late 1850s-1883	Victoria, New Zealand	More famous as a frame maker but with a limited body of works. Some excellent wet forest landscapes later in the colonial period.
Louis Buvelot 1814-1888	1865-1888	Victoria	Too late after settlement to be of major use but useful for landscape change.

Table 2: The artists of Victoria in order of time arriving in the colony

Artist	When in Australia	Regions painted	Usefulness for landscape analysis in South East Australia
Thomas Watling 1762-1806	1791-1796	Sydney region	Excellent record for Sydney region of flowers, birds, Aboriginals, natural history. 143 known attributed pieces (Hamlyn 1971).
John William Lewin 1769-1819	1800-1819	Sydney, Bathurst,	Useful for Sydney and surrounds and for highly detailed studies of flora and fauna. Hundreds of pieces still survive (Hamlyn 1971)
William Westall 1781-1850	1801-1803	Hawkesbury River	Useful for Hawkesbury River and especially for coastal profiles of East and South Coast. Some 140 or so paintings and sketches were done in Australia.
John Joseph William Molesworth Oxley 1785-1828	1802-1828	Liverpool and Bathurst Plains	Very limited work as an explorer in NSW from before settlement. Useful landscapes but a small number in the collection
Joseph Lycett 1775-1828	1814-1822	Sydney, Newcastle,	Highly stylised and sometimes used other artists work as a basis. Useful for Aboriginal management, and warrants more investigation for landscape analysis.
Robert Hoddle 1794-1881	1823-1881	Monaro Plains, Canberra region	Hoddle's artwork is of considerable use in his early depictions of the Pre-European landscape in South East NSW and the now Canberra region.
Augustus Earle 1793-1838	1825-1828	Sydney, Illawarra, Port Stephens	Large collection of views of landscapes and Aborigines of Sydney, Blue Mountains, Hunter, Illawarra. A collection of 160 plus lithographs and watercolours..
Thomas Livingstone Mitchell 1792-1855	1827-1855	Across NSW	Useful but small body of work across NSW and parts of Victoria. As an early explorer his observations and sketches are pre-settlement.
Conrad Martens 1801-1878	1835-1878	Lithgow, Sydney and surrounds	Mainly later in the NSW colonial period with an already disturbed landscape so of limited relevance.
John Skinner Prout 1806-1876	1840-1852	Sydney, Illawarra,	Prout arrived later in settlement period in New South Wales so this reduces his usefulness in landscape analysis. He has over 200 pieces of Australian artwork.
Ludwig Becker 1808-1861	1851-1861	Darling river, Inland NSW	While later in the colonial period, Becker produced paintings and sketches for the Burke and Wills expedition where he perished.
Eugen von Guérard 1811-1901	1852-1882	Blue Mountains. Mt Kosciuszko, Illawarra	Excellent detailed artwork with identifiable locations and botanical detail. While later in the colonial period, he where sought out "wilderness" areas so has many useful pieces for landscape analysis.

Table 3: The artists of New South Wales in order of dates in the colony

Each of the artists listed in Tables 1-3 provides some depiction of aspects of the pre-European forested landscape and its management. Some artists are more reliable than others, in that they are faithful to the landscape subject; Simpkinson de Wesselow exemplifies this, even if he is later in the settlement period. Others, such as George Tobin, are pre-settlement and while somewhat stylised and topographically compressed, produced the very first European paintings of this area. For this reason, they warrant analysis to see what their work can provide in terms of vegetation structure and reliability as to their depiction. In this context, photographing these original locations, such as was done in Ryan (2005) and in chapter 2, is useful in interpreting these works and piecing together the puzzle as to what the pre-European vegetation was like.

Even artists such as Lycett, with his stylised paintings, cannot be discarded despite the knowledge that some of his works are copied from other sources. Lycett's works show some clearly identifiable tree species, details of Aboriginal management, their hunting practices and their use of fire. It would be useful to find the sites of some of his original paintings and examine their topographic and vegetation accuracy, but the location of many in the Sydney and Newcastle region makes them outside the current scope of this study. Glover provides a multitude of forest scenes, structural attributes and aspects of Aboriginal management with his sketchbooks and final paintings. Von Guérard provides a wealth of species information and topographic accuracy, albeit sometimes with some vertical exaggeration. Cooper, Hoddle and Mitchell all provided views of parts of Victoria at the time of, or soon after, first European settlement.

Specific vegetation reconstruction requires the assessment of the range of available sources. Ideally, sources would be pre-settlement and accurate reproductions, with no embellishment, but the absence of photo reproductions requires use of the next best visual record available, which is the artwork of the time.

To explore the use of artwork for pre-European vegetation reconstruction further, the next chapter will look at examples from the artists who painted in Victoria. Specifically it will explore artwork with identifiable locations, as close to pre-settlement as possible, and assess what vegetation types and structural details are being depicted by the artists.

2. Identifying Ecological Vegetation Classes from early colonial landscape art in Victoria

Chapter 1 has described the colonial artists and the relevance of their artwork for understanding the nature and structure of the pre-European forests of South-Eastern Australia. This chapter further explores whether specific forest types or vegetation classes can be identified from the early colonial artwork. The breadth of artwork and artists described in Chapter 1 make it prohibitive to cover all of South-Eastern Australia and so this chapter is confined to Victorian examples. If investigation of the Victorian artwork suggests the approach is promising, it is also likely to be applicable to other parts of South-Eastern Australia.

2.1. Using art to identify vegetation types

The following section explores the range of forest types and structures, from the wet forests of the Central Highlands, through to riparian forests along the Murray River, and the open woodlands around Geelong, with artwork dating from as close as possible to European settlement. The artwork is assessed for its depiction of structure and identifiable species and then compared with the contemporary ecosystem classification for the specific location the artwork was painted. The comparison mapping is the current and modelled pre-1750 Ecological Vegetation Class mapping as described by Commonwealth and Victorian Governments (1999). Where original locations can be determined, the modelled pre-1750 vegetation can be readily compared with that depicted in the early colonial artwork.

2.1.1. Ecological Vegetation Class (EVC) mapping for current and pre-1750 vegetation

Ecological Vegetation Class (EVC) mapping from the Regional Forest Agreement process (Department of Agriculture, Fisheries and Forestry 2007) has been used, as it is the most readily available vegetation data set for terrestrial biodiversity management (Oates and Taranto 2001). It is consistent across Victoria, specific enough to give overstorey and understorey species, and provides the modelled pre-European forest type. It is also readily available on line through "Biodiversity Interactive Map" and "Forest Explorer" online (Department of Sustainability and Environment 2007a).

It should be noted that this EVC modelling, as shown on the Biodiversity Interactive Map, is not always identical to that outlined in Victoria's EVC benchmarks for particular bioregions. For this reason, reference back to Ecological Vegetation Class bioregion benchmarks may be a slightly more accurate guide, however this had not yet been completely updated across Victoria (Department of Sustainability and Environment 2007b).

2.1.2. How altered was the landscape when painted?

The length of time after European settlement and the increasing influence of the new land managers led to the change to traditional Aboriginal management, especially burning regimes (Flannery 1994, Ryan *et al* 1995). The new land owners and managers introduced new animals to the Australian landscape, hunted native animals, and used the local forest resources. The most readily available raw material for buildings, fences and fuel was timber, so trees were being cut from parts of the landscape from the time of first settlement.

Some artists painted or depicted landscapes when there had been no European disturbance with the early explorers perhaps providing the best account. Major Thomas Mitchell's sketches are not numerous but, as one of the first explorers, his views show the pre-European landscape. Eugen von Guérard, while painting after 20 years of settlement in Victoria, would often specifically seek out undisturbed landscapes, even if on occasions he literally removed a few trees to obtain a better landscape view (Bonyhady 1991).

2.1.3. What artwork is considered?

The vegetation system used for classifying forest types is important; the next important factor is what pieces of artwork should be considered. The following criteria were used to select the artwork considered:

Painted before substantial European modification

In Western Victoria, settlement generally began in the 1840s, although the Henty brothers had the first permanent settlement in Portland Bay in 1834 (Peach 2001). Settlement in Gippsland took place from the mid to late 1840s and in East Gippsland into the 1850s. These timeframes are therefore considered a guide.

Identifiable structural attributes

Some paintings, such as the coastal profiles by William Westall, have identifiable locations and were painted before widespread European settlement, but no structural attributes can be identified. It is the detail of trees, understorey and density that make the forest depictions useful for identifying vegetation type.

Identifiable location

While there is considerable artwork available that fits the appropriate timeframe and has clear structural attributes, the lack of an identifiable location limit matching it to a mapped vegetation class.

2.1.4. Identification of the specific attributes from the art

A number of clear structural attributes can be identified from the artwork, especially forest height, tree diameter, tree density, identifiable tree species and sometimes understorey species:

Forest height, diameter and tree density

Forest height and diameter are measured through any scaleable reference point in the artwork, with the most useful reference point being a person or animal. The human reference uses the assumption the person is approximately 1.7 m or 5 foot 8 inches tall.

Identifiable tree species

Many tree species cannot be identified immediately from the paintings alone without additional reference to the location of the painting or sketch and the associated structural attributes. In other examples, the tree species is readily identifiable. For instance, Mountain Ash (*Eucalyptus regnans*) is generally associated with a wet understorey, the massive size of the trees, and the distinct fibrous bark at the base. Hence von Guérard's "*Forest, Cape Otway Ranges*" (Figure 2.15), Whitehead's "*Sassafras Valley*" (Figure 2.2) and Buvelot's "*Near Fernshaw*" (Figure 2.6) show this identifiable species.

River Red Gum (*Eucalyptus camaldulensis*) is likewise an identifiable species in a number of paintings, given its location in the landscape on flood plains or adjacent to rivers. Examples of this are von Guérard's "*Goulburn River near Shepparton*"

(Figure 2.23) and Mitchell's "*Major Mitchell's Lagoons*" (Figure 2.16). River Red Gum also has a distinctive shape with its open grown, sweeping nature, and lower trunk rough bark.

Identifiable Understorey species

Some artists go to extraordinary detail in painting understorey, such as Eugen von Guérard, where his training as a miniaturist lent itself to depicting the detail. A New South Wales example is Joseph Lycett; while his paintings were highly stylised, *Casuarina* and *Acacia* species are commonly depicted. Casuarinas with their long needles are readily distinguished from the acacias with their feathery phyllodes, although the exact species is often not distinguishable without local knowledge. George Tobin's series from Bruny Island show Tasmanian blanket leaf (*Bedfordia salicina*) with its distinctive drooping leaves.

Native grasses can only really be identified by their natural occurrence and likelihood of being present in particular forest types and vegetation communities.

Even where the tree species are still present, in most contemporary assessments the understorey is now often substantially modified by introduced grass species and weeds. This can make it unrepresentative of the original vegetation, and thus requires ground verification.

2.1.5. Forest type classification from artwork

Comparing the overall forest description of eucalypt species, location in landscape, and understorey, allows many forests to be readily classified as a specific Ecological Vegetation Class (EVC). For example, Mountain Ash forest with its distinctive shape, bark and understorey readily falls into *EVC 29 Damp Forest* or *EVC 30 Wet Forest*. River Red Gum forest can be classed as *EVC 106 Grassy Riverine Forest, EVC 295 Riverine Grassy Woodland, EVC 816 Sedgy Riverine Forest,* or even *EVC 809 Floodplain Grassy Wetland,* depending on its location or specific structure. The numerous examples of Western Victorian grassy woodlands on the flats, fall into *EVC 897 Plains Grassland/Plains Grassy Woodland* or on the slopes *EVC 175 Grassy Woodland* and *EVC 132 Plains Grassland.* The vegetation on the extinct volcanic cones of the Western Districts is frequently *EVC 894 Scoria Cone Woodland,* distinctive due to its woodland structure and landscape position.

2.1.6. Current landscape view

Photographing the current location provides the visual reference of the location and it allows a comparison of the accuracy of the artist's depiction of the topography and of certain species. Further, the on-site visit allows identification of the specific species that cannot be identified readily in the artwork.

In a number of examples the specific locations could not be readily identified but, if there were particular landmarks, *Google Earth* (Google 2007) could sometimes be used to estimate the correct perspective and location.

2.1.7. Other information

In many cases, there are additional written descriptions, especially the writings of the early explorers of particular areas, as described in Ryan *et al* (1995) and Flannery (1998). These provide useful context but are not relied upon in this study, as it is focused specifically on the relevance of the artwork itself.

2.2. Comparison of Forest Types - Discussion

This study is not an exhaustive exploration of the subject, as there are many pieces of relevant artwork which cannot be located as they are in private collections, are overseas, are stored in galleries not on display, or are not available on public record. An example of this is the sketchbooks of Eugen von Guérard. Some of these are photographed and accessible through picture databases such as the national database "Picture Australia" (National Library of Australia 2007a), but many are only available from the libraries and have not been electronically catalogued or photographed. A good example is "*Views of Victoria*" and "*Views of Goulburn*", two 30 page folios of highly detailed sketches of Victoria, many of which are not yet electronically copied. These are available only by viewing the originals at the Mitchell Library in Sydney.

There are still however a fair body of relevant work some of which was assessed for its relevance in vegetation classification. For simplicity, the following chapter discusses the artwork by grouping it into three broad vegetation types: wet sclerophyll forests, dry sclerophyll forests and woodlands, and riparian forests and woodlands.

2.2.1. Wet Sclerophyll Forests

The main disturbance mechanism in wet sclerophyll forests pre-European settlement would have been catastrophic wildfire. However, post-European settlement, it was the influence of clearing, timber harvesting and wildfire that largely changed the forest structure. The most classic contemporary examples are essentially "old-growth" forests or as described in Commonwealth of Australia (1992) *"ecologically mature forest where the effect of disturbance is now negligible"*. South-Eastern Australia has many examples of classic old growth forest, so this is the benchmark against which paintings can be compared, although not necessarily in the same general areas.

In Victoria, the wildfires of 1851, 1898, 1926, 1939, 1983, 2003, 2006/07 and now 2009 are well-documented landscape-changing fires (Department of Sustainability and Environment 2007c). The fires of most significance to the forests depicted in early artwork are those pre-1851; however, there is little documentation of these fires, nor pieces of artwork depicting fire from before this time (as discussed in Chapter 3 and in Ryan 2005). Nevertheless, the important point is that there are good current examples of "old-growth" which can be compared with the wet forest types being depicted.

The following section describes a selection of some relevant artwork for which locations are more or less identified and provide structural information useful for describing these forests.

Sassafras Valley, Dandenong Ranges

The two Isaac Whitehead paintings of the Sassafras Valley from 1875 provide a picture of essentially undisturbed "old growth" Mountain Ash (*Eucalyptus regnans)* forest from the Sassafras Valley in the Dandenongs. These precede the onset of disturbance from timber harvesting in this area and are classified as *EVC 30 Wet Forest.* While this forest type still exists, with some of the best examples being within the Melbourne closed water catchments, much was burnt in the Black Saturday 2009 wildfire. The opening up of the Sassafras Valley for small scale farming in 1893, the fires in 1926 and 1939, and timber harvesting and farming through the region, means the forests here have changed substantially from their pre-European structure.

Notable aspects that emerge from these paintings are the clumpy nature of the Mountain Ash and large openings dominated by understorey or rainforest species. There is a

distinct clump of 7 trees in a patch in the upper right of the painting "*In the Sassafras Valley*" (Figure 2.1). Following high intensity wildfire, extensive even-aged regrowth generally develops, as much of the overstorey is killed and there is adequate light and a clean seedbed for the germination and establishment of eucalypts. The lack of regrowth or of recently killed trees in both of these paintings is an indicator that the 1851 fires either did not go through this area, or were of such a low intensity that the large trees survived and little regrowth developed. The only evidence of a wildfire where most of the trees have survived is possibly the one large dead collapsing stag in the middle left of the painting. This is of such an age and state of collapse that it would have died in the 18th century rather than the 1851 wildfire. Once Mountain Ash dies through old age or fire, it progressively collapses over a period of 40 to 70 years; for example, large Mountain Ash killed in the 1939 fires are now in an advanced state of collapse. The topographic position of the Sassafras Valley, being a relatively flat and sheltered valley, means it is likely to experience fires which burn only during the most extreme drought and weather conditions.

Figure 2.1: Isaac Whitehead 1819-1883 "*In the Sassafras Valley, Victoria*" 1875

The other unusual aspect of the painting is the large 5-10 ha gap, or opening, to the upper right of the painting. The lack of trees in this area appears unusual given this view is pre timber harvesting or agricultural clearing. The edge trees have well developed epicormic growth, indicative of being open to light within the previous decade. Had the 1851 fires burnt through this area with anything more than a low intensity, there would be a carpet of 20-30m tall regrowth from seed fall from the surrounding mature trees, many of which would remain as dead stags. The absence of this regrowth and more recent dead stags and the presence of the well-developed epicormic growth is perhaps an indicator of some recent clearing and abandonment, as evidenced by the re-colonisation by understorey species, or possibly timber harvesting. That settlement did not take place for a further 18 years, perhaps indicates timber cutting or naturally open gully vegetation. In the absence of this explanation, given a very long time since the last major fire and the location along the gully, the predominant forest cover would tend towards rainforest species as eucalypts die out. The rainforest species Myrtle Beech *Nothofagus cunninghamii* and Blackwood *Acacia melanoxylon* are apparent, although the species after which the township is named, Sassafras *Atherosperma moschatum,* with its light green glossy foliage and conical form, cannot be identified.

The Dandenong Ranges has these natural open areas free of the eucalypts, such as in Figure 2.2 "*Sassafras Valley, Victoria*", but these are generally along or adjacent to gully lines as can be seen in the contemporary views in Figure 2.3 and 2.4. These contemporary views also show some of this "clumpy" nature of the regrowth forest. The current forest in the area is a mixture of fire regrowth from possibly 1939, 1926 and what could be 1851 or earlier origins, plus regrowth originating from early timber harvesting.

It is of interest to note that regrowth stands alongside Sassafras Creek, originating from either the 1926 fires or others since 1900, are amongst the tallest regrowth forests in Victoria, with heights exceeding 84 metres (Mifsud 2003). This suggests that the original forests may have been amongst the tallest in the state.

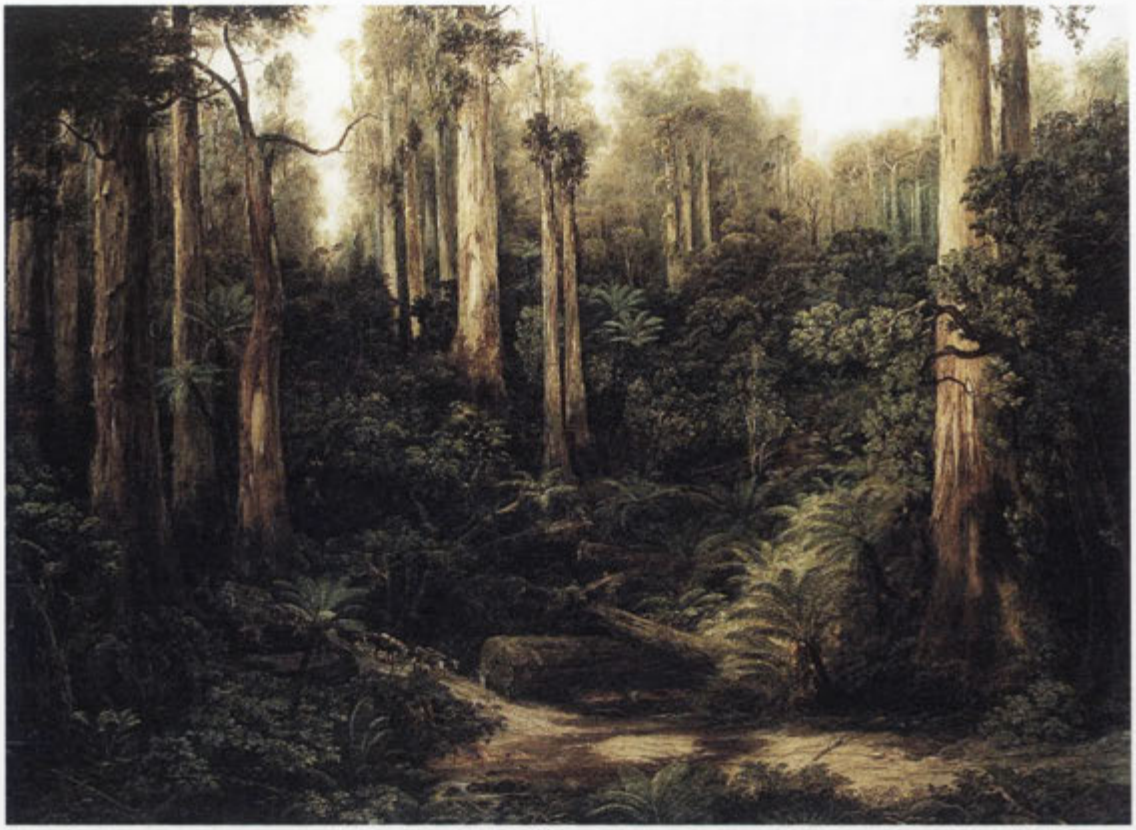

Figure 2.2: Isaac Whitehead 1819-1883 "*Sassafras Valley, Victoria*" 1875 National Gallery of Australia

Figure 2.3: Michael F. Ryan "View near Sassafras Valley: regrowth Mountain Ash forest". 2006

A further example of these wet forests is the sketch by Eugen von Guérard from 1857 (Figure 2.5) which has all the indicators of fire-killed mature forest, with what is probably six-year old regeneration in the background. The impression is that the foreground large trees are fire killed and that the younger regrowth in the background is consistent with regeneration from this area being burnt by the 1851 fires. The reason for lack of "stags" around the regrowth is less clear. Some possibilities are that this area may have been at the edge of a forest clearing and that the trees may have been cut for timber or cleared for agriculture.

Figure 2.4a,b: Michael F. Ryan "1926 regrowth Mountain Ash forest Sassafras Valley, Dandenong Ranges" 2006

Figure 2.5: Eugen von Guérard 1811-1901 "*Sassafras Gully, Dandenong Ranges*" 1857 State Library New South Wales

Fernshaw, Central Highlands

Louis Buvelot's "*Near Fernshaw*" (Figure 2.6), which now is part of Melbourne's domestic water supply catchment, takes the depiction of Mountain Ash forest *EVC 30 Wet Forest* even further, with quite evident disturbance from timber production. The cart on the corduroyed track, along with the absence of the large trees except in the background, is indicative of the substantial disturbance. The distribution of the remaining large trees also appears to be an "unnatural" forest structure for this forest type. The foreground has ferns and what is apparently a Blackwood in the centre and to the far left of the composition. Mature Mountain Ash would tower over these trees, especially over the ferns and other understorey. The further evidence of its disturbance is the amount of light that is shining onto the scene from the left, which is again indicative of many of the large Mountain Ash trees being removed. Contemporary views of Fernshaw show none of these openings, but rather very dense regrowth originating from the 1939 Black Friday wildfires. The current density of this regrowth is between 200 to 400 trees per hectare and the height between 60 to 80 metres.

The exact site of Buvelot's painting is unknown but the township of Fernshaw was dismantled from 1885 to 1891 when the area was dedicated to water catchment. The area was burnt in the 1939 wildfires. The old township site is now a picnic ground, and an area of 93 ha corresponding to the surrounding farms was planted following the 1939 fires with seedlings dug out from surrounding areas. The structure of the replanted area is largely dense eucalypts and ferns, with limited mid-storey. While it is rumoured that, if you look carefully, you can see the old planting lines, I have never been able to discern them. This area is now the famous drive on the Maroondah Highway known as "*The Black Spur*", just north of Healesville.

It is worth contrasting Buvelot's painting with the Isaac Whitehead painting "*Spring Morning near Fernshaw*" (Figure 1.24), which shows undisturbed Mountain Ash. Whitehead shows the massive eucalypts with the only scale being a person (an exploring logger perhaps) in the lower left against a giant Mountain Ash tree. The size of this tree must be 8 metres in diameter and, if shown to it's full height, would tower over 100m. This is certainly possible as Mountain Ash are known to have exceeded 110m. The Thorpdale tree, at 114m, is considered the most reliable tall tree

measurement (Mifsud 2003) as while the Ferguson tree was reported in the 1800's at an impressive 132m (Carder 1995), it is noted that this may be an unreliable estimate.

A further structural element of note is the tree distribution, with the spacing of between 30m to 60m, equating to a density of just six to 10 trees per hectare. They are evidently more closely spaced on the sharp ridge in the centre background and absent from the gully itself. This gully is fern-dominated, but on the edges amongst the eucalypts is a dense mid-storey of Blackwood and Myrtle Beech, both of which are still common throughout the area. There is no evidence of fire in this painting but this region was severely burnt during the 1939 fires. The site was also lightly burnt in the week following the 7th February 2009 wildfire but at insufficient intensity to cause stand replacement except on a few ridges.

Figure 2.6: Louis Buvelot 1814-1888 "*Near Fernshaw*" 1873 National Library of Australia

Fern Tree Gully

Von Guérard's "*Fern Tree Gully*" (Figure 2.7) is an iconic early oil painting, displayed at the National Gallery of Australia in Canberra. It has also been reproduced as lithographs, as slight variations of the better-known oil painting. Its actual location is adjacent to the car park at the entrance to the National Park at Fern Tree Gully. A number of clearly identifiable species are noted. These include the large Austral

Mulberry *Hedycarya angustifolia* on the left-hand side of the image framing the composition; the Soft Tree Ferns *Dicksonia antarctica;* the rounded crowns of the Blackwood *Acacia melanoxylon* in the background; and unidentified dry sclerophyll eucalypts with a grassy understorey on the western aspect on the right-hand slope of the painting. The site classified as *EVC 29 Damp Forest* along the gully and *EVC 23 Herb Rich Foothill Forest* on the western aspect of the painting.

Figure 2.7: Eugen von Guérard 1811-1901 "*Fern Tree Gully Dandenong Ranges*" 1857 National Gallery of Australia

The current view is part car park, part playground, part road (Figure 2.9), but a short walk up the creek arrives at a more natural site with many of the original species as depicted by von Guérard, with the unwelcome addition of blackberries and introduced grasses as shown in Figure 2.8. Also identifiable at the adjacent site now are Manna Gum *Eucalyptus viminalis*, Messmate *Eucalyptus obliqua,* Narrow-leaved Peppermint *Eucalyptus radiata,* and a dense scrubby understorey as depicted on the western aspect leading up the hill to the right of the painting.

Figure 2.8: Michael F. Ryan "Fern Gully just upstream of site for von Guérard's painting" 2006

A distinguishing feature between the original painting and the contemporary view may be the nature of the dry sclerophyll forest to the western side of Fern Tree Gully. Von Guérard shows identifiable individual trees, and relatively open structure in which the grassy understorey is clearly visible. This is not the case with the contemporary view, which has a dense understorey of shrubs, as seen in Figure 2.10.

Figure 2.9: Site of Eugen von Guérard's "Fern Tree Gully Dandenong Ranges" Michael F. Ryan 2006

Figure 2.10: Michael F. Ryan "Gully *E. viminalis* forest merging into dry sclerophyll *E. obliqua, E. radiata* at site of von Guérard's Fern Tree Gully Dandenong Ranges" 2006

One further view of Fern Tree Gully is a lovely depiction of *EVC 29 Damp Forest* or possible *EVC 30 Wet Forest* by John Thomas Doyle, shown in Figure 2.11. J. T. Doyle painted with the prolific artist S. T. Gill. The exact location of this painting site is unknown, but it is still a complementary piece to von Guérard's views. An intriguing aspect of this painting is the nature of the forest behind the campers which appears to have been freshly burnt. As it was an area important for timber, it is quite feasible that this is a clearing burn to facilitate access to these areas for timber cutting. The proposition that it is a "controlled burn" is supported by the presence of the campers, which would not be the case if it were a wildfire. Further, the green grass is still present around the campsite and the ferns and mid storey are not burnt, indicating the fire was not of high intensity.

Figure 2.11: John Thomas Doyle "*Entrance to Fern Tree Gully Gippsland*" 1862-63 State Library New South Wales

Splitters Gully, Dandenong Ranges

The sketch of Splitters Gully, "*Splitters Gully Dandenong Ranges*" (Figure 2.12), shows what appears to be Mountain Ash forest, with the distinct rough lower bark and buttressing, along with the height characteristic of these forests. The fallen tree in the foreground gives the best indicator of tree dimensions - of around 2m diameter and a

height of 60-70m, using the splitter as a height gauge. The vegetation is *EVC 30 Wet Forest* but, as it has dramatic disturbance, it is far from being in a pre European condition. The dead trees in the mid-ground of the sketch are indicative of the self-thinning nature of wet forests, in which suppressed trees, unable to compete for light and nutrients, die out as the larger trees use the site resources.

Figure 2.12: Eugen von Guérard 1811-1901 "*Splitters Gully Dandenong Ranges*" 1858 State Library New South Wales

Figure 2.13, also of Splitter's Gully, more closely resembles untouched Mountain Ash forest, or possibly damp gully forest of manna gum (*Eucalyptus viminalis*). The fallen timber, broken stumps, and hollow nature of the logs originate from collapsing dead trees, rather than from the felled trees depicted in Figure 2.12. Both of these pictures must be from approximately the same area, as they were sketched on the same day, 15-16 miles east of the township of Dandenong, which puts them in the vicinity of the Gembrook area. Both areas also appear to have escaped the 1851 fires.

These scenes both resemble late stage regrowth, as there is still some conical nature to the crowns, which begin to broaden at maturity. They are unlike the depictions of the Sassafras Valley, which exemplify massive trees in a wet environment. Rather, these scenes appear to be more at the fringe of Mountain Ash's occurrence, where stand replacement fires would be more frequent.

Figure 2.13: Eugen von Guérard 1811-1901 "*Splitters Gully Dandenong Ranges*" 1858 State Library New South Wales

Figure 2.14 "*Wood Splitters Hut in the Fern Tree Gully*" is a lithograph from an unknown artist in 1865 from the "*Illustrated Newspaper File News for the Home Reader*". The forest is Mountain Ash, again *EVC 30 Wet Forest,* with its structure consisting of pole regrowth in the background, and numerous dead stags. The largely intact crowns of the stags, and the size of the regrowth, indicate that this forest originates from the 1851 wildfire, which burnt through parts of the Dandenong Ranges (Pyne 1991). This illustration, drawn in 1865, is therefore 14 years post wildfire. This high intensity wildfire has apparently killed the fire sensitive mature trees and promoted extensive regrowth. The dead trees, which have lost their fine branches, are now being felled and used for shingles.

Figure 2.14: Unknown artist "The *Wood-Splitters Hut in the Fern Tree Gully Dandenongs*" 1865 State Library of Victoria

The Otway Ranges

Von Guérard's "*Forest, Cape Otway Ranges*" (Figure 2.15) was painted in 1865, before the start of significant settlement, timber harvesting and clearing for agriculture in the region. It comes from sketches done during visits in October 1859, and subsequently in April 1862, with the geologist Professor von Neumayer and artist Nicholas Chevalier (Tipping 1975). This view is prior to there being significant European disturbance as it was sketched when the nearest farm was 20 miles distant (Tipping 1975). Its exact location has not yet been determined; however, Marjorie Tipping's "*Eugene von Guérard Australian Landscapes*" has von Guérard's description:

> *"A narrow and imperfectly-defined cattle track, winding through moist groves of fern trees, thick scrub, and avenues of gigantic trees, conducts the traveller from the open country in the interior to the wild scenery on the coast. The journey is as difficult as the physical features of the declivitous and thickly wooded ranges are grand and romantic; and it is only at rare intervals that the tourist obtains such a glimpse of the mountain slopes, and wide-spreading forests as the artist has succeeded in doing at the spot which*

forms the foreground of the accompanying landscape. Lying about a hundred miles from Melbourne, as the crow flies, this tract of country is comparatively a terra incognita; so-impenetrable is the jungle, and so vast the scope of the boundless forests, filled with battalions upon battalions of towering trees, the more eminent of which rise to an altitude of 300 feet."

This is quite a wonderful description, as apart from being so colourful, it is verification that these wet forests were impenetrable. This is a clear distinction between the wet forests, and many drier forests and woodlands, and this aspect will be explored later.

Figure 2.15: Eugen von Guérard 1811-1901 *"Forest, Cape Otway Ranges"* 1865 National Library of Australia

Apart from the track, the scene appears to be undisturbed *EVC 30 Wet Forest,* with the distinctive ferny understorey, a mid storey of Blackwoods and very tall mature trees of around 2m in diameter. There is also the presence of what is apparently a second age class of Mountain Ash, which given its diameter is less than half that of the mature trees and would appear to be of late 1700s origin. This can happen when a low or moderate intensity wildfire does not kill the entire stand, creating a stand with surviving trees and a second regenerating age class (Campbell 1997). The presence of decaying stags at the end of their life, in the small opening just off the track, would have to be the 1600s or earlier age class killed from the 1700s fire. As the stags collapse, and the regrowth gains

height, the regrowth eventually overtop the remaining stags, such that very few are visible in later age regrowth (such as is the case for current 1939 regrowth). In Figure 2.15, the distant forest has this uniform even-aged regrowth appearance, with no emerging stags. There is no accurately documented fire history for the Otways pre-1886 (see Chapter 3), so no conclusive inferences can be made. The opening itself is difficult to explain without further information, but the presence of the lower branching on the few live trees in this gap indicate that the gap has been created within the past 10 years or so – potentially from storm events which can make large gaps in the forest canopy (Hateley 2005). Human clearing is less likely given timber requirements for the settlements would have been sourced from closer to habitation.

2.2.2. Riparian Woodlands and Forests

Major Mitchell's Lagoons, Kenley

"*Major Mitchell's Lagoons*" (Figure 2.16) is located near Kenley, just to the south-west of the confluence of the Wakool and the Murray River, and was painted after a sketch by Major Mitchell in 1836. It can confidently be considered pre-European forest structure, as Mitchell was the first European to explore this region (Department of Conservation and Environment 1990). It is River Red Gum forest with grassy understorey which is classified, both pre-1750 and currently, as *EVC 295 Riverine Grassy Woodland,* and the actual lagoons themselves as *EVC 809 Floodplain Grassy Wetland.* Adjacent to this area is *EVC 106 Grassy Riverine Forest.* The distinguishing features between *EVC 295* and *EVC106* is minimal and related to whether it is a woodland structure, with the trees up to 20m height, or forest structure of up to 25m height (Department of Sustainability and Environment 2004a).

Within the past decade, the lagoons have dried up and are now densely packed with less than 6 year old 3-4m tall River Red Gum regeneration, as shown in Figure 2.17. On the very edge of the lagoons, and depicted by the distinctively shaped tree to the left of the painting, is what an on-site inspection revealed as Slender Cypress Pine, more commonly termed Murray Pine *Callitris gracilis ssp murrayensis*; this can be seen in Figure 2.19. This is the interface between the Red Gum woodland and *EVC 97 Semi Arid Woodland* which occurs on the flats adjacent to the river banks, and is dominated by *Casuarina* and *Callitris* species.

Like the Mitchell view of 1836, in 1990 the lagoons are clearly identifiable as shown in Figure 2.18 (Department of Conservation and Environment 1990). Aerial photos of 2001 (Figure 2.20) also show the lagoons clearly visible. The mature forest component is still as depicted in 1990, and indeed by Mitchell in 1836, with relatively open River Red Gum forest with a density of 100-150 trees per hectare. The mapping from Biodiversity Interactive Map shows the vegetation corresponding to the aerial photo in Figure 2.20. Consistent with the description for this vegetation type is that, while it is typically treeless, it sometimes has thickets of saplings, as is the case when these lagoons dry up sufficiently to allow regeneration. While River Red Gums can tolerate and require flooding, they cannot survive almost permanent submersion in lagoons.

Figure 2.16: Major Thomas Mitchell 1792-1855 "*View of backwater of the Murray River*" 1836 State Library of New South Wales

Figure 2.17: Michael F. Ryan "Current View of backwater of the Murray River" May 2007

Figure 2.18: Judy Spafford "View of backwater of the Murray River" 1990 (from DCE 1990).

Figure 2.19: Michael F. Ryan "Veteran Slender cypress pine or Murray Pine, Major Mitchell Lagoons" May 2007

Figure 2.20: DSE Image files "Confluence Wakool and Murray Rivers and Major Mitchell Lagoons" 2001 Department of Sustainability and Environment

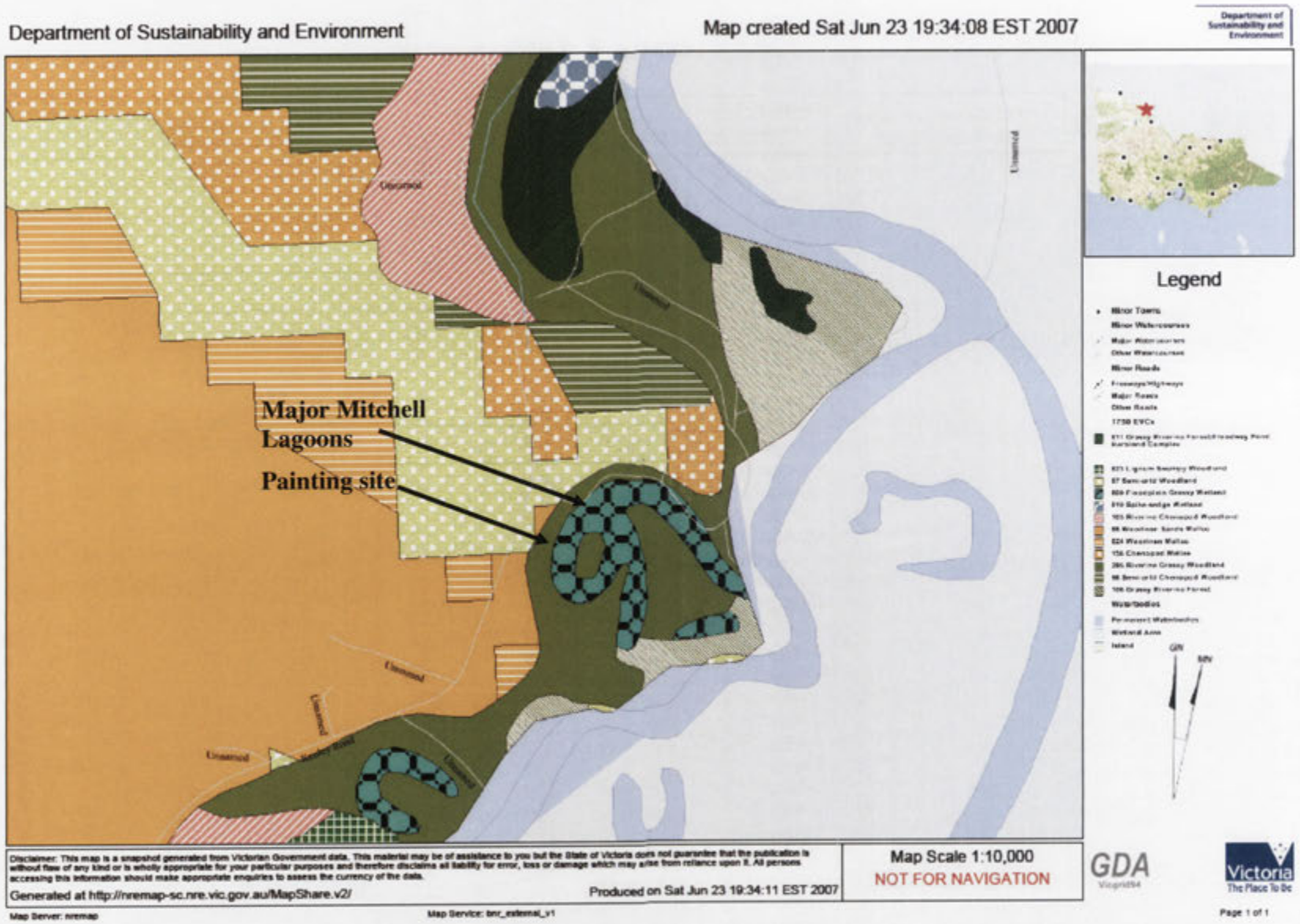

Figure 2.21: Biodiversity Interactive Map " Major Mitchell Lagoons" pre-1750 vegetation

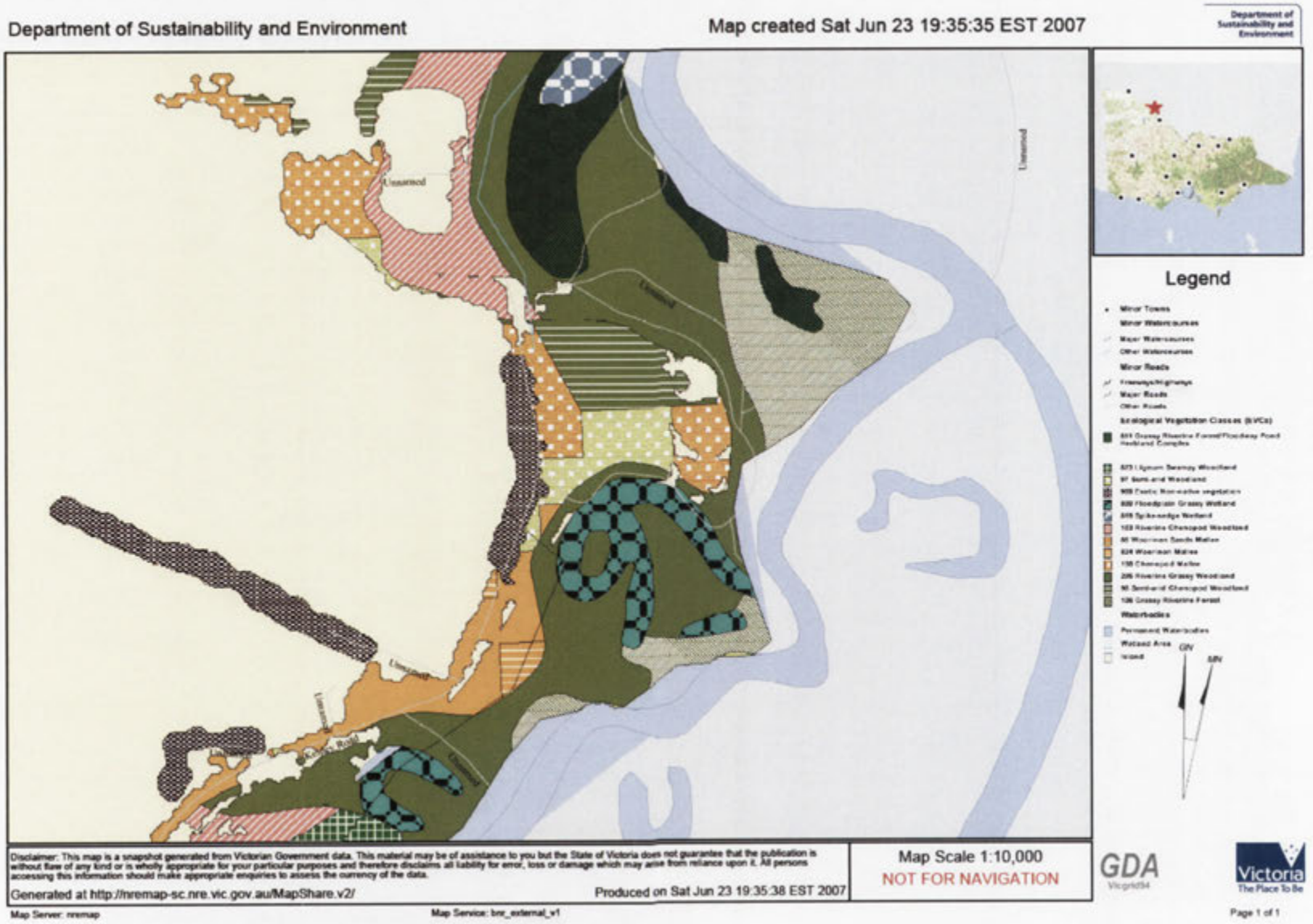

Figure 2.22: Biodiversity Interactive Map " Major Mitchell Lagoons" current native vegetation

Goulburn River, Shepparton

Von Guérard painted "*The River Goulburn near Shepparton*" (Figure 2.23) in 1862, when the population of Shepparton was about 30 (Smyth 1984). The picture shows Maguire's punt and the River Red Gum forest and woodland with a grassy understorey. It is classified as *EVC 295 Riverine Grassy Woodland* and *EVC 816 Sedgy Riverine Forest* much as it is now, although it now has a heavier density of trees. The right bank is shown to be *EVC 803 Plains Woodland* (Biodiversity Interactive Map), although it is difficult to identify any structural differences between the vegetation classes on-site.

The tree density of 100 to 150 per hectare and height around 25 metres make this vegetation more accurately described as a "forest" than a "woodland" structure. This highlights an issue with the currency of Biodiversity Interactive Map, which maps EVC 295 and EVC 816 as EVC 255, a mosaic of the 2 classes. This is most likely to simplify the mapping process, but requires confirmation of mapped classes with the EVC bioregion benchmark descriptions to confirm the EVC class (Department of Sustainability and Environment 2004b). The immediate forest in the painting, with its size and density, more closely resembles *EVC 816 Sedgy Riverine Forest.*

Figure 2.23: Eugen von Guérard 1811-1901 "*Goulburn River, near Shepparton*" 1865 State Library of Victoria

Figure 2.24: Eugen von Guérard 1811-1901 *"Punt over the Goulburn, near Shepparton" 14 June* 1862 State Library of New South Wales

Figure 2.25: Michael F. Ryan "Goulburn River, Shepparton" May 2007

Von Guérard depicts large River Red Gums at a density of around 100 trees per hectare and up to 2m in diameter. This can be compared with his detailed sketch that is the basis

for the final lithograph "*Punt over the Goulburn near Shepparton*", shown in Figure 2.24. The comparison with the contemporary view in Figure 2.25 shows a similar overall forest, albeit probably more dense than that sketched in 1862.

It would be instructive to assess the age classes of the current forests, as dense regrowth from previous harvesting or clearing leads to a taller, more dense forest than the 'natural' River Red Gums depicted by von Guérard.

Valley of the Ovens, North East Victoria

Figure 2.26, "*Valley of the Ovens*", is a tinted lithograph by Eugen von Guérard from 1862. It is also shown as a black and white lithograph by Nicholas Chevalier in Figure 2.27, "*Ovens River Victoria*", at approximately the same point, just west of the township of Germantown, but painted 9 years later. The von Guérard view shows the substantial disturbance with the huts, the mining race, and very open understorey. It has a low density, of less than 50 trees per hectare, of Candlebark *Eucalyptus rubida* and scattered understorey species, which can not be identified from the painting. The Chevalier view has the same scattered eucalypts, but a less distinct grassy understorey, and a secondary tree layer which a site inspection has shown to be Silver Wattle *Acacia dealbata*, Burgan *Kunzea ericoides*, Oven's Wattle *Acacia pravissima* and Tree Everlasting *Oszothamnus ferrugineus*.

Figure 2.26: Eugen von Guérard 1811-1901 "*The Valley of the Ovens River*" 1862. State Library of Victoria

Figure 2.27: Nicholas Chevalier 1828-1902 "*Ovens River, Victoria*" 1871 Booth's Australia in the 1870s

Figure 2.28: Michael F. Ryan "*Ovens Valley near Germantown*" 2007

The difference between the two depictions is probably that the site had a decade for regrowth to establish, which would explain the substantial understorey density increase; this is more likely than artistic licence. The valley floor is riparian vegetation, subject to occasional flooding, and mapped as EVC 237 Riparian Forest/Swampy Riparian Woodland Mosaic. Bioregion benchmarks refine this mosaic to the two vegetation classes of EVC 18 Riparian Forest and EVC 83 Swampy Riparian Woodland; however, the current forest seems to fall between the two classes. The slopes leading out of the valley are EVC 23 Herb-rich Foothill Forest dominated by Narrow-leaved Peppermint

Eucalyptus radiata and Broad-leaved Peppermint Eucalyptus dives, but these are not identifiable in the painting. The current view still fits the Riparian Forest category but with a dense understorey far in excess of either artists' depiction, as evident in the contemporary view in Figure 2.28. This valley floor vegetation is too disturbed in the original von Guérard view to easily interpret its pre-European structure, other than the approximate tree density in a woodland to open forest structure, with a small tree and shrub mid-storey. Candlebark is a poor timber species, so timber requirements were more likely to come from the foothill forests, although the wattle species made excellent wood for baking.

The River Barwon, near Geelong

The River Barwon was depicted in at least three separate works within the first 20 years of settlement. Its first depiction is a watercolour in 1847 by Simpkinson de Wesselow and, at the same time as a lithograph reproduced in Booth's "*Australia in the 1870s*" by his friend and painting companion Samuel Prout (Figures 2.29 and 2.30) These would have been sketched at the same time as these two artists undertook a joint visit to Victoria from Tasmania to paint in 1847 (Angus 1985). The third is an oil painting by von Guérard 13 years later, just slightly upstream of the other views, as shown in its sketch form in Figure 2.32 and final form in Figure 2.33.

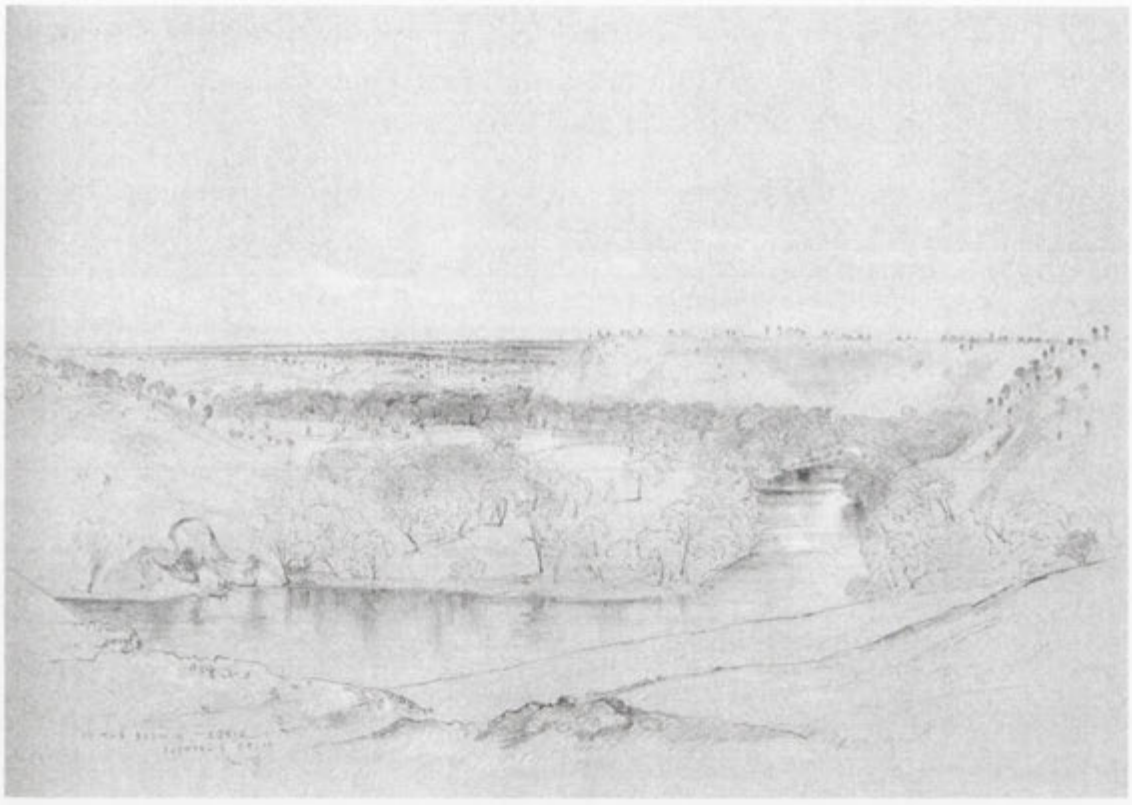

Figure 2.29: Simpkinson de Wesselow *"The River Barwin, Corio, Australia Felix"* Jan 1847

Figure 2.30: John Skinner Prout 1805-1876 *"The River Barwon, Victoria"* 1847. From Booth's Australia in the 1870s

Figure 2.31: Michael F. Ryan "The River Barwon, Victoria" 2006

Figure 2.32: Eugen von Guérard 1811-1901 *"Mr Lewin's Homestead, possibly in Barrabool Hills near Geelong"* 1855? Dixson Gallery State Library NSW

Figure 2.33: Eugen von Guérard 1811-1901 *"Mr Lewin's Hut on the Barwon River"* 1860. From Smyth 1984

These views show some important insights. The river flats from the first views of Skinner Prout and Simpkinson de Wesselow are a mixture of River Red Gum forest and woodlands; however, 13 years later, the flats are depicted largely as grassland with scattered eucalypts. The valley vegetation is clearly a riparian woodland given its proximity to the river, and is classified is *EVC 56 Floodplain Riparian Woodland* and, on the slopes, *EVC 175 Grassy Woodland* and *EVC 132 Plains Grassland*. The revegetation work over the past 20 years has brought the river flats closer to their original density as can be seen in the 2006 view in Figure 2.34, which is now called "Queen's Park".

Figure 2.34: Michael F. Ryan "The River Barwon from the viewpoint of von Guérard's sketch of 1855" 2006

These pictures provide compelling evidence both for the changing density of the forest and woodland, and also are a good indicator of its original structure; even in 1847, after about 10 years of settlement, the impacts of the requirements for timber and firewood are already evident.

It is notable that one nearby sketch by von Guérard, "*M. Lewin's Hut*" (Figure 2.35) sketched between 1854 and 1856 (the exact dates are not certain), clearly show over a dozen stumps from timber removal along the river, which cannot be seen in the more distant views. It is in these sketches that these contextual details may be depicted; they are not shown or are too distant in the final paintings. Another important detail is the extensive erosion on both stream banks.

Upslope from the river valley, the vegetation changes from riparian forest and woodland into grasslands and grassy woodland. This is largely grassland in both von Guérard views, but the Prout and De Wesselow views show a far greater proportion of woodland. A further view of the surrounding grassy woodlands and grassland is shown in the Simpkinson de Wesselow painting "*Corio Bay from the Barrabool Hills*" (Figure 1.33) overlooking Geelong, providing further evidence that the woodland was being removed from the surrounding hills. The predominant natural material for the growing population for building, baking, heating and fencing would have been from the

surrounding forests and woodlands, so it not surprising that substantial loss of tree cover is apparent.

Figure 2.35: Eugen von Guérard 1811-1901 "*M. Lewin' s Hut*" 1854? Dixson Gallery State Library NSW

Maribyrnong River, Bulla

Mr William Lang's camp, on the Saltwater River, is located just north of the town of Bulla, within 5 km of the present-day Tullamarine airport. The immediate observation is the change in alignment of the Deep Creek, which now occurs at the base of the hill, rather than in the foreground along the flats in front of the homestead, as in the 1866 view (Figure 2.36). Three main vegetation types are evident, with the *EVC 841 Streambank Shrubland* and its overstorey of River Red Gum; *EVC 641 Riparian Woodland,* which is around the site where the house is located, consisting largely of scattered River Red Gum over tussock grass *Poa labillardierei;* and *EVC 55 Plains Grassy Woodland,* which is likely to be Yellow Box *Eucalyptus melliodora* or Manna Gum *Eucalyptus viminalis.* A band of *EVC 895 Escarpment Shrubland* is also noted in the pre-1750 vegetation.

Figure 2.36: Eugen von Guérard 1811-1901 *"Mr William Lang's Camp on the Saltwater River"* 1866 From Smith 1984

Figure 2.37: Michael F. Ryan "The old Saltwater River, now Deep Creek, and the Emu Creek Confluence" 2006

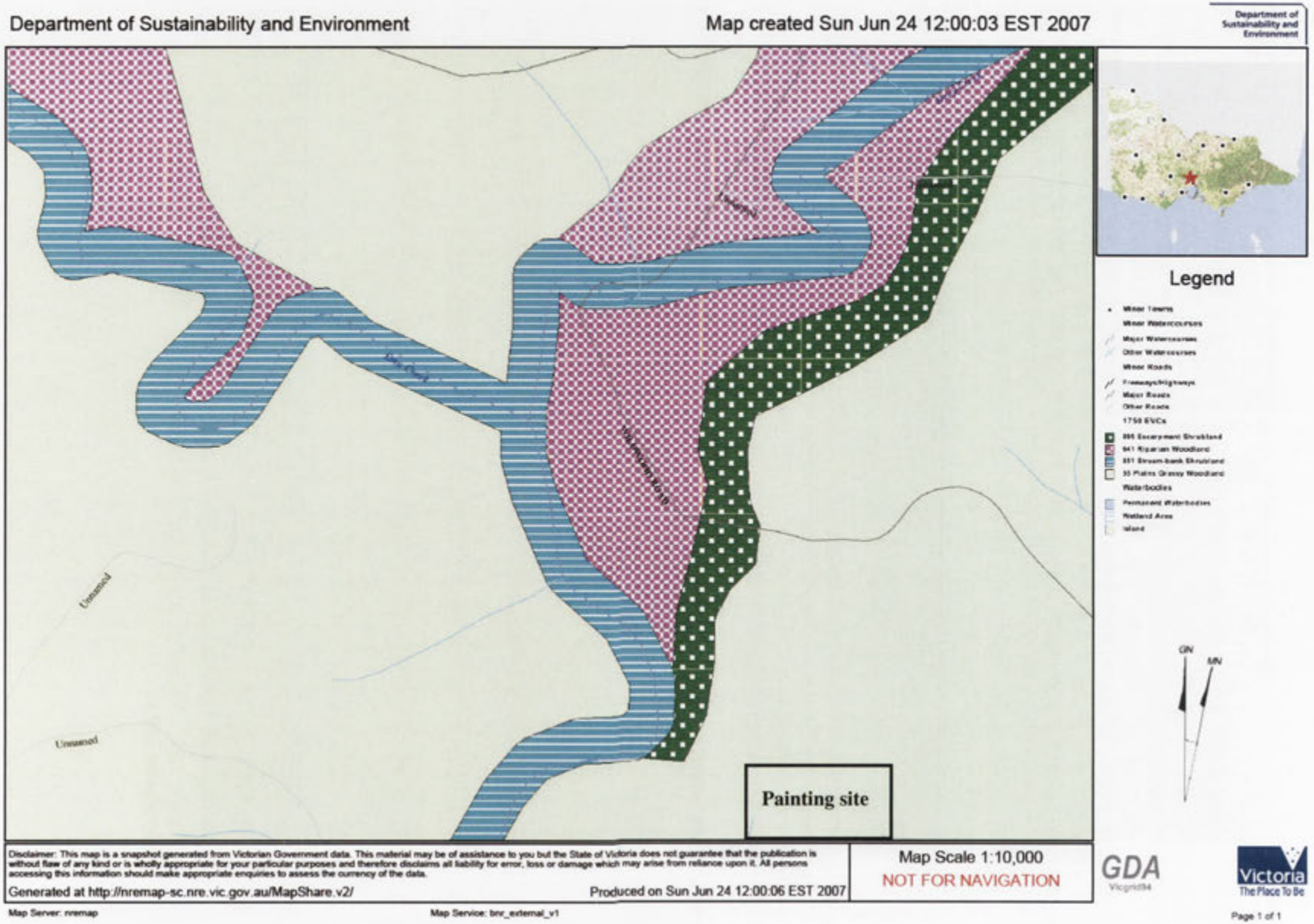

Figure 2.38: Biodiversity Interactive Map "Deep Creek and Emu Creek Confluence" pre-1750 vegetation

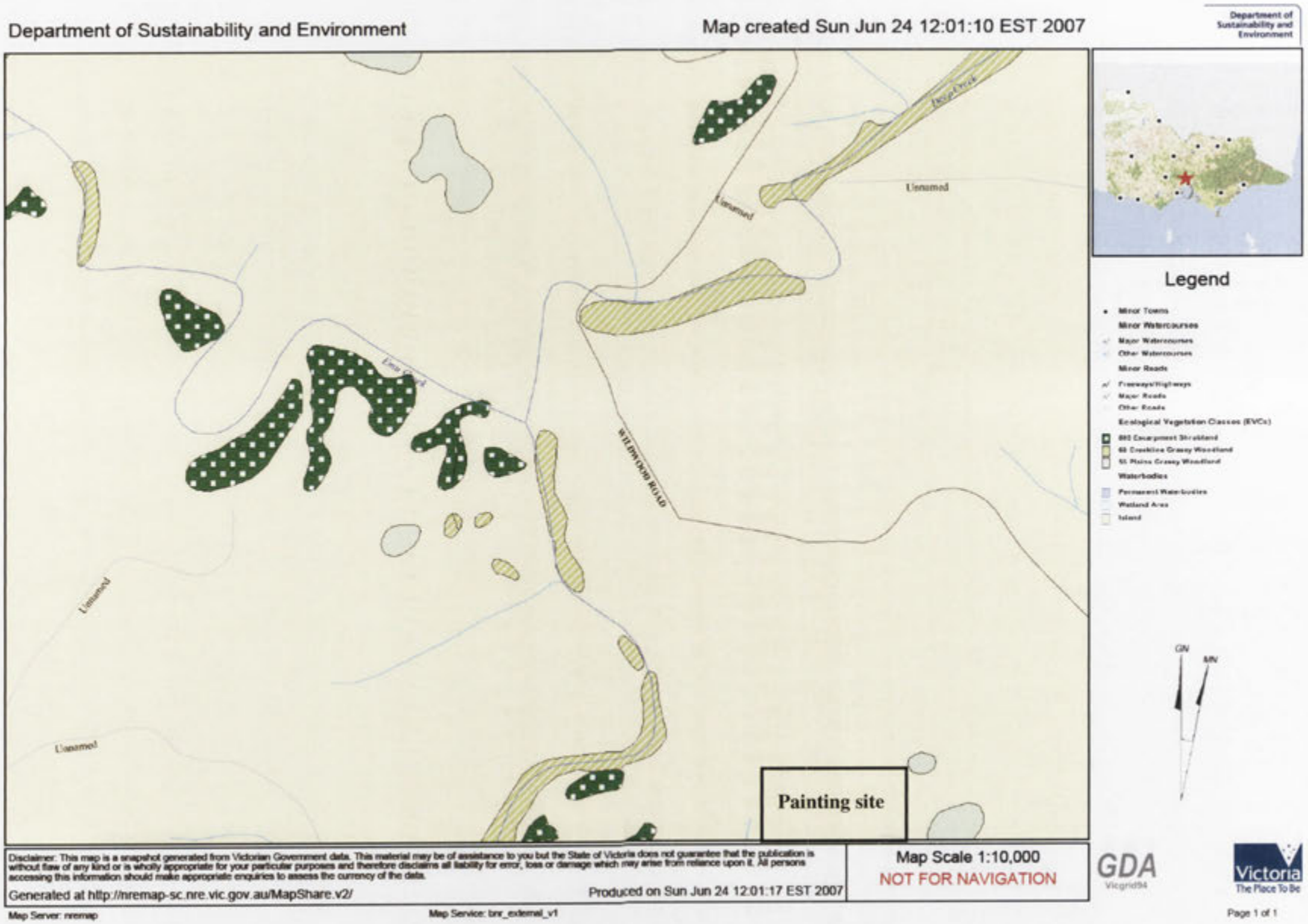

Figure 2.39: Biodiversity Interactive Map "Deep Creek and Emu Creek Confluence" current native vegetation

Current vegetation mapping and the current view still show riparian woodland, but it is mapped as *EVC 68 Creekline Grassy Woodland* rather than *Riparian Woodland*, with *Escarpment Shrubland* still being apparent on the far side of the Deep Creek. This could either be a mapping anomaly, or reclassification given changed species distribution. The two classes are similar, with EVC 68 as woodland up to 15 metres in height and EVC 641 woodland up to 30 metres. This site was painted some 30 years after settlement of Melbourne and, while it is 20 km from Melbourne, the evidence of farming and land change is apparent. In comparison to the River Barwon example in Figure 2.35, it is certain that there has been tree removal for fencing, house construction and firewood but, nevertheless, the vegetation must still have been open woodland, given the open form of the eucalypts depicted.

The Western District River Red Gum Plains

The River Red Gum flats around the Western District are shown in a number of paintings, with one of the most classic being the von Guérard painting of "*Mount William from Mount Dryden*" (Figure 2.40) and the lesser known "*Mount Abrupt from Dunkeld*" (Figure 2.45). These consist largely of River Red Gum floodplains *EVC 55 Plains Grassy Woodland.* Small areas of *EVC 3 Damp Sands Herb Rich Woodland* occur on terraces above creeks or alluvial flats and consist of a variety of eucalypt species, including Swamp Gum *Eucalyptus ovata*, River Red Gum *E. camaldulensis*, and Manna Gum *E. viminalis ssp. viminalis.* Most of these cannot be identified from the painting itself, as they are too far in the distance to see the specific detail; however, from their landscape position on the flats, they appear to be *EVC 55 Plains Grassy Woodland.*

On Mount Dryden itself, the vegetation is *EVC 71 Hills Herb Rich Woodland*, a mixture of Yellow Box and Long-Leaved Box *E. goniocalyx,* plus some *Acacia* species, most likely Black Wattle *Acacia mearnsii* and Golden Wattle *Acacia pycnantha.*

Current mapping shows the clearing depicted to be largely in the *Hills Herb Rich Woodland* on Mount Dryden itself and the *EVC 55 Plains Grassy Woodland* community in the valley. Both the current view in Figure 2.41 and the vegetation mapping in Figure 2.42 and Figure 2.43 confirm this.

Figure 2.40: Eugen von Guérard 1811-1901 "*Mount William from Mount Dryden*" 1857 Art Gallery Western Australia

Figure 2.41: Michael F. Ryan "Mount William from Mount Dryden" 2006

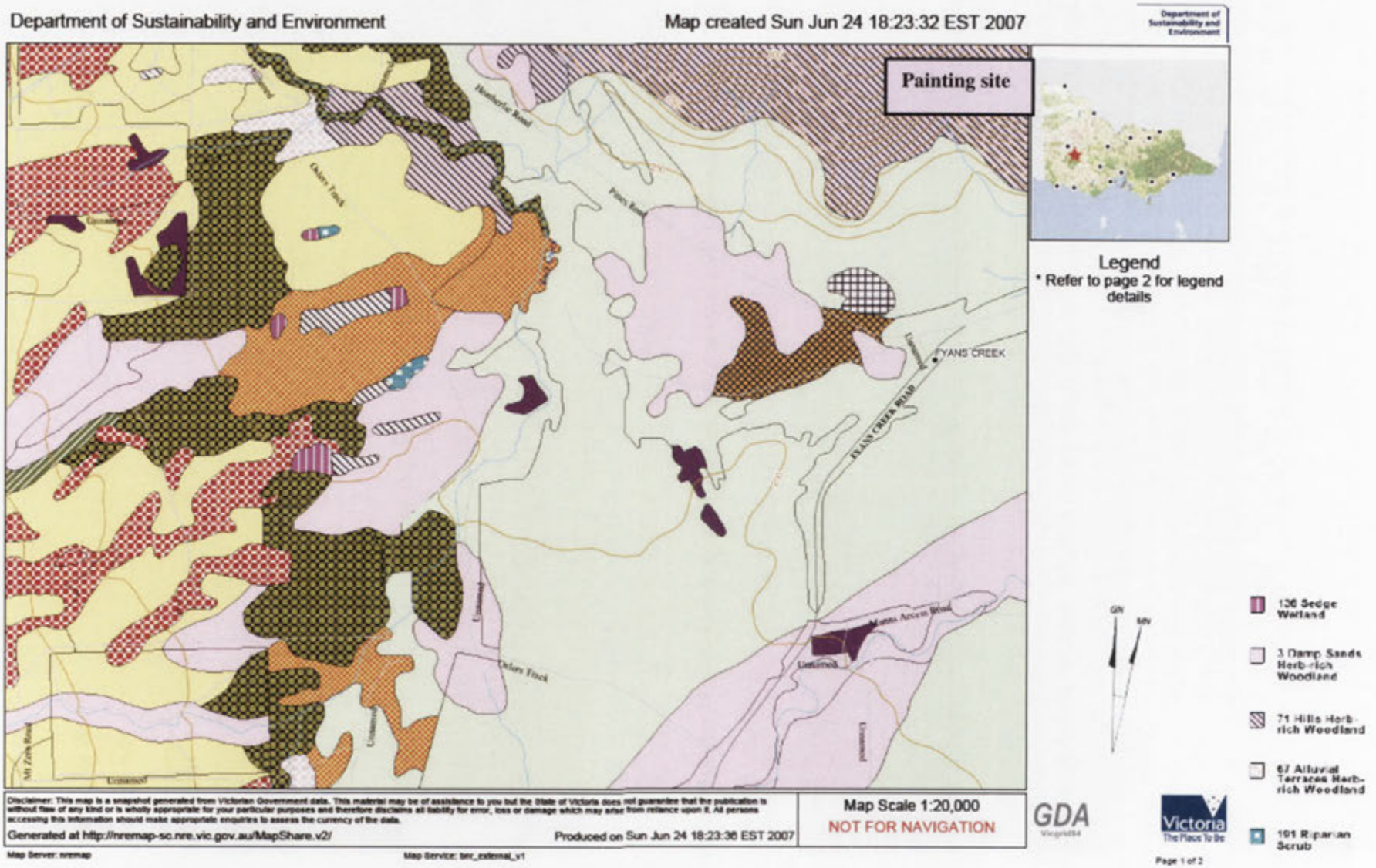

Figure 2.42: Biodiversity Interactive Map "Mount William from Mount Dryden" pre-1750 vegetation

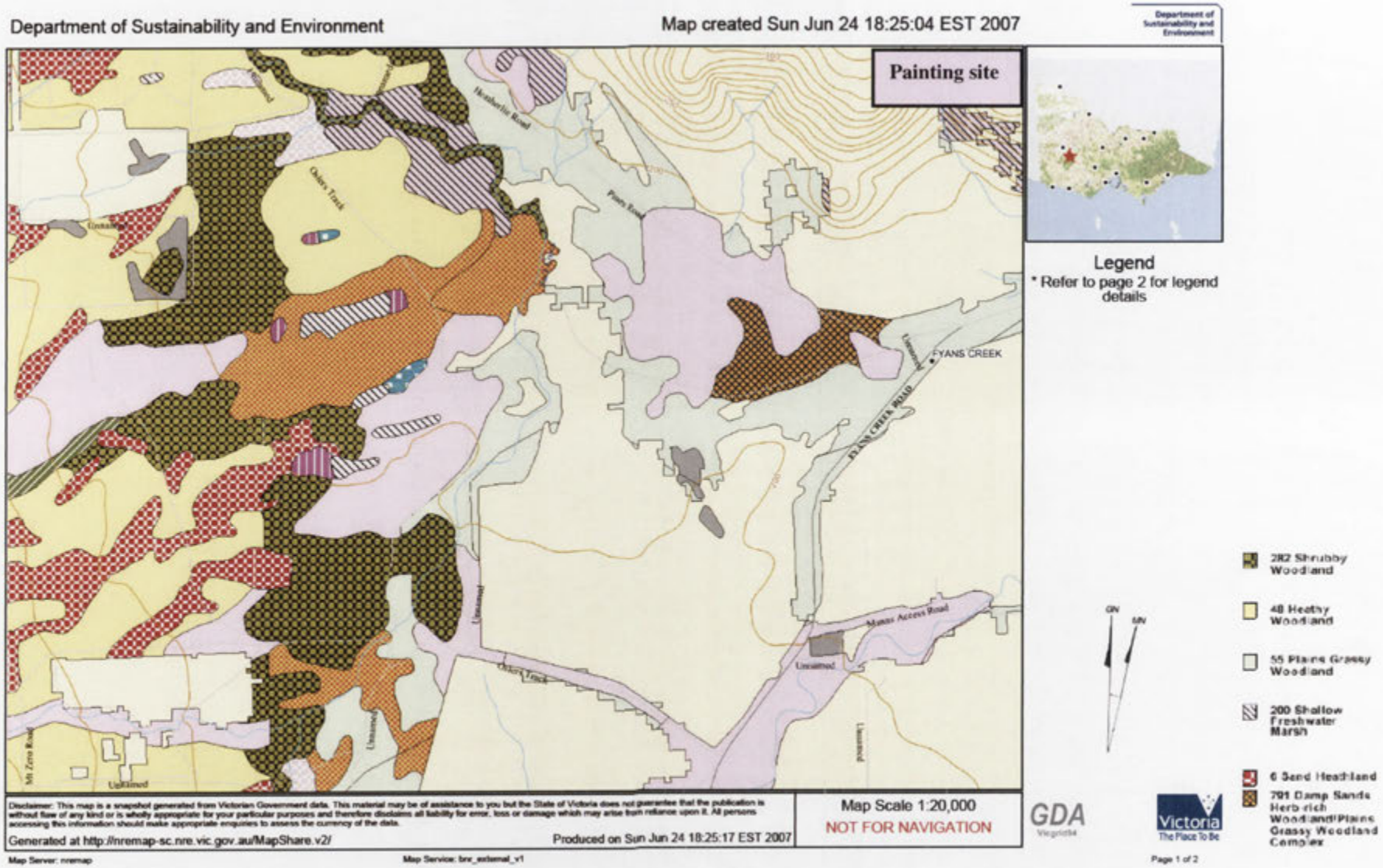

Figure 2.43: Biodiversity Interactive Map "Mount William from Mount Dryden" current native vegetation

Von Guérard's "*Mount Abrupt, near Dunkeld*" is shown as a sketch in Figure 2.44 then as the final painting in Figure 2.45, noting the exaggeration of the mountain itself. The pre-1750 vegetation map (Figure 2.47) compared with current mapping (Figure 2.48) show the original large extent of *EVC 55 Plains Grassy Woodland* (light green) as now cleared (beige colour). While this is apparent in the area immediately around Dunkeld, it is less apparent along Mahoney's Road travelling north, to the west of the township of Dunkeld. Here, the vegetation is still scattered River Red Gums as shown in Figure 2.49, with a density not too dissimilar to that in the sketches. The altered understorey, especially the loss of native grass species and replacement with introduced grasses, is the most likely reason for it being classified as non-native vegetation. EVC mapping suggests that the overstorey is typically composed of Yellow Gum *Eucalyptus leucoxylon* and Yellow Box, and less frequently Grey Box *E. microcarpa* as either a pure stand or co-dominant with the other species. However, the most common species appears to be River Red Gum. This, in conjunction with the number of introduced species, may be the reason for its current classification as non-native vegetation.

Mt Abrupt, Victoria. Pen and pencil. 1856.

Figure 2.44: Eugen von Guérard 1811-1901 "*Mount Abrupt from Dunkeld*" 1856 (From Tipping 1975)

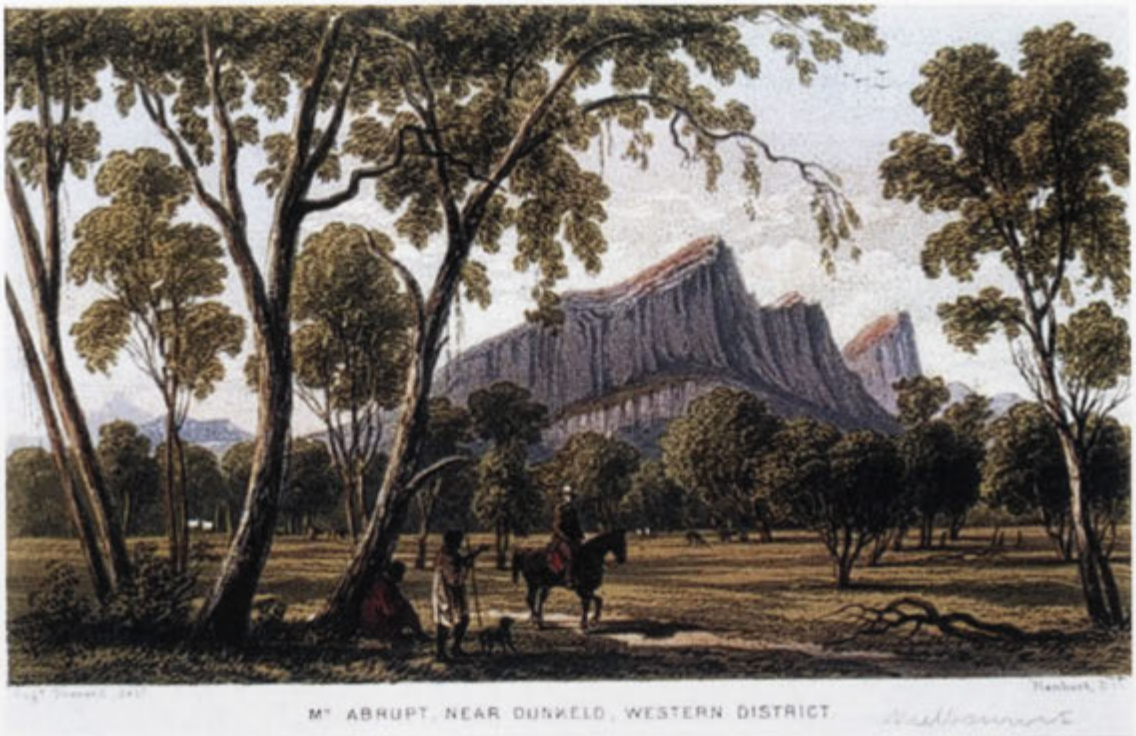

Figure 2.45: Eugen von Guérard 1811-1901 *"Mount Abrupt near Dunkeld"* 1856 Ian Potter Museum of Art, The University of Melbourne

Figure 2.46: Michael F. Ryan "Mount Abrupt near Dunkeld" 2006

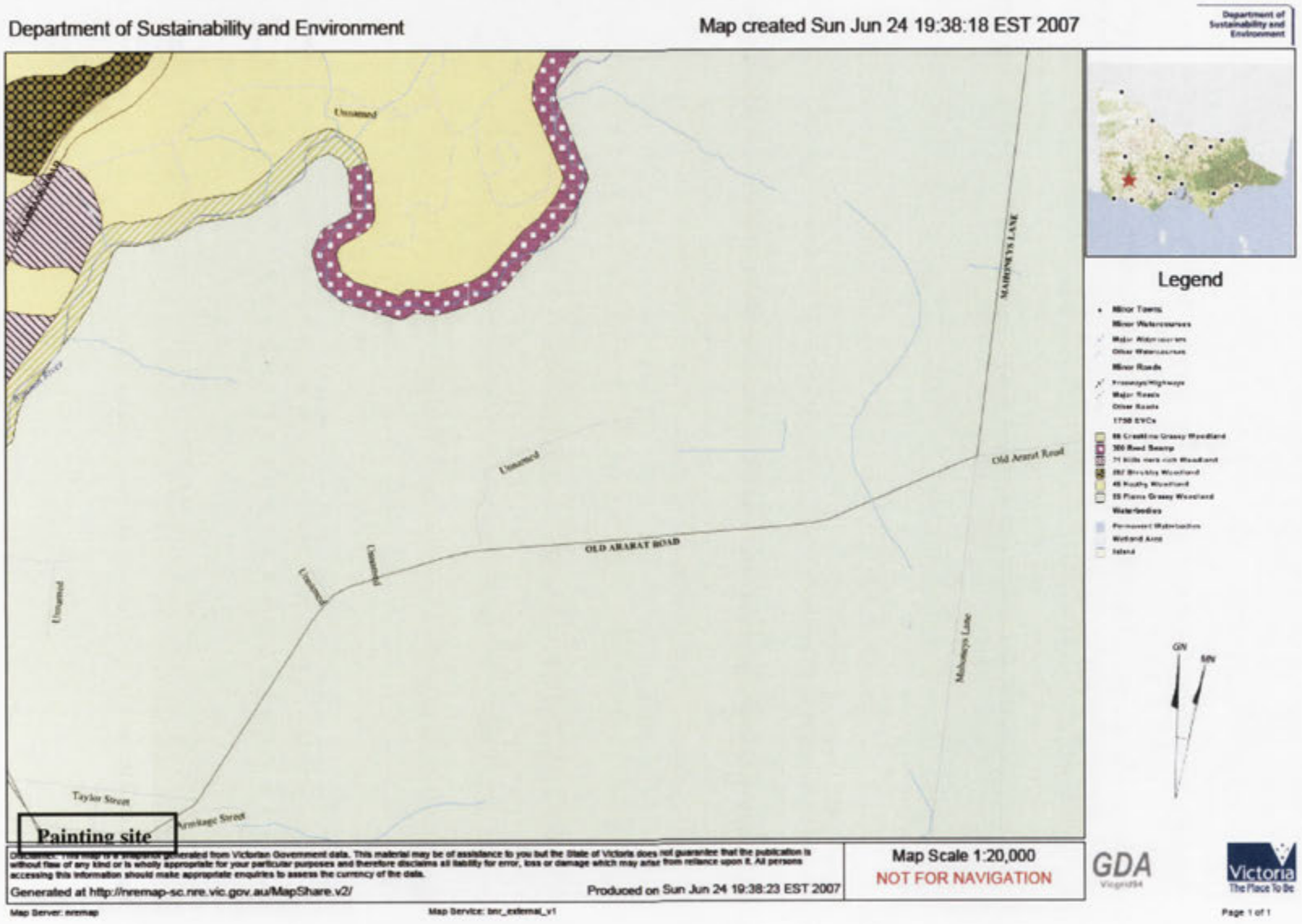

Figure 2.47: Biodiversity Interactive Map "Mount Abrupt from Dunkeld" pre-1750 vegetation

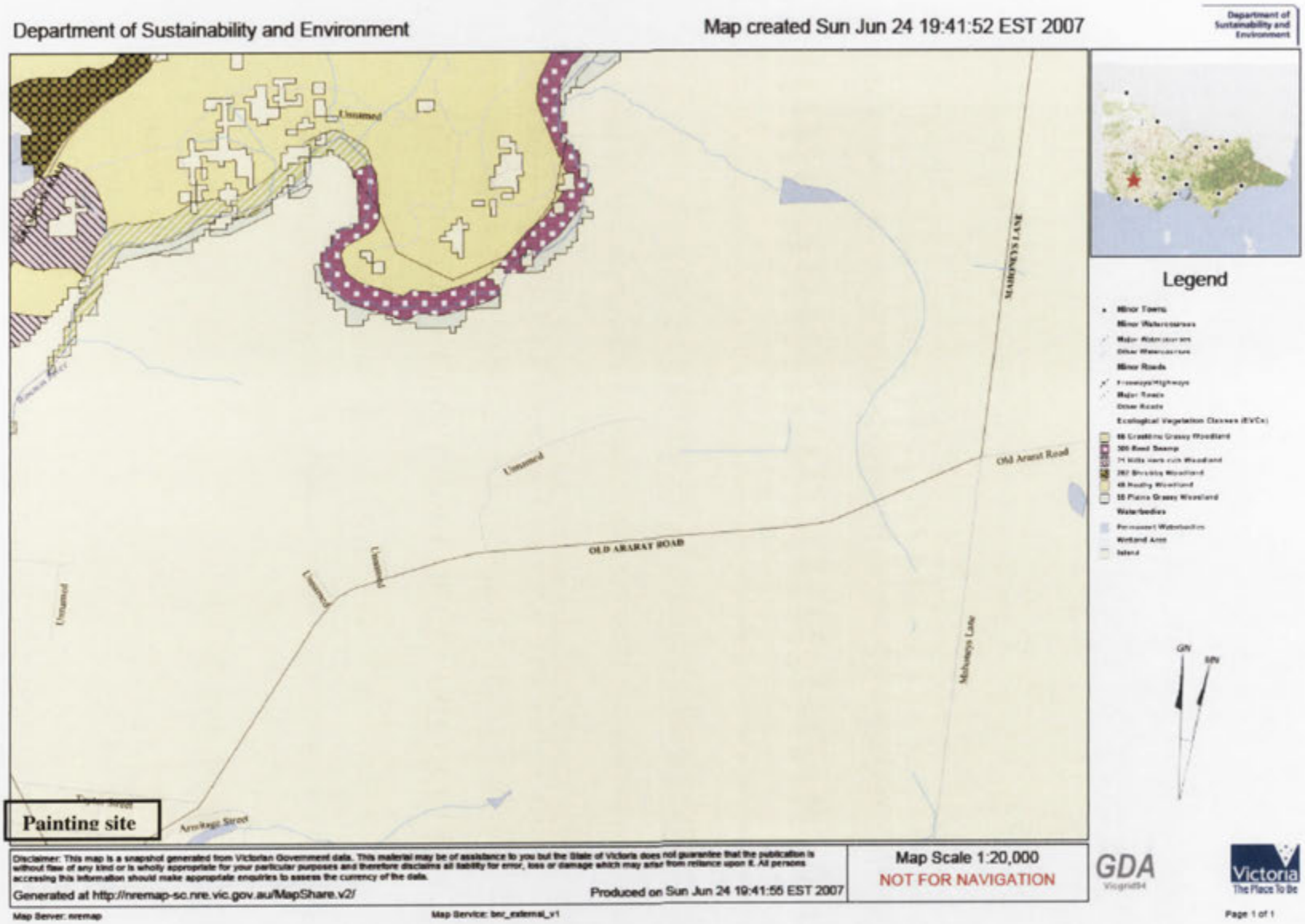

Figure 2.48: Biodiversity Interactive Map "Mount Abrupt from Dunkeld" current native vegetation

Figure 2.49: Michael F. Ryan "Mount Abrupt from Mahoney's Lane" 2006

2.2.3. Dry sclerophyll forests and woodlands

Dry sclerophyll forests and woodlands form an important contrast to wet sclerophyll forests. In dry sclerophyll forest, most mature trees recover from wildfires, compared to wet sclerophyll forest species, such as Mountain and Alpine Ash, which are generally killed by anything more than a low intensity fire (Florence 1996). Both Aboriginal and natural fires would also be far a more common occurrence than in the wetter forests (Ryan *et al* 1995, Pyne 1991). In these forests and woodlands, the influence of Aboriginal burning, native animal grazing, storm events and wildfire are likely to have major impacts on forest structure, as opposed to largely wildfire alone in wetter forests (Pyne 1991, Florence 1996, Hateley 2005).

The Challicum Hills, Western Districts

The Challicum panorama of Duncan Cooper is a fascinating view of the Western District. It was painted in about 1840, right at the start of settlement in the Western District (Brown 1987). It shows open grasslands and woodlands leading into River Red Gum plains, as shown in Figure 2.50. The entire panorama is a 360 degree view and

consists of nine individual watercolours; only two panels are depicted in Figure 2.50. This early depiction shows *EVC 896 Grassy Woodland/Heathy Dry Forest* consisting of Red Stringybark *E. macrorhyncha*, Broad-leaved Peppermint *E. dives*, Red Box *E. polyanthemos* and Manna Gum *E. viminalis,* leading into *EVC 67 Alluvial Terraces Herb Rich Woodland* with Yellow Box, Candlebark, River Red Gum, Red Box and occasional Blue Gum *E. globulus* with grassy understorey and no shrub layer. *EVC 55 Plains Grassy Woodland Mosaic,* dominated by River Red Gum, occurs on the flats. The site of the panorama, being on a rise, lends itself to being described as a grassy woodland but no species are readily identifiable in the paintings.

Figure 2.50: Duncan Cooper 1813-1904 "Challicum Panorama Part - *Mount Cole with Pyrenees in distance*" 1845 National Library of Australia

Figure 2.51: Michael F. Ryan "Site of Challicum Panorama – Mount Langi Ghiran and Mount Cole with Pyrenees" 2006

The two views in Figure 2.50 and Figure 2.51 show the large area of relatively intact River Red Gum plains in the mid-ground to Mount Cole, but the loss or reduction of much of the woodland from the mid-ground to Mount Langi Ghiran. This area is now mapped as almost completely cleared. The River Red Gum plains leading to Mount Cole would perhaps contradict this mapping; their current classification is again likely

to be due to the changed understorey with the introduced grasses more so than the loss of forest cover. Cooper was painting for his own interest and did not consider his art to be of much value, but sought to record his farm and the district (Brown 1987). This makes Cooper's artwork even more relevant, as there was not the commercial incentive for embellishment to make a painting more commercially appealing.

Marysville, Central Highlands

Chevalier provides a beautifully detailed lithograph of the early township of Marysville in 1870 (Figure 2.52). While it has evident clearing, with the settlement of Marysville occurring in the 1860s, it nevertheless shows a number of structural attributes in terms of remaining forest, the size, and the distribution of the trees. The understorey has largely been removed with the exception of the bracken patch in the foreground; however the distribution of the retained Messmate and Narrow-leaved Peppermint is evident. Chevalier shows a 30-40 m tall forest of up to about 1m diameter, which is classed as *EVC 23 Herb Rich Foothill Forest.* As this is a slight north-westerly, and therefore a slightly dryer, aspect, it does not have species such as Manna Gum which is found closer towards the gully and tends towards *EVC 29 Damp Forest.* Mountain Ash occurs just out of Marysville, and the hills on the left-hand side have what appears to be regrowth Mountain Ash; this is mapped as *EVC 30 Wet Forest,* consistent with the observation from the lithograph. The visibility of the tall line of Mountain Ash in the lithograph indicates that some tree removal has occurred in the mid-ground. This is not surprising given the importance of timber for the construction of Marysville and the nearby town of Buxton.

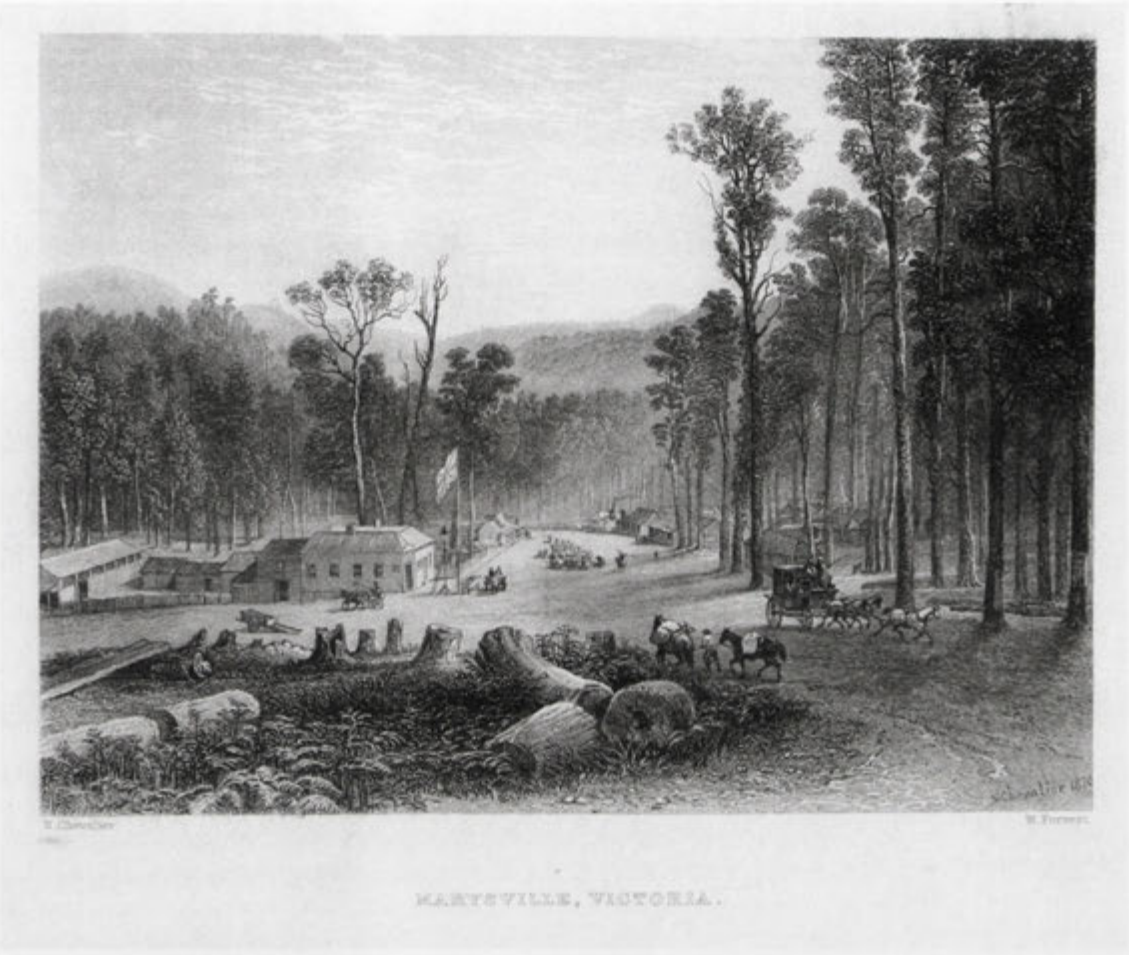

Figure 2.52: Nicholas Chevalier 1828-1902 "*Marysville, Victoria*" 1870 Private Collection

Chevalier also shows the removal of some of the lower bark on the trees on the right-hand side of the lithograph; this is likely to have been a cheap source of house roofs. In the background of the painting is tall, largely even-aged forest, both immediately behind the village and on the distant hills.

The township of Marysville is still surrounded on the drier aspects by a mixture of Narrow-leaved Peppermint, Broad-leaved Peppermint, Messmate and Mountain Grey Gum *Eucalyptus cypellocarpa* that has a history of timber harvesting for the past 140 years. On the wetter aspects, the forest is dominated by Mountain Ash. The catastrophic wildfires of 1939 burnt through this area, and most of the surrounding forest is 1939 regrowth, along with more recent logging regrowth. Important remnant "old growth" occurs on the most protected aspects, with the most classic examples being within Melbourne's closed water catchments. A particularly majestic stand of over-mature Mountain Ash is found at Camberville, which was considered one of the finest examples of this forest type at the beginning of the 20th Century, and was reserved on

this basis (Carder 1995). Prior to the 7th February 2009 wildfire, the stables depicted at the back of the Hotel in Figure 2.52 were still standing, albeit used for cars and not for horses. These devastating wildfires destroyed almost the entire township of Marysville along with killing 34 residents. Most of the surrounding stands of Mountain Ash were subjected to a stand replacement fire although parts of the Camberville stand remain alive.

Volcanic craters, Western Districts

Mount Elephant, next to the small township of Derrinallum, is a prominent landmark and provides a distinct reference point for a number of Western District paintings. Von Guérard's sketch of "*Mt. Elephant from Mr Curran's Station*" (Figure 2.53) is a good example. It demonstrates a grassland foreground, leading into a grassland/woodland mosaic. The pre-settlement forest is mapped as *EVC 203 Stony Rise Woodland.* As there are few remnant examples, the species elements are difficult to confirm. Manna Gum is predicted as the key eucalypt species, with Blackwood as a minor species and Shiny Cassinia *Cassinia longifolia* as a mid storey. The area certainly fits with the "Stony" definition, as it is renowned for its stone walling as shown in the contemporary view in Figure 2.54.

Figure 2.53: Eugen von Guérard 1811-1901 "*Mt. Elephant from Mr Curran's Station*" 1857 Dixson Collection State Library NSW

Figure 2.54: Michael F. Ryan "Mount Elephant from the South" August 2007

Duncan Cooper's "*A Bushfire, Mount Elephant*" (Figure 3.7, Chapter 3), as seen from the north, shows *EVC 897 Plains Grassland/Plains Grassy Woodland Mosaic* with a very low density of woodland trees of between 6-10 metres in height, with up to 50 trees per hectare. This could equally fall into *EVC 55 Plains Grassy Woodland* which was quite common in the area; the distinguishing feature between the two vegetation types is the amount of grassland. The current vegetation is grassland with very little eucalypt, and no *Allocasuarina* or *Acacia* remaining; this is consistent with current mapped vegetation type as cleared land.

Of further interest is the extinct volcano of Mount Elephant dominating the background of these sketches. It is currently almost devoid of native vegetation, with the exception of some very small-scale conservation plantings. The scoria mining on the western face has also left a massive scar, part of which can be seen in Figure 2.54. Following its sale to the Trust for Nature in December 2000, a revegetation plan was developed and is currently being implemented. This management plan includes the native species planting list and proposed planting density (Kendal *et al* 2002).

Its pre-1750 vegetation is mapped as *EVC 894 Scoria Cone Woodland* which corresponds well to the only known view of the crater within the first decade or so of settlement, as shown with von Guérard's sketch of March 1857 (Figure 2.55). This shows identifiable Drooping Sheoak *Allocasuarina verticillata* and very open eucalypt (possibly Manna Gum) and non-eucalypt woodland, with the densities estimated at from

10 to 50 per hectare. This sort of information is useful for revegetation work on a crater in desperate need of ecological restoration, as can be seen by the contemporary view in Figure 2.56.

Figure 2.55: Eugen von Guérard 1811-1901 "*Crater Mount Elephant*" *15 March* 1857 State Library New South Wales

Figure 2.56: Michael F. Ryan "Crater Mount Elephant" August 2007

The Western District volcanoes make a study in themselves, especially with many examples of these sites being so highly modified from their pre-European structure and composition. Mt Elephant, described above, exemplifies this.

Two other fine examples are the twin volcanic crater lakes, Lake Gnotuk and Lake Bullen Merri, near Camperdown (formally known as Timboon). Lake Gnotuk, otherwise known as Basin Banks, was painted by both von Guérard (Figure 2.57) and Chevalier (Figure 2.58). The native vegetation around both of these lakes consisted of *EVC 894 Scoria Cone Woodland* but was almost entirely cleared and only in the past decade have conservation plantings occurred around these lakes. This clearing is demonstrated in the current photographs shown as Figure 2.59 and Figure 2.62 and the vegetation mapping in Figure 2.63 and 2.64.

Figure 2.57: Eugen von Guérard 1811-1901 "*Basin Banks about 20 miles South of Mount Elephant*" 1857 Private Collection

Figure 2.58: Nicholas Chevalier 1828-1902 "*The Basin Bank, Victoria*" 1870 Private Collection

Figure 2.59: Michael F. Ryan "The Basin Bank or Lake Gnotuk near Camperdown, Victoria" 2006

Figure 2.60: Eugen von Guérard 1811-1901 "*View of Lake Bullen Merri*" 1858 Private collection

Figure 2.61: Eugen von Guérard 1811-1901 "*Sketch of Lake Bullen Merri*" 1858 State Library New South Wales

Figure 2.62: Michael F. Ryan "Lake Bullen Merri" 2007

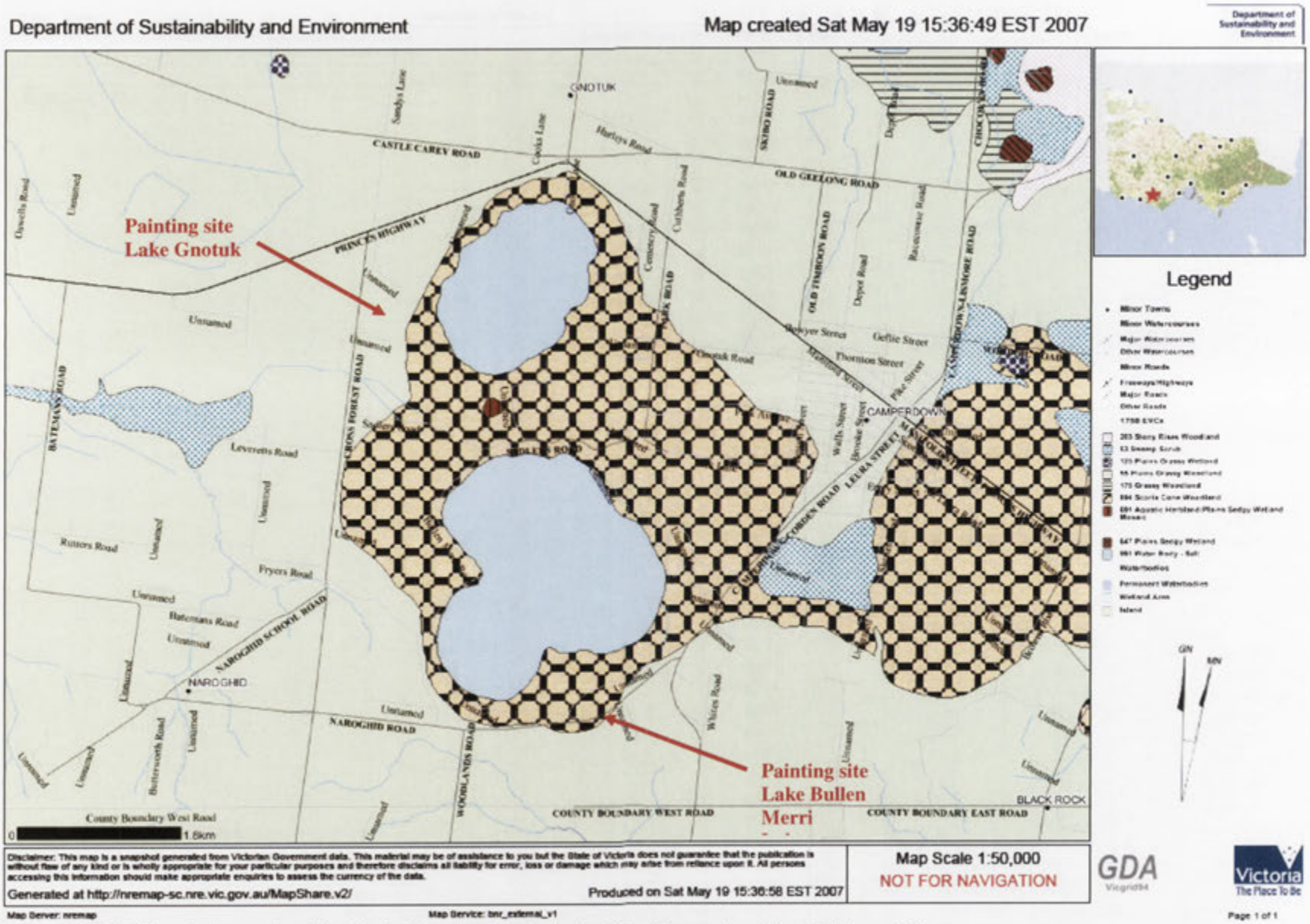

Figure 2.63: Biodiversity Interactive Map "Lake Gnotuk and Lake Bullen Merri Camperdown" pre-1750 vegetation

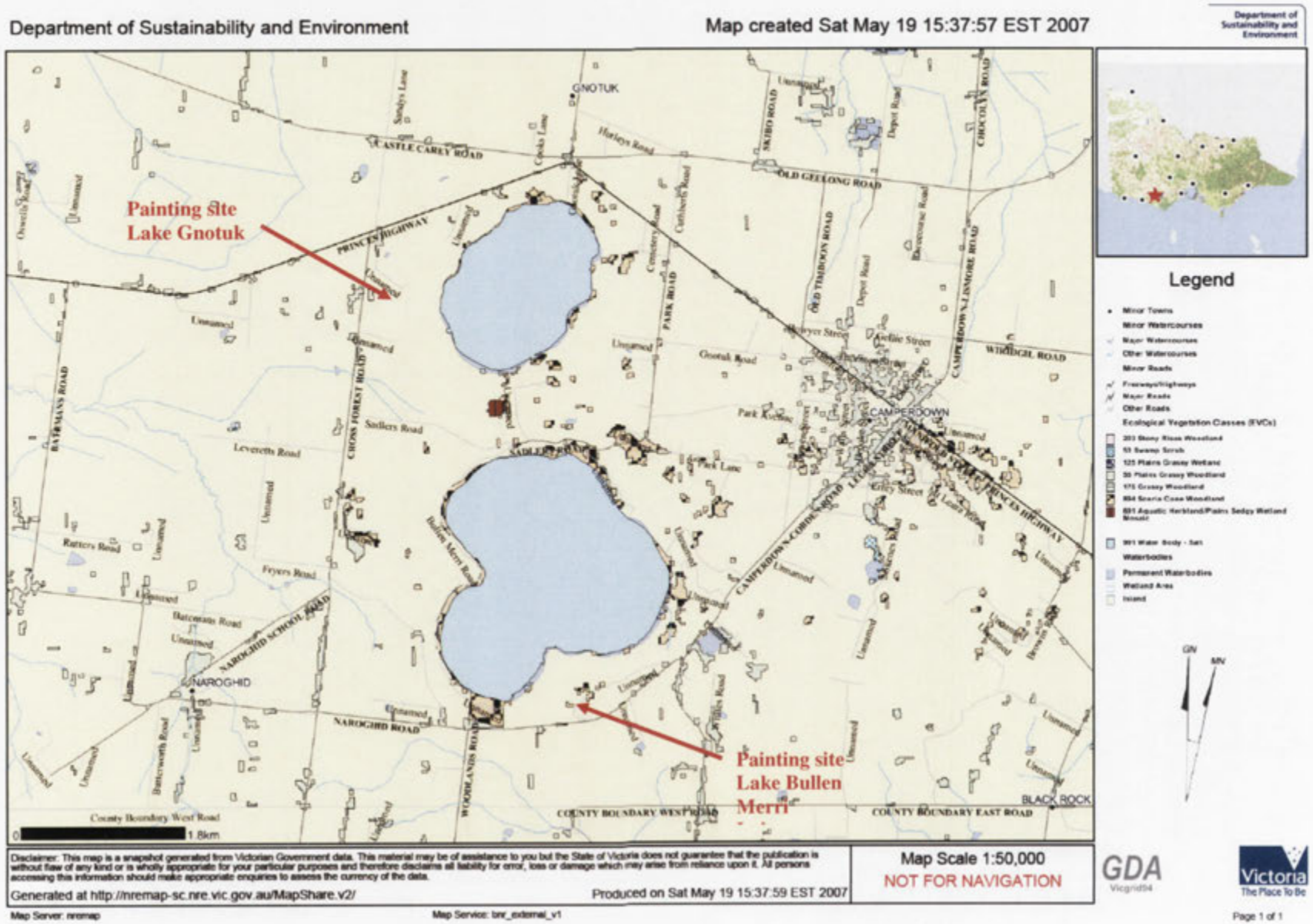

Figure 2.64: Biodiversity Interactive Map "Lake Gnotuk and Lake Bullen Merri Camperdown" current native vegetation

One of the most important works of von Guérard, from a conservation restoration viewpoint, was his 1855 painting of Tower Hill crater, otherwise known as "*View of Moroit or Tower Hill*" (Figure 2.65). This painting is of sufficient detail to identify specific genera such as *Xanthorrhea*, *Allocasuarina*, *Eucalyptus* and *Acacia* and guide in the revegetation work of Tower Hill. Vegetation change following settlement was rapid, with the first of a series of changes beginning with damming of the crater in 1857 and clearing during the late 1800s and early 1900s (Parks Victoria 2005). The water was drained in the 1920s and any remaining trees removed to make way for grazing (Jones *et al* 1998).

Figure 2.65: Eugen von Guérard 1811-1901 *"View of Moroit or Tower Hill"* 1855 State Library of New South Wales

Figure 2.66: Michael F. Ryan "View of Moroit or Tower Hill" 2006

The vegetation was classed as *EVC 644 Cinder Cone Woodland.* The revegetated view in Figure 2.66 is now mapped again as *Cinder Cone Woodland* although with none of the *EVC 55 Plains Grassy Woodland* remaining in the surrounding farmland (Department of Sustainability and Environment 2007a). This vegetation type is poorly understood as it is considered almost extinct; the best surviving remnant lacks tree cover (Commonwealth and Victorian Regional Forest Agreement Steering Committee 1999). The lack of current examples increases the value of early records and visual examples.

Sailor's Falls, Daylesford

The sketch *"Sailor's Falls"* (Figure 2.67) is from Eugen von Guérard's sketchbook from 30 April 1864. The falls are within the Wombat State Forest and located 10 km south of the town of Daylesford. By the time this was sketched, there had already been 10-15 years of settlement within the area and the associated pressure from requirements for timber for mining, housing, fencing and firewood. This is evidenced with the hut in the upper centre of the sketch and what appear to be tree stumps and some fallen timber on the right-hand slope of the sketch. The sketch itself identifies a 30-40m tall open eucalypt forest with two main components: the flats above the falls, and the gorge itself. The flats consist of dense, relatively uniform size, Messmate and scattered Manna Gum; the latter is identifiable by its distinctive bark. There is an open understorey that forms the widespread *EVC 23 Herb Rich Foothill Forest* that makes up much of the Wombat Forest. The gorge itself also has Messmate and Manna Gum along with a denser understorey of what is evidently *Acacia melanoxylon* and some unidentified shrubs; field inspection suggested these were likely to be Musk Daisy Bush *Olearia argophylla.* This gorge is classified as *EVC 164 Creekline Herb-Rich Woodland.*

Figure 2.67: Eugen von Guérard 1811-1901 "*Sailor's Creek Falls*" 1864 State Library of New South Wales

Figure 2.68: Michael F. Ryan "Sailor's Creek Falls" 2007

Within the gorge itself, the scene today is quite similar to that sketched in 1864, including the slopes on the right-hand side. The flats immediately above the gorge are largely cleared paddocks, with scattered Manna Gum. Leading into the Wombat Forest, both behind where the scene was sketched and surrounding the paddocks, is a combination of *EVC 23 Herb Rich Foothill forest* and *EVC 22 Grassy Dry Forest.*

Warrenheip Hills, Ballarat

This von Guérard painting of "*Warrenheip Hills, near Ballarat*" (Figure 2.69) is a good example of *EVC 22 Grassy Dry Forest,* with the low and spreading form indicative of Long-leaved Box *Eucalyptus goniocalyx*, Red Stringybark *E. macrorhyncha,* and Manna Gum being particularly apparent. Messmate is supposed to be present in this forest type, but this painting does not have the appearance of having Messmate as a component, especially in comparison to more typical messmate forest in the Sailor's Falls sketch of Figure 2.67. Mount Warrenheip is shown as predominately cleared, with just scattered eucalypts; this is contrary to both current and pre-1750 mapping, where it is shown to be Messmate dominated *EVC 23 Herb Rich Foothill Forest.* This is either artistic licence, as the final painting was completed after von Guérard left the area, or the trees could have been cleared to meet the high level of demand for timber for mining purposes. The nearby Mount Buninyong was heavily wooded but open to the Western Plains (Aussie Heritage 2007). It is helpful in this context to view the S. T. Gill painting in Chapter 1, Figure 1.12 "*Ballaarat from Mount Buninyong*", which shows an open woodland looking north-west towards Ballarat, supporting the proposition that its western aspects were more open woodland.

As Mount Warrenheip is of the same volcanic cone origins as Mount Buninyong, it is likely to have similar vegetation cover, suggesting it may be been heavily wooded other than on its western aspects. The origins of the Aboriginal naming "Warrengeep", meaning "trees on mountain top" or "emu feathers on top", certainly seem to confirm it being forested (Countrytowns Productions Pty Ltd 2000). Figure 2.69 "*Warrenheip Hills, near Ballarat*" is a composite of two sketches, the foreground with the forest and creek, and then Mount Warrenheip in the background as a second sketch. Perhaps it is artistic licence or lack of recollection of the site that depicts it as cleared of trees? It may also be that the more usable Messmate from the slopes was harvested for mining

requirements, or that both factors play a part in von Guérard's depiction. Without an original sketch of Mount Warrenheip or further supporting information, it can only be concluded that this picture is not a reliable painting of the pre-European vegetation.

Figure 2.69: Eugen von Guérard 1811-1901 "*Warrenheip Hills, near Ballarat*" 1854 National Gallery of Victoria

Ironbark Forests, Bendigo

The Red Ironbark *Eucalyptus tricarpa* forests are some of the most distinctive forests in Victoria, with their rough, deeply fissured bark, bluish foliage, and the large wine glass or barrel shaped fruit. Ironbark has been depicted frequently around the major goldmining district of Bendigo, especially by Samuel T. Gill. Two good examples which show these grassy Ironbark forests are "*Iron Bark Gully Bendigo*" (Figure 2.70) and "*Road through the Black Forest*" (Figure 2.71).

Gill was painting the people and events more so than landscapes, so his depictions of the forest are context for his portraits and human landscapes. For this reason, it is difficult to be sure as to his accuracy in recording the forested landscape, but nevertheless they do still show some forest attributes. Figures 2.70 and 2.71 depict 15-20m tall Ironbark forest with grassy understorey but with substantial disturbance. Figure 2.70 is classed as *EVC 61 Box Ironbark Forest*, the trees distinguishable by their deeply fissured bark. Yellow Gum *E. leucoxylon* is also a common species in these forests, but

it is not identifiable in Figure 2.70. However, in Figure 2.71 "*Road through the Black Forest*", the trees do not appear to have the deep fissures; in combination with their grey white bark, they may well be Yellow Gum.

Figure 2.70: S. T. Gill 1818-1880 "*Iron Bark Gully Bendigo*" 1852 State Library of New South Wales

Figure 2.71: S. T. Gill 1818-1880 "*Road through the Black Forest*" 1852 State Library of New South Wales

Some other depictions are less reliable; two particular examples are Frederick Grosse's *"Remarkable Remains of Trees, near Bendigo"* (Figure 2.72), based on a Ludwig Becker Sketch) and the later watercolour by William Strutt *"Children at night watching a Corroboree"* (Figure 2.73). Strutt has clearly used the early Ludwig Becker sketch or Grosse's engraving as a basis for his Corroboree, albeit re-arranging the composition and positioning of the trees. The religious allusions are clear in both the Strutt painting and Grosse engraving, with the Bishop, the Monk, the shrouded Jesus and the Wraith-like creature. The addition of the Aboriginal figures in Grosse's engraving and Strutt's Corroboree (shown indistinctly in the lower left background) add intrigue, but do nothing for adding confidence as to their realism. It is only the Grosse engraving, with the mullock heaps and miners' pits, which seems to bear any resemblance to reality: the depictions of the trees are more than somewhat questionable.

These two pieces highlight the importance of identifying supporting evidence as to the accuracy of paintings. This can be through comparison of the topography, identifying particular tree and understorey species, or identifying other landmarks when comparing with the original artwork to give confidence as to the reliability of the depiction of the forest. As described in Chapter 1, the artists' rationale for painting also provides an indication of how they depict forests. Both Gill and Strutt were painting environmental portraits and not necessarily accurate depictions of the forest.

Figure 2.72: Frederick Grosse 1828-1898 "*Notabilities of Bendigo*" 1857. From a sketch by Ludwig Becker.

Figure 2.73: William Strutt 1825-1915. "*Children at night watching a Corroboree*" 1876

2.3.Interpreting the pre-European landscape

As discussed in the introductory section of this Chapter, assessment of the relevance of any piece of artwork in vegetation classification depends on the accuracy in which vegetation has been recorded, the time since settlement, and the evidence of disturbance from clearing or grazing. The aesthetics, lighting, colour, commercial appeal or an artist's ability to paint a tree are not relevant factors. How the artist depicted structural attributes of the forested landscape, and whether these depictions can be used to classify forests into Ecological Vegetation Classes, is the central issue for this study. The evidence from the work assessed is that, for most of the early colonial artists' landscape work, there are elements that can be used to allow identification of pre-European vegetation classes and forest and woodland structure. Some of the important elements that can be identified include tree and understorey density, and in many cases specific overstorey and understorey species.

There is only a very limited body of artwork in Victoria that can categorically be identified as having been painted before settlement and, therefore represents the pre-European vegetation structure. Nevertheless, there is a considerable body of work - painted early in settlement, or away from the impact of settlement - that can guide our understanding of the pre-European forest and woodland nature and structure. Major Mitchell's works are certainly pre-European settlement, but there are those who painted very close to the time of initial settlement - Robert Hoddle, Duncan Cooper, Simpkinson De Wesselow and John Skinner Prout.

Von Guérard is particularly useful, as he tried to paint many landscapes in their natural state. His attention to detail was such that his views have been useful for revegetation works at Tower Hill and are now being used to guide the revegetation at Mount Elephant (Kendal *et al* 2002). Duncan Cooper, as an amateur artist, painted around the Ararat area, especially around his farm at Challicum in the early 1840s. He leaves a detailed record of the forests and woodlands of the Western District plains and foothills around Mount Cole and surrounds (Brown 1987).

The artists' work should not be considered as equivalent to a photographic reproduction, as artists did re-arrange landscapes for compositional effect. For instance, von Guérard re-arranged foregrounds to provide better composition in his *Warrenheip Hills near*

Ballarat painting (Figure 2.68). Bonyhady (2000) describes how some artists would make use of clearings made by timber cutters, or made clearings themselves, in order to improve the view for their sketches and paintings. This does not necessarily detract from the ability to interpret the forest structure, as these clearings would be in the foreground, not in the mid or background. Some however, need careful scrutiny to see if they bear any resemblance to reality; for example, Strutt, who used the earlier Becker work for his corroboree (Figure 2.73), seems to have fabricated this particular forested landscape.

This chapter is not a comprehensive review of the artwork available at the time of the early settlement of Victoria; it can only aim to provide a glimpse of some of the relevant early works. There remain some questions relating to how much post-settlement change had occurred when some of these paintings were completed. Nevertheless, there is sufficient detail in many of the works for broad vegetation type identification, and for this to be a useful guide to the nature and structure of pre-European forest and woodland in Victoria. As noted previously, similar interpretations are likely to be possible for artworks depicting other regions in South-Eastern Australia, and more widely.

3. The depiction of fire in South-Eastern Australian Colonial Art

Chapter 1 explored the early colonial artists and the relevance of their art for its depiction of the pre-European forested landscape. Chapter 2 has explored how this artwork is used in identifying forest structural attributes and the usefulness for pre-1750 Ecological Vegetation Class mapping. This Chapter specifically looks at one of the most important disturbance processes in the South-Eastern Australian forested landscapes - fire.

The clearing of forests and woodlands for farming, along with harvesting of trees for the multitude of products required for the early colonial society, substantially altered the forests post-settlement. One other factor changing these forests was the altered fire regimes. This was associated with both the change in Aboriginal landscape burning practices, as a consequence of diminished Aboriginal populations and their loss of sovereignty, and the introduction of a new regime of fire and land management by the settlers. It is the broad-scale use and occurrence of fire that has some of the most significant impacts on the nature and structure of the pre-European forests of South-Eastern Australia (Flannery 1994, Pyne 1991). Even post-settlement, fire is still one of the most dramatic landscape-altering processes to impact on these forests. Both the presence of fire, and its absence, will affect the nature and structure of forests and woodlands. For this reason an assessment is warranted of how fire, under both indigenous and non-indigenous management, has been depicted in colonial artwork.

3.1. The first depictions of fire

Fire is infrequently shown in early colonial artwork. Likewise, the depiction of the direct effect of fire, in terms of blackened trees and forested scenes is rarely shown. In a few instances, epicormic growth is evident, but the one feature that is frequently shown is that of the burnt-out trunks of older trees.

One of the first depictions of fire in the Australian landscape was from Nicholas Baudin's 1802 coastal mapping expedition, by the artist Charles-Alexandre Lesueur (1778-1846), shown in Figure 3.1 *"Terre de Diemen"* and in Figure 3.2 *"Nouvelle Hollande: Terre Napoleon"*. These two coastline depictions show what appear to be smoke columns from signalling fires as the ships move down the coast. A sighting of

tall ships like this by the native population must have instilled all sorts of reactions, and the use of fire would have been a way of signalling to adjacent tribes. Pyne (1991) discusses the use of signalling fires observed during the naval explorations by the Dutch explorer Hooker DeNyptang in 1697, by Captain James Cook while charting the coast in 1770, and by the French explorer François Peron in 1802. As late as 1882, Eugen von Guérard sketched fires on the coast of Western Australia (Figure 3.4), although whether these were for signalling or just scrub burning is not clear.

Figure 3.1: Charles-Alexandre Lesueur 1778- 1846 "*Terre de Diemen*" 1802 State Library of Tasmania

Figure 3.2: Charles-Alexandre Lesueur 1778- 1846 "*Nouvelle-Hollande: Terre Napoleon*" 1802. State Library of Tasmania

William Westall paints a similar picture in Figure 3.3 *"Views on the East Coast, 1802"*, from Matthew Flinders' 1802 expedition *"A Voyage to Terra Australis"*, with what also appears to be a distinctive signal fire.

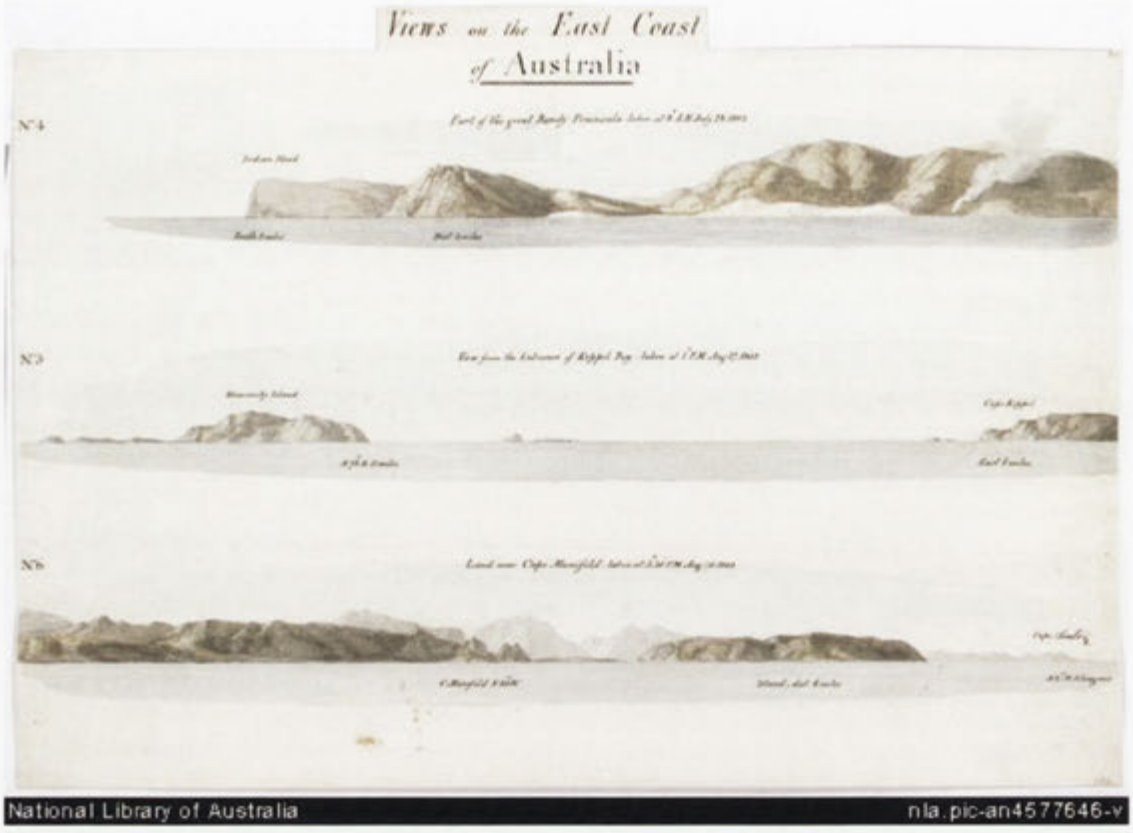

Figure 3.3: William Westall 1781-1850 "*Views on the East Coast, 1802*" 1802

Figure 3.4: Eugen von Guérard 1811-1901 "*Bushfire, Coast Western Australia*" 1882 Dixson Gallery State Library NSW

The first direct painting of fire in the Australian landscape is Joseph Lycett's "*Aborigines Using Fire to Hunt Kangaroos*" shown in Figure 3.5. This painting is an informative study, in that the fires depicted in artwork are of the use of fire to flush out kangaroos from dense gully vegetation into open grassland to facilitate hunting. It is shown as a highly coordinated effort with 20 Aborigines who, having lit two fires in

gully vegetation, are hunting the emerging kangaroos with both spears and boomerangs. Flannery (1994) describes the Aboriginal use of fire as a weapon against Europeans, and against other Aborigines, in addition to its use for facilitating hunting. Ryan *et al* (1995) described fire being used to clear undergrowth to create conditions suitable for hunting. Gammage (2002) also describes the Aboriginal use of fire around the Canberra region, including varying the burn frequency according to the specific management and hunting requirements. This allowed the shaping of the landscape to have open forest, plains, belts and copses, as shelter and for seed-stock.

Figure 3.5: Joseph Lycett 1774-1827 "*Aborigines Using Fire to Hunt Kangaroos*" 1817. National Library of Australia

Lycett's painting is from New South Wales, from either the Sydney or Newcastle region, and appeared in the book "*Views in Australia or New South Wales and Van Diemen's Land*". Lycett appears to have sought to accurately record the customs and land use of the Aboriginal people, so this event may have been viewed firsthand. This is in contrast to some of his other landscapes, which were from others' work (Hoorn 1990).

Figure 3.6 shows Thomas Wingate's "*Bushfire Pott's Point 1840*" painted sometime between 1854 and 1860, which gives the location as Potts Point, Sydney and year of the event, although no specific date for the painting (National Library of Australia 2007b).

Figure 3.6: Thomas W. Wingate 1807-1869 "*Bushfire Potts Point 1840*" Painted between 1854 and 1860

It is not until 1845, with a picture by Duncan Cooper in Figure 3.7, that another depiction of fire is shown in South-Eastern Australia. This sketch depicts an intense grass and woodland fire in Western Victoria near Mount Elephant. It shows quite strong winds within the fire area, although the artist has not depicted the same winds in the tree on the left-hand side that one would expect to be similarly affected. The relative realism within his depiction of fire indicates the artist may well have been there, but that this was a pastoralist's burn, not a wildfire. It has the appearance of the fire origin being at the lower right-hand corner of this painting scene, with the road being used as the fire break. Frequent burning in this grassland environment would promote new growth for grazing and restrict excessive eucalypt and other woody regrowth development (Ryan *et al* 1995, Flannery 1994, Jurskis 2000, Jurskis 2002).

Figure 3.7: Duncan Cooper 1813-1904 "*A Bushfire, Mount Elephant, Victoria*" 1845

Plate 54

WHALING STATION, WINE GLASS BAY FREYCENET'S PENINSULA V.D.L.
Jan' 46 [79]

The station was located at the southern end of Wine Glass Bay, Freycinet Peninsula. The Hazards are in the background. The tripod and stage were used when "cutting-in", part of the process of removing the blubber from the whale.

Figure 3.8: Francis Guillemard Simpkinson De Wesselow 1819-1906 "*Whaling Station, Wine Glass Bay Freycinet's Peninsula V.D.L Jan '46*" 1846 State Library of Tasmania

Simpkinson De Wesselow shows the still smouldering impacts of a wildfire in the background of his watercolour "*Whaling Station, Wine Glass Bay on the Freycinet Peninsula*" (Figure 3.8). A notable feature of his work is that he shows fires in the background of a number of scenes in his paintings. He was not producing images for sale, so these details, which are present in at least three of his Tasmanian and one of his Victorian paintings, are useful observations. Simpkinson De Wesselow painted predominantly in Tasmania, but he did make a trip to Victoria in 1847 and painted around Geelong with his friend John Skinner Prout (Angus 1984). This can be seen in the identical scenes painted from the Barrabool Hills in January 1847 in Figure 3.9 and Figure 3.10. Both of these clearly show the smoke plumes of what appear to be grass fires or windrow burning near the horizon.

The dates of both of these reveal additional details. The Tasmanian example is January 1846, at least 15 years after the Tasmanian Aboriginal population had been practically eliminated (Blainey 1980), so the fire is most likely of European origins. The Victorian example is from January 1847 on the open plains towards Geelong, which was 11 years after settlement; these would have had substantial agricultural activity, and so the fires are again considered of European origins.

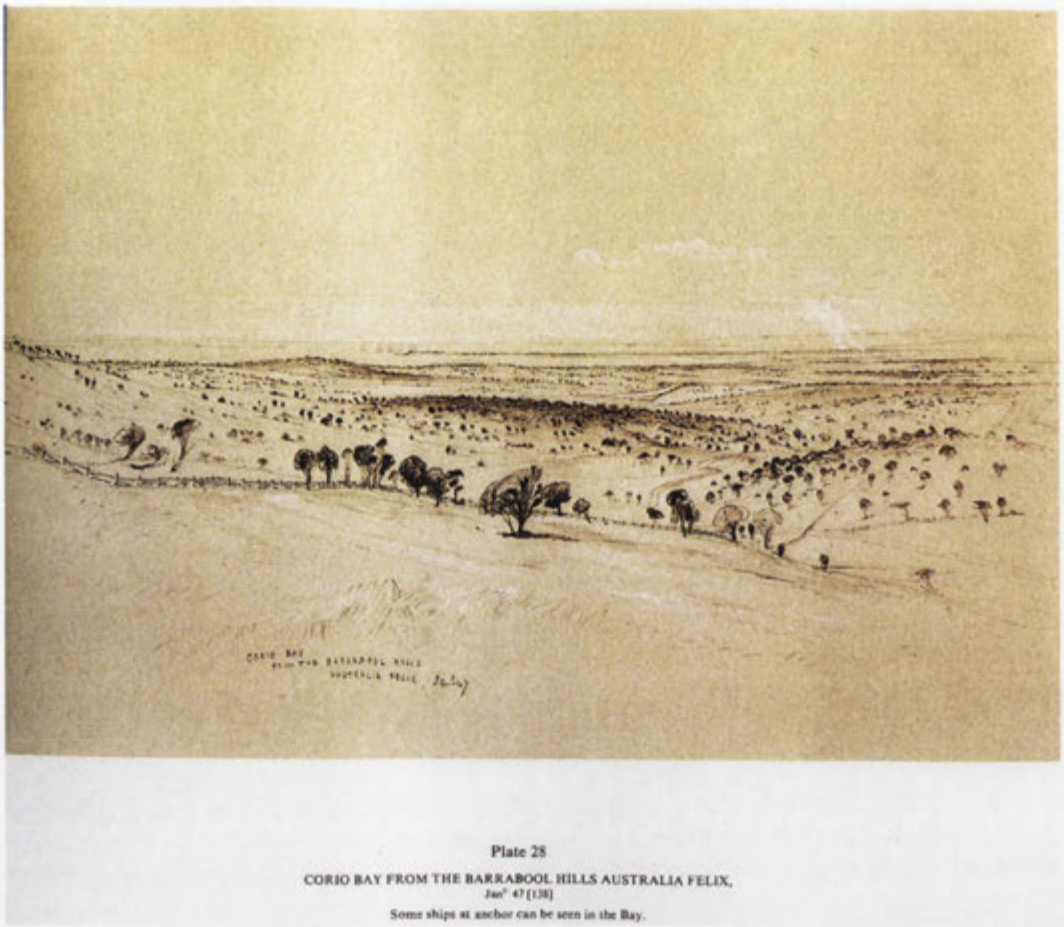

Plate 28

CORIO BAY FROM THE BARRABOOL HILLS AUSTRALIA FELIX,
Jan^{y} 47 [138]

Some ships at anchor can be seen in the Bay.

Figure 3.9: Francis Guillemard Simpkinson De Wesselow 1819-1906 "*Corio Bay from the Barabool Hills, Australia Felix Jan '47*" 1847 State Library of Tasmania

Figure 3.10: John Skinner Prout 1805-1876 "*Corio Bay from the Barabool Hills, Australia Felix Jan '47*" 1847

The 1851 Victorian bushfires are depicted in three known paintings. The first is in the *Illustrated Australian News*, by Curtis James Waltham, of an unknown location, in Figure 3.11. It is however, the two grand paintings of the renowned artist William Strutt, that most commemorate this fire. Whilst difficult to see the specific detail in the small reproductions, William Strutt's "*Race for life, Black Thursday February 6th 1851*" (Figure 3.12), with the clearly depicted lightning, and "*Black Thursday February 6th 1851*" (Figure 3.13), show the 6th of February 1851 fires in dramatisations painted 12 years after the event. The Black Thursday fires were Victoria's most significant fires in the 1800s, where an estimated quarter of Victoria burned and 10 settlers died (Pyne 1998). It is therefore not surprising that they are commemorated by some significant pieces of artwork.

Figure 3.11: Curtis James Waltham 1839-1901 Engraver F. A. Sleap "*Black Thursday, February 1851*" from Illustrated Newspaper File. Illustrated Australian News

Figure 3.12: William Strutt 1825-1915 "*Race for life, Black Thursday February 6th 1851*" painted 1863, Ian Potter Museum, The University of Melbourne

Figure 3.13: William Strutt 1825-1915 "*Black Thursday February 6th 1851*" 1863 State Library of Victoria

Strutt also produced "*Bushfire at Moorabbin*" (Figure 3.14) in 1854, which depicts fire in open woodland in a rough coloured sketch, showing lightning to be the likely cause. While 1854 is not recorded as being a significant fire year, fire is also painted by M. Minter in "*A Bushfire to the north of Mount Moriac*" (Figure 3.15). Von Guérard sketched two other significant fires with "*Bushfire between Mt. Hesp and Gellibrand*" (Figure 3.16) and the "*Grassfires near Mr Wares Station*" (Figure 3.17), both from 1854 and were included in his sketch books of this period.

While 1854 may not have been a significant fire year, Davies (1997) reported contemporary statistics for the period 1976/77 to 1995/96, indicating that between 250 to 900 fires occur annually in Victoria. These burnt between 200,000 to 800,000 hectares each year, demonstrating that even in an "insignificant" year fire is, and was, a common summer occurrence. For new settlers from Europe, this must have been a dramatic and frightening experience.

One could also speculate on the extent to which the 1851 fires, 16 years post-settlement, reflected largely natural circumstances, such as drought coinciding with widespread lightning storms, and the extent to which the severity of the fires was exacerbated by the change in indigenous burning practices as Aboriginal people were displaced from Central Victoria during the 1840s. While the former is likely to have been the dominant factor, the latter may also have played a role.

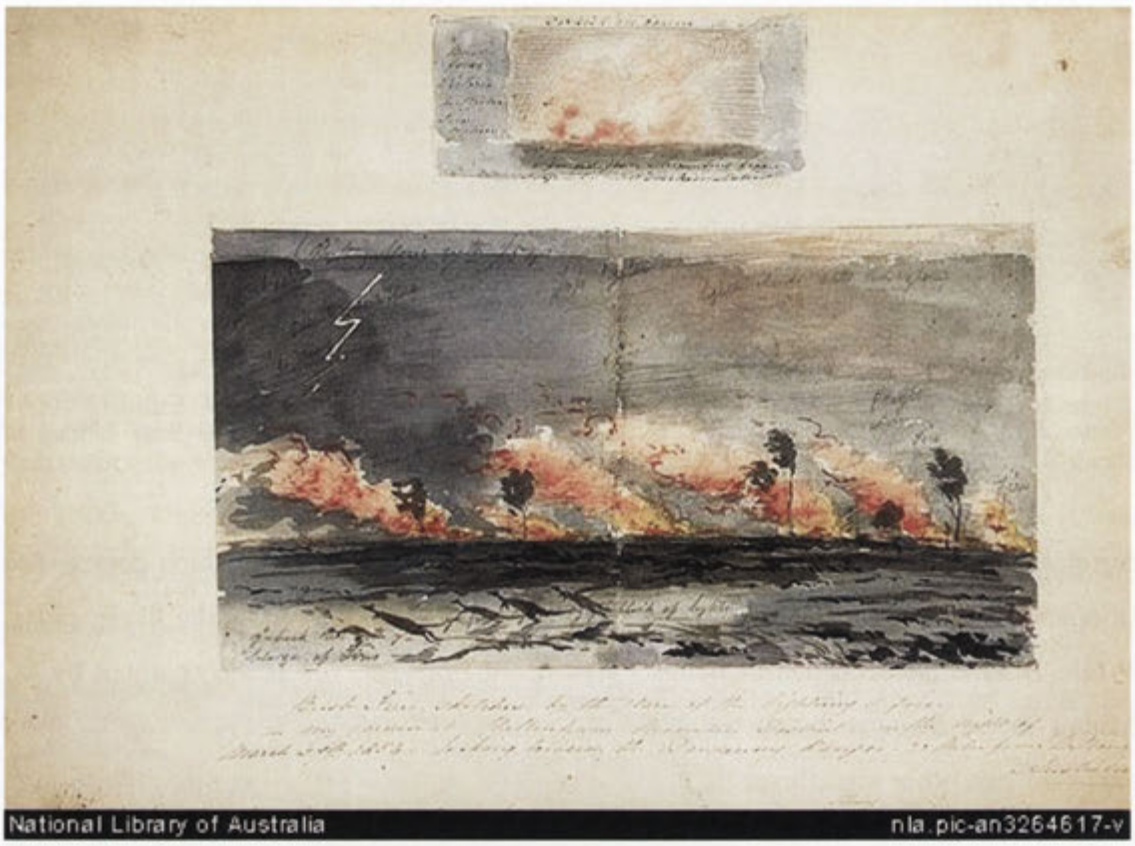

Figure 3.14: William Strutt 1825-1915 "*Bushfire at Moorabbin*" 1854

Figure 3.15: M. Minter 1813-1904 "*A Bushfire to the north of Mount Moriac and to right extending in one unbroken line for 36 miles*" 1854 State Library of Victoria

Figure 3.16: Eugen von Guérard 1811-1901 "*Bushfire between Mt. Hesp and Gellibrand*" 1854 State Library of New South Wales

Figure 3.17: Eugen von Guérard 1811-1901 "*Grassfires near Mr Wares Station*" 1854 State Library of New South Wales

Just three years later, in 1857, Eugen von Guérard' painted "*Bushfire between Mount Elephant and Timboon*" (Figure 3.18). This is a high intensity fire on a wide front

painted at night. The detail is lacking in any reproductions of this painting, and it is only in seeing the original at the Ballarat Gallery that one can appreciate the foreground detail, with the horsemen galloping through the grassy woodland. His coloured sketch in Figure 3.20 shows the foreground more clearly, but without the same drama of the final painting. The intensity and flame height of the fire leads to the assumption that it is a high intensity fire in valley forest. The faithful reproduction of the colours depicted in the painting is also noteworthy. It is in seeing a contemporary example, such as Figure 3.19 by Glenn Rudolf, a Department of Sustainability and Environment fire fighter, taken in the Little Desert in Western Victoria in 2005, that one can appreciate the realism of the colours, the smoke columns and the flames depicted.

Figure 3.18: Eugen von Guérard 1811-1901 "*Bushfire between Mount Elephant and Timboon, March 1857*" 1857 Ballarat Art Gallery

Figure 3.19: Glenn Rudolf "Backburn: Mallen Little Desert, Western Victoria" 2005 (note this picture is reversed)

Figure 3.20: Eugen von Guérard 1811-1901 "*Bushfire between Mount Elephant and Timboon March 1857*" 1857 State Library New South Wales

There are a number of dramatic engravings from the *Illustrated Australian News,* especially the "*Bushfires in the Heytesbury and Otway Forests*" (Figure 3.21) from

February 10th 1886, which show both the occurrence and the aftermath of intense crown fires. Other pictures from the *Illustrated Australian News* - "*Disastrous Bushfire in the Strathbogie Ranges*" (Figure 3.22) in 1882, and the Mount Macedon fires in Figure 3.23 and Figure 3.24 from February 1875 - give information regarding the intensity, but not the cause of the fires. A picture in a similar vein is the F. Woodhouse sketch "*Fire and Flight*" (Figure 3.25), which has no date or location.

The S. T. Gill "*Forest on Fire – Scene on the Echuca line between Taradale and Elphinstone*" (Figure 3.26), from 1865, is another dramatisation of what is evidently an historical event. Their representation as dramatisations limits the information that can be gained from them, as they are dramatic illustrations of the particular events rather than a faithful reproduction of first-hand observations. The main implication is that for these pictures to be of much use for the purposes of this study, more detailed examination of the records of the *Illustrated Australian News* and other sources, which would give the written descriptions of the fires, locations, causes and impacts, is required.

Figure 3.21: Unknown artist "*Bush fires in the Heytesbury and Otway forests*" Feb 10 1886 Illustrated Australian News

Figure 3.22: Unknown artist *"Disastrous Bush fire in the Strathbogie Ranges"* 1882 Illustrated Newspaper File

Figure 3.23: Samuel Calvert 1828-1913 *"Bush Fires at Mount Macedon"* 1875 Illustrated Newspaper File

MOUNT MACEDON ON FIRE

Figure 3.24: Unknown artist "*Mount Macedon on Fire*" 1875 Illustrated Newspaper File, Australasian Sketcher

FIRE AND FLIGHT: FROM THE PICTURE IN THE EXHIBITION OF THE VICTORIAN ACADEMY BY MR. F. WOODHOUSE.

Figure 3.25: Mr. F. Woodhouse "*Fire and Flight*" Year unknown. From the Picture in the exhibition of the Victorian Academy

Figure 3.26: S. T. Gill 1818-1880 Engraver W. Hart "*Forest on Fire – Scene on the Echuca line between Taradale and Elphinstone*" 1865 Illustrated Newspaper File. Illustrated Melbourne Post

Figure 3.27: Samuel Calvert 1828-1913 "*The track of the bushfire*" 1879 Illustrated Newspaper file. Illustrated Australian News

Samuel Calvert both painted and illustrated with "*The Track of the Bushfire*" (Figure 3.27), illustrating the aftermath of the 1879 wildfire of an unknown location. He also painted "*Bushfire in Australia*" (Figure 3.28) from 1880, but without further information there is no indication of location, extent or evident causes.

John Longstaff's "*Gippsland, Sunday night, February 20th, 1898*" (Figure 3.29) depicts the later stages of the 1898 Victorian wildfires which burned through most of Gippsland and Cape Otway, having been burning throughout the summer (Pyne 1991). The most dramatic day was "Red Tuesday" February 1st, when 260,000ha and 2000 buildings were destroyed (Department of Sustainability and Environment 2007c). Calvert's high intensity bushfire appears to be coming out of forest into the grassland and threatening the settlement, and Longstaff's fire is also a high intensity fire, but in a tall eucalypt forest. They are both evidently dramatisations, in contrast to the von Guérard sketches and Cooper paintings. Calvert's painting shows little about the nature of the fire except for the evident panic and perhaps lack of preparedness for this type of event. Longstaff's painting of the 1898 Gippsland fire disaster is the first painting showing fire in tall wet sclerophyll forest, most likely of Bluegum *Eucalyptus globulus*, Grey Gum *Eucalyptus cypellocarpa* or Manna Gum *Eucalyptus viminalis*. The lower bark does not appear to extend far enough up the trunk for the trees to be Mountain Ash *Eucalyptus regnans*.

Figure 3.28: Samuel Calvert, 1828-1913 "*Bushfire in Australia*" *1880*

Figure 3.29: John Longstaff 1862-1941 "*Gippsland, Sunday night, February 20th, 1898*" 1898 National Gallery of Victoria

The watercolour by Mary Allport "*Bushfire, Esperance*" (Figure 3.30) shows a bushfire, which is most likely of anthropogenic origins given the clear sky and origin near the water. The other watercolour, "*Entrance to Brown's River*" (Figure 3.31), shows a fire in its formation stages, again depicted across a stretch of water. There are some indications of the origins of this fire, with the nature of the clouds indicating lightning. As both paintings are undated, further analysis is limited.

Figure 3.30: Mary Allport 1806-1895 "*Bushfire Esperance*" Date unknown State Library of Tasmania

Figure 3.31: Mary Allport 1806-1895 "*Entrance to Brown's River*" Date unknown State Library of Tasmania

The aftermath of fires is rarely specifically depicted in colonial artwork, although there are exceptions. The immediate aftermath has been shown with the *Illustrated Australia News* example in the Otways in Figure 3.21, and Samuel Calvert's "*The Track of the Bushfire*" (Figure 3.27); however, the most common depiction is that of hollowed out

trees. The first example of this is shown in Figure 3.32 "*In Adventure Bay Van Diemen's Land*" by George Tobin in 1792; this fire scarring is shown frequently in paintings of the Australian eucalypt.

Figure 3.32: George Tobin 1768-1838 "*In Adventure Bay, in Van Diemen's Land*" 1792 State Library New South Wales

Another painting that illustrates a cause of the hollowing out of trees other than wildfire is that of Ludwig Becker, whose "*Junction The Bamamoro Creek with the Darling*" (Figure 3.33) depicts a fire deliberately lit in the base of a River Red Gum. These fires were lit for two purposes - the first being to flush out possums and the second being for cooking and warmth. The final consequence of these repeated fires would be the eventual collapse of the tree and its further use for firewood.

Figure 3.33: Ludwig Becker 1808-1861 "*Junction The Bamamoro Creek with the Darling*" 1860 State Library New South Wales

Few paintings show the blackened landscape after a fire other than the depictions in the Illustrated Australian News, and John Thomas Doyle's "*Entrance to Fern Tree Gully Gippsland*" (Figure 2.11). Only four clear depictions of epicormic growth could be found. One is that by John Glover in 1832 as a foreground to "*The River Derwent from Mount Wellington*" (Figure 3.34); another is Mary Allport's 1844 watercolour "*Telopea punctata from the mountain pass above Barrett's mill*" (Figure 3.35). This depiction is apparently a few years after the fire, given the more luxuriant undergrowth and the depiction of trees in advanced senescence. As both are from Mount Wellington, and 12 years apart, it is possible that both depict the consequences of the same fire event.

Figure 3.34: John Richardson Glover 1767-1849 "*The River Derwent from Mount Wellington*" 1832. State Library of Tasmania

Figure 3.35: Mary Allport 1806-1895 "*Telopea punctata from the mountain pass above Barrett's Mill (flowered Waratah)*" 1844. State Library of Tasmania

Another two paintings show epicormic growth painted well after fire events. The first is von Guérard's "*Forest Cape Otway Ranges*" (Figure 3.36). This painting shows no young regeneration, burn scars or dead crowns but does show advanced regrowth,

which suggests a considerable time since the last fire event. Isaac Whitehead's "*In the Sassafras Valley*" (Figure 3.37) also shows epicormic growth in what might be described as old-growth Mountain Ash and possibly Grey Gum forest at Sassafras Gully in 1875. While this is possibly a result of the 1851 wildfires, as it is of quite an advanced nature, the lack of regeneration in the background makes this explanation questionable. Mountain Ash is highly sensitive to fire and does not respond to fire with epicormic growth in the same way as many other eucalypts but is more frequently killed. For these reasons the ecological interpretation of the picture is not clear.

Where the impact of wildfire is more evident is in the illustration "*Wood Splitters Hut in the Fern Tree Gully*" (Figure 3.38), a lithograph from an unknown artist in 1865 from the "*Illustrated Newspaper File News for the Home Reader*". The forest is Mountain Ash with pole regrowth in the background and numerous dead stags. The largely intact crowns of the stags and the size of the regrowth indicate that this is from the 1851 wildfire, which burnt through parts of the Dandenong Ranges, killing much of the mature Mountain Ash and allowing conditions for thick regeneration.

Figure 3.36: Eugen von Guérard 1811-1901 "*Forest, Cape Otway Ranges*" 1865 State Library of Victoria

Figure 3.37: Isaac Whitehead 1819-1883 *"In the Sassafras Valley, Victoria"* 1875 National Gallery of Australia

THE WOOD-SPLITTERS' HUT IN THE FERN TREE GULLY—SEE PAGE 15.

Figure 3.38 Unknown artist *"The Wood-Splitters Hut in the Fern Tree Gully"* 1865 State Library of Victoria

The final painting showing evidence of fire is von Guérard's "*View of Moroit or Tower Hill*" (Figure 3.39). This shows two distinct fires in the background, along with what appears to be the blackened area to the left or south-eastern portion of the central island, as can be see in the enlarged portion in Figure 3.40. Interpretation in these terms may be speculative, as the island vegetation is wetter and harder to burn than the adjacent grass areas, although the fire could be a consequence of dry casuarina and eucalypt fuels compared with green grasses.

Figure 3.39: Eugen von Guérard 1811-1901 "*View of Moroit or Tower Hill*" 1855 State Library of Victoria

Figure 3.40: Eugen von Guérard 1811-1901 Portion of "*View of Moroit or Tower Hill*" 1855

3.2. Artists' depiction of fire

On the basis of these paintings and early sketches, it is difficult to gain much of an insight into the early colonial use of fire. Aborigines are shown using fire for hunting, cooking, warmth and for signalling; lightning is also shown to be a natural cause of bushfire. Some fires appear to have been lit for promoting better grassland for grazing, and some may result from the burning of timber-slash following clearing. The paintings show a range of fire intensities, as would be expected given both the dramatisations and the various conditions under which these fires would have been observed.

Even the indigenous peoples' use of fire would have occurred over a range of intensities, depending on the weather conditions and fuel loads at the time. This is discussed by Ryan *et al* (1995), Flannery (1994), and Gammage (2002), who suggest Aboriginal burning was not always of low intensity. Much of South-Eastern Australian landscape would have changed little into the early 1800s, and Aboriginal burning practices would still be undertaken while they were maintaining their traditional way of life. In Tasmania, traditional land-use had changed during the 1820s with the reduction, and eventual elimination, of the traditional inhabitants in the early 1830s. In Victoria, it would have been the substantial European encroachment in the late 1830s to 1840s that would have seen the demise of the traditional use of fire.

Ryan *et al* (1995) suggest Aboriginal burning continued at least until the 1840s, but also suggest that fires were very widespread and burned across most of the landscape on an almost annual basis - this however is disputed by Benson and Redpath (1997). Jurskis (2000) also considers this to be an exaggeration, and suggests that fire frequency would have varied across the different types of vegetation and been distributed in more of a mosaic pattern. Gammage (2002) provides a well-interpreted account of Aboriginal peoples' requirement to have a mosaic of fire intensities at different times of the year, for management objectives such as the retention of belts and copse, and maintenance of open plains or woodlands with a grassy understorey.

Given the requirement to produce aesthetically pleasing, as opposed to photographically-accurate paintings, it is understandable that there are few pictures of fire or the obvious effects of fire on the landscape. It is also not surprising that there are few paintings of fire itself given the difficulty of being in close proximity to fire in the

landscape. This is why Cooper's painting in Figure 3.7 is quite instructive, as it appears a highly realistic depiction, and was not done for commercial purposes.

It would be following these fires that artists would have the best opportunity to depict their impact, although there was only one painting, by John Glover (Figure 3.34), which clearly shows recent epicormic growth on the trunks of eucalypts. The Allport, Whitehead and von Guérard paintings show epicormic growth, but many years after initial disturbance.

Recently burnt forests are generally shown only as illustrations as part of newspapers, not in paintings for commercial sale or other purposes. In most early colonial artwork, it is the smoke plumes depicted in paintings, and illustrations or dramatisations of fire events that are used to depict fire in the landscape. However the frequent presence of burn scars, and the hollowed-out older trees, in many artworks reveal fire to have been a common part of the landscape in pre- and early colonial times.

This Chapter does not purport to be a detailed analysis of fire history in Australia. It merely explores the depiction of fire in early artwork, and whether this offers any clues as to early colonial or Aboriginal use of fire. Given the relative difficulty in observing fire and accurately painting this at the time, most paintings of the actual "fire" itself are from memory or reconstructions. The ones that are painted on-site are generally the distant views of smoke in the landscape. The depiction of fire origins include those which originated from Aboriginal burning, for signalling and hunting, from lightning strikes, and from early colonists; however, most of the fires depicted are of unknown origin.

There are certainly other pieces of artwork not reviewed here that would add to this body of knowledge on early colonial fire. These would add to our understanding of the early colonial use and depiction of fire, and thus the influence on the nature and structure of forests and woodlands of Victoria and its surrounds.

4. Does early Colonial Art provide an accurate guide to the nature and structure of the pre-European forests of South-Eastern Australia?

A frequent response of those with whom I discuss this study socially is that the "early artists could not paint gumtrees", and rather that they painted them "like European trees". Many also comment that "the lighting was not right for Australia". Others ask "How would you know it is an accurate painting, rather than one the artist has embellished to make it look like an English park?" Each of these comments has relevance to this study.

Bonyhady (1985) comments that much of the early literature on Australian colonial art considers that artists could not accurately paint gum trees nor convey the "sharpness of Australian light". These skills are not considered to have been perfected until the Heidelberg School painters of the late 1800s. There is little doubt that Tom Roberts, Frederick McCubbin and Arthur Streeton depicted the Australian landscape with realism and were true to the nature of the bush and the lighting. This is perhaps attributed to one of their teachers Louis Buvelot, who taught them to paint at varying times of the day in order to recognise the influence of natural lighting. It is instructive, in this aspect alone, to look at an example of Buvelot's work such as "*Near Fernshaw*" (Figure 2.6), the style of which appears to have been a strong influence on artists such as Roberts, McCubbin and Streeton.

A question that I had to address at an early stage of the research was whether characteristics of the artists and their work, such as the accurate representation of a tree, or of the Australian light, were important? Did these make any difference to the landscape being depicted, and had some early artwork been discounted as being of value for study as it was considered unrepresentative of the actual landscape? I reviewed the artwork from the perspective of what it depicted about the early colonial landscape, including what structural elements could be identified, what species and evident changes could be identified, and therefore the extent to which it could provide a guide to the pre-European landscape.

This study therefore, is not concerned with the aesthetics, lighting, colour, commercial appeal or an artist's ability to paint a gumtree, but more so how the artists depicted

structural attributes of the forested landscape. No doubt each of the artists brought with them their own skills, painting styles, and own motivation for painting landscapes. An understanding of each of these components assists in guiding the assessment of the relevance of their work to the purpose of this study.

It is worth reflecting on a painting such as Strutt's *Corroboree* (Figure 2.73). It is evidently a fictional account: the Corroboree may well have occurred, but the forest itself is fictional, comprising components of other artists' work. His dramatisations of the 1851 fires are works of great magnificence, which record an actual event, but are essentially fictional compositions based on this event. What is more important is that this event was significant enough to be recorded in the first place, as one of the two major wildfires in the 1800s. The other was the 1898 fire recorded so well by John Longstaff in Figure 3.29, an event also significant enough to warrant recording in a major piece of artwork.

The earliest piece of colonial artwork from Tasmania, by George Tobin, is highly stylised, but nevertheless allows individual species and locations to be clearly identified. In one instance, the original trees can be identified and matched with those in the artist's original painting. With this series, Tobin was not painting for commercial return, unlike artists such as Glover and von Guérard. Both Glover and von Guérard did not always accurately record every attribute of their scenes, but sometimes composed them to make them more visually appealing. This meant, for example, moving trees around and adjusting foregrounds, as demonstrated with von Guérard's *Mount Warrenheip near Ballarat* (Figure 2.68). However, even in this example, the painting was sufficiently accurate in other respects that the forest type could still be identified in general terms, and assigned to a broad forest type.

Many examples of early colonial artwork present sufficient information to be classified into broad forest types consistent with contemporary scientific classifications. In this study, I have used Ecological Vegetation Classes being the most consistent and accessible vegetation data set across Victoria (Oates and Taranto 2001). These data allow the identification of vegetation classes, both pre-1750 and current, for the specific locations identified in the paintings. In most cases, on-site visits were required to specifically identify some tree species and some understorey species, such as in the case of von Guérard's and Chevalier's depiction of the Ovens Valley (Figure 2.26 and 2.27).

It was only the site visit, and botanical investigation, that allowed specific species identification.

Perhaps the biggest challenge in interpreting the value of the art for vegetation classification is being able to identify whether these scenes are representative of the pre-European forests, or whether they depict forests which had already been subject to substantial change. Assessment of this issue requires a side-by-side assessment of current views with the paintings, and identification of specific features within the paintings that give evidence to vegetation condition. Chapter 2 discusses the details of specific paintings and considers the evidence as to what aspects of the artwork might demonstrate that the forest or woodland vegetation has changed from its pre-European structure. This can be the obvious, as in stumps in Figure 2.35 of the Barwon River, Geelong, which help interpret the landscape view from just upstream (Figure 2.33), which is painted from too distant a point to see these details of cut stumps. The earlier views of a particular landscape allow the comparison of points in time and guide the interpretation of the vegetation represented in the later pieces of landscape art.

This research suggests that many paintings can be used as a guide to pre-European vegetation condition, especially where they can be used in conjunction with other information to enhance their utility. Where there is no other information available, they may be an invaluable source. A prime example is the view of the crater of Mount Elephant (Figure 2.55), which is the only reference I could find as to the original vegetation within the crater itself. The value of von Guérard's paintings and sketches of Mount Elephant is that they offer the best guide to the original vegetation in what is now a heavily cleared and highly modified landscape. It is therefore of considerable practical value to ecological restoration.

A related example is that there has been a general perception that the western districts of Victoria have been largely cleared of their forest cover, and that active revegetation is required to restore the original condition. However, this is now being questioned by some ecologists in the re-mapping of native vegetation in the Grampians area, where some areas that were previously considered to have been cleared are now understood to have been, in fact, grasslands and open woodlands. Mount Abrupt and surrounds (Figures 2.44, 2.45 and 2.46) are good examples of this; current mapping reports them as non-native vegetation, whereas native vegetation is quite identifiable in the

contemporary example in Figure 2.49. Part of the reason for this is the scale of mapping, and what can reasonably be identified from aerial photography or satellite imagery and mapped into appropriate classes. Another issue is that of the introduced grasses and other exotic plants that make the understorey unrepresentative of the original vegetation types. These details cannot be identified through early artwork.

The perception that some hills have been completely cleared of trees since settlement can at times be disproved with artwork examples. Surveyors such as Thomas Scott in Tasmania were looking for grazing and settlement potential, so observations on his sketches that state "clear of timber" are compelling evidence of that condition, as seen in Figure 1.30. Scott provides a depiction prior to European influence on the subject area. There are similar advantages in looking at the work of Mitchell in Victoria, although it is limited, and even von Guérard where he painted his "wilderness" scenes, such as some of his work in East Gippsland or the Otway Ranges.

Lycett is an artist whose work is perhaps a little less reliable for vegetation classification, as while his stylised paintings have very clearly distinguishable species, and in some cases locations, they are not always from his original works. Given the difficulties of travelling around the early NSW colonies, exacerbated by the difficulties of his occasional confinement for less than honest activities, it is not surprising he used other artists' works as a basis for some of his work. His practice of copying others' works, and somewhat dubious reputation for forgery, does not bode well for eyewitness accounts of the landscape, but they may still be accurate accounts of other artists' depictions of the landscape. This is a striking example of how the background of the artist, and their circumstances, must influence their depictions of landscapes. As a contrasting example, it was instructive to review the early sketchbooks of both Glover and von Guérard. While they were professional artists, producing pieces for sale, their sketchbooks were essentially the "unadulterated" scenes. These initial representations were then sometimes "touched up" for their final paintings, to make them more visually appealing. In these cases, it is the initial work that is of most use in verifying the accuracy of the final painting and its value in accurately representing vegetation.

Cooper and Hoddle, on the other hand, were not painting for the aesthetic appeal, but more to record the landscape. Cooper's views of western Victoria are therefore considered fairly reliable, and Hoddle has excellent depictions of both the Canberra

region and the early Melbourne surrounds. Latrobe Bateman perhaps deserves more recognition in light of some sketches attributed to von Guérard, which were actually the work of Bateman. As I have discussed in Chapter 1, the leaf structure, the painting of the skies, and the use of "pencil heightened with white" on unsigned card was characteristic of Bateman, not von Guérard. While Neale (2005) had identified this artwork attribution anomaly 2 years earlier, my independent conclusion to the same effect confirms the work of this artist as being of value in furthering our understanding of early colonial landscape art.

The depiction of fire is a study in its own right: in terms of the source of the fire, often shown as lightning; the dramatisations of the impact of fire; and the use of fire as an Aboriginal hunting tool. As discussed in Chapter 3, fire is not a phenomenon easily observed for capturing on canvas. A quick snapshot could not be taken with a camera, and it is not possible with an easel and canvas to record a rapidly-moving high intensity fire, so dramatisations were naturally painted after the event. However, fires in the distance are depicted on numerous occasions, with artists depicting smoke in the background of many landscapes.

It is curious that there are so few examples of the aftermath of fires, particularly given that a blackened post-fire landscape is such a contrast to an unburnt landscape such as that to which European settlers would have been accustomed. It is equally surprising to find little evidence of epicormic growth depicted in paintings, and it is not clear whether this represents lack of attention to detail or an ecological phenomenon. Given that there were a number of artists in the proximity of fires in the early colonial period, it is surprising that no early artists have recorded their immediate aftermath, which is more frequently depicted in news illustrations, as shown in Chapter 3. I surmise that artists find this work either unappealing or uncommercial.

This study is not a complete review of all of the landscape artwork from South-Eastern Australia or of its relevance in vegetation depiction. There are examples of early colonial art that have not been reproduced in this study, given that its scope had to be limited at some point. Nevertheless, this research represents a considerable account of the relevance of some of early colonial Australian landscape art to characterisation of the nature and structure of forest and woodlands in South-Eastern Australia, and to contemporary vegetation classification, and confirms that the work of particular artists

is likely to provide a reasonably accurate depiction of pre-European Australian vegetation. There are, no doubt, more pieces of artwork to be discovered and assessed, and perhaps some of these can fill some of the gaps which remain in the depiction of pre-European Australian vegetation, of the Aboriginal use of fire and its impacts, and of the changes to fire regimes and vegetation that European settlement heralded.

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