

# *Forest Giants of Tasmania*

## *Focus on the Styx Valley*

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*Blue Gums in Weilangla  
State Forest*

*The forest giants of Tasmania are magnificent spectacles that the forest and timber industry works hard to maintain as it goes about its' daily business.*

### ***Tasmania's production forests and conservation reserves***



*Obliqua forest, Edith Creek*

There is still a vast amount of forest covering the island of Tasmania. In fact there is over 3 million hectares (30,000 square kilometres) of forest land, of which just 40,000 hectares is used for wood production each year - production that provides renewable and atmosphere-friendly resources for the furniture, building, art and craft, and paper industries.

Approximately 40% of all these forests and 68% of the old-growth forests in Tasmania are protected in various forms of national parks and formally-declared reserves, giving the State close to the world's best forest reserve system.

The remaining forests include a substantial area of informal reserves and the production forests that are vitally important for supplying high-value construction, flooring and furniture grade timber products



*Mixed tall eucalypt and rainforest species*



*Eucalypt forest in decline*



*The Tahune Airwalk, Southern Forests*



*The Picton and Huon Rivers meet  
below production forest areas*

## **The forest giants**

While touring through Tasmania, visitors should always be on the lookout for the forest giants. Wherever you travel there will be the opportunity to see these tall eucalypts, often described as the tallest flowering plants on the planet. They can be found in the southern areas of the Huon, around Smithton in the north and Weilangta State Forest on the east coast.

Depending on where you are, the species of forest giants can be spectacularly different. They include swamp gum (*Eucalyptus regnans*), white-topped stringy bark (*Eucalyptus delegatensis*), brown-topped stringy bark (*Eucalyptus obliqua*) and the southern Blue gum (*Eucalyptus globulus*).

Keen observers will notice that these trees inhabit a number of forest types, including dry sclerophyll, wet sclerophyll and mixed hardwood forests. The nature of the forests will depend on a number of factors such as the direction they face, the underlying soil types, the climate and their elevation. Visitors will quickly recognise whether they are in dry or wet forests by the smell, dampness and range of under storey species.

The tall hardwood forests may represent areas that have not been severely damaged by intense wildfires for periods of up to three or four hundred years. They are forests in a fairly late stage of their own evolution and quite often contain mature to 'senescent' (old-age) giant eucalypts surrounded by the wet temperate rainforest species - myrtle, sassafras, celery-top pine and leatherwood.

## **Tasmania's forest adventures**

For those people with a limited time to travel around Tasmania but wishing to embrace the beauty of the forest giants on the way to visit other tourist attractions, there are a number of spectacular places to visit.

While heading south from Hobart into the Huon Valley area, visitors may be attracted to the Tahune Forest Reserve west of Geeveston. The Tahune Forest Reserve is a full day trip, given its distance from Hobart and the range of attractions to visit on the way into, or out of, the reserve. Within the reserve, the Tahune Air Walk provides an impressive view of the surrounding forests, has a full range of facilities including a kiosk and provides visitors an opportunity to drop in a fishing line close to where the Huon and Picton Rivers meet.

Alternatively, when heading out to Lake Pedder, it is worth visiting two forests along the Gordon River Road - the Mount Field National Park and the Styx Valley.

## **On the road to Lake Pedder**

Mount Field National Park and the Styx Valley lie to the west of Hobart. Visitors can access these areas by travelling approximately 50km from Hobart to New Norfolk via Bridgewater then proceeding along the Gordon River Road.

The first tall-forest stop along that road is Mount Field National Park. Within the National Park, you can see a range of forest communities that are quite diverse in their make-up, demonstrating many of the features particular to mature and senescent forests.

Aging eucalypts decrease in height naturally as the trees, many of which are several hundred years old, lose their vitality. On the ground below,

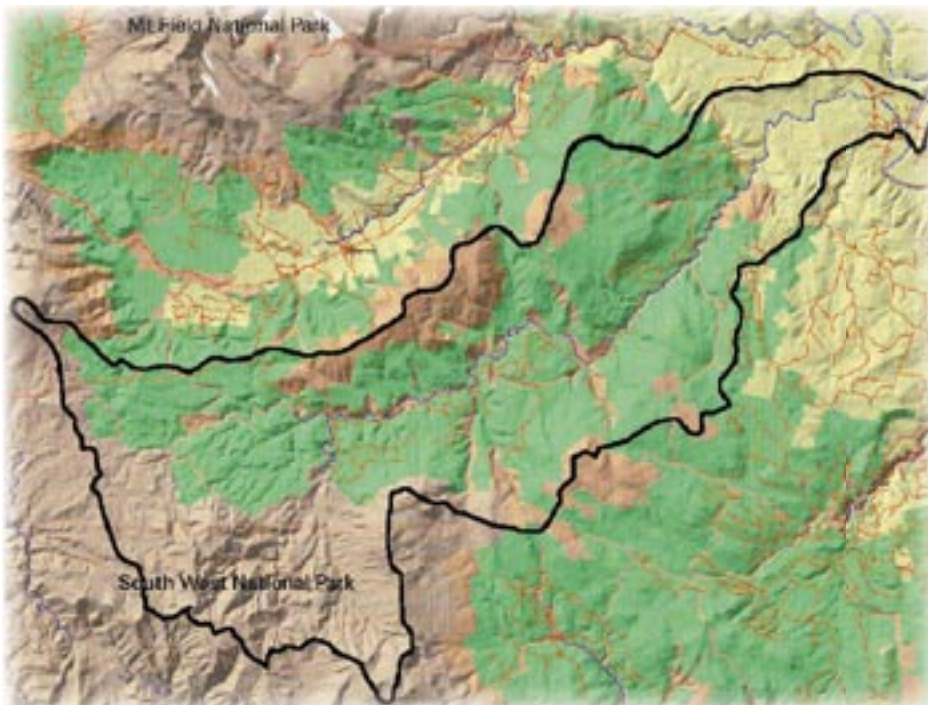
numerous logs slowly accumulate, up to 60 metres long and more than one metre in diameter, covered in moss and surrounded by a mix of understorey tree species.

There are a number of short walks within Mount Field National Park, providing visitors with an opportunity to truly explore the nature of mature forests. Some sections of these walks pass through dry forests containing scattered short vegetation with rough, prickly leaves that flow into wet forests where the typically aggressive rainforest species are able to grow in areas that have benefited from the limited impacts of fire.

After leaving Mount Field National Park, the Gordon River Road takes visitors west, through the town of Maydena, located in an area renowned for its hop production. Shortly after leaving Maydena, there is a right turn onto the Styx Road, which loops back under the Gordon River Road and then meanders through the Styx Valley.

This valley covers an area of about 34,000 hectares, which includes 8,400 hectares of National Park and 3,000 hectares of private property. The remaining 22,600 hectares is a production forest managed (by Forestry Tasmania) primarily for supplying saw logs and veneer logs to Tasmanian timber processors.

*The Styx Valley*



## ***The true Valley of the Giants***

Concerns are sometimes raised about using the Styx Valley for timber production, as well as conservation and eco-tourism. However, the Styx Valley itself is not the only locations where these particular tall forests exist. Many of the tall tree forest communities present in the Styx Valley are represented in the World Heritage Area that adjoins the production forests.

These same forest communities were also conserved in perpetuity when 13,000 hectares of forest, known as the Valley of the Giants, was classified as a national park in 1997. This true Valley of the Giants is located about 50km to the north of the Styx Valley, around the Beech Creek and Counsel River junction. Unfortunately, there is no direct access for visitors to the Valley of the Giants, which lies west of Tarraleah, on the Lyell Highway linking New Norfolk and Queenstown.

While there may be limited opportunities to visit the true Valley of the Giants, which the conservation movement fought so hard for and saw realised back in 1997, the informal big-tree reserve system operating in the Styx Valley will ensure that future generations will have permanent access to the forest giants of Tasmania.

## ***The co-existence of conservation, eco-tourism and timber production***

The mosaic of forests at various stages of growth within the Styx Valley simultaneously supports eco-tourism, production forestry and conservation activities. When driving through the valley, it is possible to see old growth forests, regrowth forests recovering from past wildfires, forests regenerated from previous harvesting operations, thinned forests and plantations.

In the late 1990s, substantial areas of the Styx Valley were set aside for conservation purposes, being declared formal reserves under Tasmania's Regional Forest Agreement (RFA). Logging operations are not permitted in these reserves due to the unique nature of their fauna and flora.

Of the 22,600 hectares of land managed by Forestry Tasmania in the Styx Valley, approximately 40% of the potential production area is enclosed in either informal reserves or unharvestable localities, including the buffer strips along streams or rivers, and the reserves for trees (primarily *Eucalyptus regnans*) that already exceed or have the potential to exceed 85 metres in height.

Out of the remaining forests available for timber production, the size of the trees from the Styx Valley is a key factor in determining the proportion of the timber suitable for processing into high-value products. Approximately one-quarter of the timber harvested from this valley is used to manufacture sawn timber and veneers. This compares to one-sixth of the harvested

resource from the Derwent and Eastern Tiers forestry regions being used to manufacture high-value timber products.

## ***Balanced forest management***



*Clear water in the Styx River*

A combination of the Styx Valley's proximity to Hobart and the outstanding nature of these tall forests have provided Forestry Tasmania with the opportunity to develop an eco-tourism trail through a working forest. Anyone willing to take the time to visit the forest can see the giants and the manner in which large production forests are professionally managed around those trees.

A good indication of the environmentally-sensitive management practices applied to forests in the Styx Valley is reflected in the clarity of the water. On the way to the Big Tree Reserve, the gravel road crosses the Styx River and even though forest harvesting, forest regeneration and plantation establishment is occurring in areas that surround the streams feeding this river, the sediment loads are quite low and the water is extremely clear.



*Young regeneration forest and regrowth forest*

## ***The forest mosaic and management regimes***

As a working forest, a number of factors come together to determine the most effective management regime for the valley as a whole, particularly when the primary focus is on the production of high-value logs and finding commercial uses for the lower grades of material.

Between the tall tree reserves and the older regrowth forests, visitors may observe discrete units of production forest, called coupes, at various stages of development. There are coupes that have been recently clearfelled, some may have been burned ready for regeneration and others which contain stands of young trees.

Across the recently harvested coupes, there is generally a substantial volume of unusable material remaining on the ground. The first question that most visitors ask is 'Why isn't it harvested and sold?'

At present, this wood has no direct commercial value, not even for pulpwood to make paper. Eucalypt pulpwood needs to meet certain standards or specifications to limit chemical use and the processing costs incurred during the manufacture of the highest quality printing and writing papers.

Burning at least some of the wood as a renewable energy source is one option for utilising part of the unsold resource. This option would raise the total value of harvested material without increasing the intensity of forest management or the area of forest harvested, providing a better return to the community from the use of these public resources.



*Regeneration - 1st year (foreground), 3rd year (centre) and mature forest (background)*

## **Why burn the forest coupes?**



*A coupe shortly after burning*

Burning the unusable timber left on the ground from the clearfelling operations is an important step in the management of these forests. It replicates the natural process of eucalypt forest burning and regeneration.

Immediately after the short, medium intensity burning of harvested forestry coupes, forest areas look like 'war zones', smouldering and seemingly barren of life. But fire is part of the natural life cycle of eucalypt forests.

Substantial planning goes into the burning of the forests to ensure that the fires have little or no impact on the surrounding coupes, buffer zones or informal reserves.

To support the recovery of the forest community that existed in the coupes before harvesting commenced, seed is collected from the eucalypt trees on those sites either prior to or as part of the harvesting operations. The ash left after burning the harvesting residue provides a mineral soil bed that encourages the most effective germination of eucalypt seedlings. Shortly after the burning of forest harvesting residues is completed, possibly even the next day, eucalypt seeds are dropped onto the hot forest floor by helicopter.

It is important that the coupes are as free of residue material as possible when re-seeding of the sites occurs, because eucalypt seeds require exposure to at least 80% of the available sunlight in order to germinate. Existing seeds from the forests' non-eucalypt understorey species germinate in response to fire and the hot mineral soil plus sunlight, in conjunction with the germination of eucalypt seed.

This process maintains the forest ecosystems and prevents them from being taken over by fast-growing rainforest species on the wetter sites. By following this regeneration process, it can be quite difficult to tell, even within a few years, that fires have been through the coupes.



*A regeneration forest after 20 years' regrowth*

## **Saw and veneer log production from native forests and plantations**

Due to the creation of numerous formal and informal reserves within and surrounding the Styx Valley, there has been a considerable reduction in the resources available to the timber industry.

To compensate for the reduced access to mature native forest timber, forest managers are using a combination of regenerated forests and plantations to develop a secure resource base for the timber-processing sector. This scale of activity is essential if the local industry is to remain an internationally-competitive manufacturer of timber products.

An important component of production forestry in the Styx Valley is the plantations established on land previously covered by native forests. While

there are concerns raised about the conversion of some Styx Valley forest coupes to plantations, visitors should take into account all of the factors that have lead to these decisions when travelling through the area. That is, the importance of protecting some native forest ecosystems balanced against the needs of the timber industry.

### ***Native forest thinning trials***

In the Styx Valley, the general rotation period from re-seeding to harvesting of high-value saw and veneer logs is approximately 90 years. It is expected that the trees need to be grown for this period of time to limit stresses and tension in the wood that only becomes apparent when it is processed and dried.

A number of forest thinning trials can be seen in the Styx Valley. One option being tested is to thin out trees with poor form (small, crooked or multiple stems and large branches) around 30 years after the forests have been regenerated.

The aim is to ensure that the canopy remains thick enough to minimise the amount of sunlight reaching the under storey competitors and thereby restrict their growth, while pushing the growth potential of the forest onto those trees that are most likely to produce high-value logs.



*A thinning trial of 30-year old eucalypt regeneration forest*

### ***Forest management issues - Habitat provision and worker safety***

The management approaches applied to working forests go way beyond the planning of timber harvesting. In addition to balancing eco-tourism, conservation and timber extraction in the Styx Valley, managers have to ensure their forest practices meet an appropriate level of worker (and visitor) safety, while providing suitable habitats to maintain the forest ecosystems.

One approach that has been suggested is to shift from clearfelling to selective harvesting operations in the mature forests. The idea is to remove a certain number of trees from the forests, leaving a sufficient number of mature trees to act as habitat trees and enough smaller trees to encourage re-growth of the forest landscape.

Many of the large trees could weigh in excess of 100 tonnes each, leading to serious concerns that the trees may fall on workers undertaking either management or future harvesting operations in those forests where senescent trees have been left for a considerable period of time.

In addition to the safety concerns, leaving a number of trees standing in the forest coupes may have a significant impact on the degree of eucalypt and understorey regeneration that can occur on those sites, particularly if fire



*The remains of a tall tree felled by age and wind*

were to be excluded from the harvested coupes.

Where there may be some concerns that senescent trees should be retained for their habitat potential, it is important to remember that the same forest communities are held within the 'Comprehensive, Adequate and Representative' reserve system of the World Heritage Area adjacent to the Styx Valley production forest. The existence of habitat trees in some of those forests was part of the reason why they were selected for inclusion in the formal reserve system.

### ***Forest giants in the Styx Valley mosaic***

Under Forestry Tasmania's 'Tallest Trees' policy, trees either above 85 metres now or with the potential to reach over 85 metres in height, together with their surrounding vegetation are placed into informal reserves.

After the trees have reached maturity and start to decline in height, with senescence taking over, the trees may be withdrawn from the informal reserve system and either harvested or allowed to fall. This ensures the forest management regime will support the growth and maintenance of the forest giants until old age catches up with them.

Between the tall tree reserves, the streamside buffers, thinned forests, plantations and formal reserves are the regenerating forests. This assortment of forest communities and the management options applied to them have the potential to conserve the full range of ecosystems and biodiversity of the Styx Valley flora and fauna.

While some areas of forest in the Styx Valley are in the mature stages of their evolution, others are younger, regenerating forests that play an important role in harbouring an array of flora and fauna species. A drive through these forests at night will demonstrate the variety and number of animals harboured amongst the working and conservation forests.

### ***The Andromeda Reserve***



*Tall trees of the Andromeda Reserve*

Forest workers and managers have long marvelled over the enormity and beauty of the Styx Valley giants. In the 1950's, the managers (Australian Newsprint Mills) voluntarily set aside a protected area called the Andromeda Tall Trees reserve to protect a stand of forest giants.

The area still contains a substantial number of tall trees, including the nine tallest trees currently standing in Tasmania with heights between 90 and 96 meters (measured during the last two years). Sadly, a number of trees in this reserve have started to decline in height. This is a natural process - the trees are simply old and their crowns are deteriorating.



*The Big Tree Reserve*

## **The Big Tree Reserve**

The Big Tree Reserve is expected to move around the Styx Valley over time. At its present location, visitors can take a short boardwalk journey from the road to a specially constructed viewing platform where they can lean back and observe the 'Big Tree'.

The Big Tree is an awesome spectacle that stands more than 89 meters tall. It is not hard to imagine how this, and similar trees, would have inspired foresters back in 1962 when it was first measured. With a complete crown, this tree was estimated to have reached more than 98 meters in height.



*Boardwalk access to the Big Tree*



*The Big Tree*



*The Chapel Tree*

## **Icon trees in the Styx**

Travellers are also welcome to visit a number of the famous individual trees along Skeleton Road. The Chapel Tree (which is said to hold 28 people in its base) and the Christmas Tree (which has been scaled and previously covered with lights) are two prime examples.

Caution is required around the site of the Chapel and Christmas trees. After constructing a forest road through this area, a wedge-tailed eagles' nest was found within 200 metres of the road. A 400-metre wide exclusion zone has been placed around that tree. Visitors need to be wary that the birds may still use this nest, out of the numerous nests they have in their territory, for breeding. Access to the site may therefore be restricted between August and January.



*The Christmas Tree (centre)*

## **Spread the word!**

On leaving the Styx Valley, visitors will be in awe of the forest giants and their presence in a working forest that covers some 34,000 hectares. They will have had an opportunity to see first hand the operations of a production forest that is managed for a range of outcomes - conservation, water quality, eco-tourism and timber production.

As the visitors head off towards the splendour of Lake Pedder, they may find some comfort in knowing that the forest giants in other parts of Tasmania are similarly protected for future generations to see.

On future trips you may have time to visit forest giants in the Southern Forest, along the east coast and in the north of the State.



*Delegatensis in the Southern Forests*