



Forests in South Australia

Native Forests

South Australia has 10.8 million hectares of native forest with most being found in the lower rainfall areas of the State.

These forests grow on private or crown lands, or are found within National or Conservation Parks or in Native Forest Reserves and are no longer used for timber production.

The settlement of South Australia by Europeans brought with it a large demand for timber for domestic and commercial building and construction and a range of other purposes. Most areas of native forest were harvested for timber over the period 1840 to 1955 to supply wood for posts, poles, piles, palings, roofing shingles, domestic and commercial fuel, mine shaft supports and building and construction timber.

South Australia's dependence on timber from native forests declined from the 1950s. This has been due to the availability of plantation wood and the use of other forms of fuel such as gas, electricity and alternative energy sources. Building and fencing products can be made from plantation wood or from other materials.

National and Conservation Parks

More than 4 million hectares of South Australia's forests are contained within National or Conservation Parks and are managed by the Department for Environment and Heritage. These include large outback parks such as Flinders Ranges NP, Gawler Ranges NP and Ngarkat CP. Many parks in higher rainfall areas are also forested including those at Belair NP, Cleland CP and Deep Creek CP. These contain taller forests often dominated by Manna gum (*Eucalyptus viminalis*), SA blue gum (*E. leucoxylon*) and Messmate Stringybark (*E. obliqua*).

Native Forest Reserves

23,900 hectares of taller forests are also protected under the Forestry Act 1950 as Native Forest Reserves. These areas were

once used for timber production but are now managed for conservation.

Most Native Forest Reserves are found in the South East, Wirrabara, Mt Crawford, Kuitpo and Second Valley Forest Reserves.

Native Forest Management

General conservation management objectives for native forests include:

- protection of areas from weed invasion, grazing by domestic or feral animals, and wildfire
- limiting public access to sensitive areas to protect native flora and fauna
- rehabilitation of degraded areas, including understorey restoration
- protection and management of threatened species
- ecosystem management by the use of prescribed burning in certain circumstances.

Plantation Forests

In 2006, South Australia had 167,000 hectares of plantation forests. Of this approximately 123,000 hectares are softwood, mostly Radiata pine (*Pinus radiata*). Approximately 42,000 hectares are hardwood, mostly Tasmanian blue gums.

Smaller areas of forest are planted with Red gum, Sugar gum, Flooded gum, Swamp Yate, Sydney blue gum, Spotted gum, Maritime pine and Cypress.

Over 52% of the plantations are contained within government forest reserves managed by ForestrySA. The rest are owned by private forestry companies or individual landowners.



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Stage 1 of a Blue gum plantation forest



Stage 2 of a Blue gum plantation forest



Stage 3 of a Blue gum plantation forest

- 🌲 Plantations are forests of trees which are planted to produce wood. People who look after plantations are called foresters. Foresters have to know how to care for trees so that they will grow with long, straight trunks which can be cut for timber.
- 🌲 Plantation forestry is like farming. Trees are the crop being grown to produce a product - wood or timber. While our wheat farmers can grow a crop every year, it takes 10 to 40 years, and sometimes longer, for a crop of forest trees to reach maturity and be ready for harvest.
- 🌲 Forestry plantations are an important part of the forestry industry in Australia. During the 19th century, as European settlers spread out across the country, land was cleared for farms. Our native forests were also cut down to supply building and fencing materials, jetty piles, telegraph posts and timber to build carts.
- 🌲 South Australia had less native forests suitable for timber than any of the other States and first established forest plantations over 120 years ago.
- 🌲 In South Australia and Western Victoria, the plantation cycle for Radiata pine is typically 30 - 40 years and 10 - 15 years for blue gums.
- 🌲 After harvesting, blue gums can regrow from their stump. This is known as coppicing and when managed, replaces the need to plant seedlings for the next crop.
- 🌲 See also 'How Pine Forests are Managed' - Page 18.

Find Out More

PIRSA Forestry - www.pir.sa.gov.au/forestry
ForestrySA - www.forestry.sa.gov.au



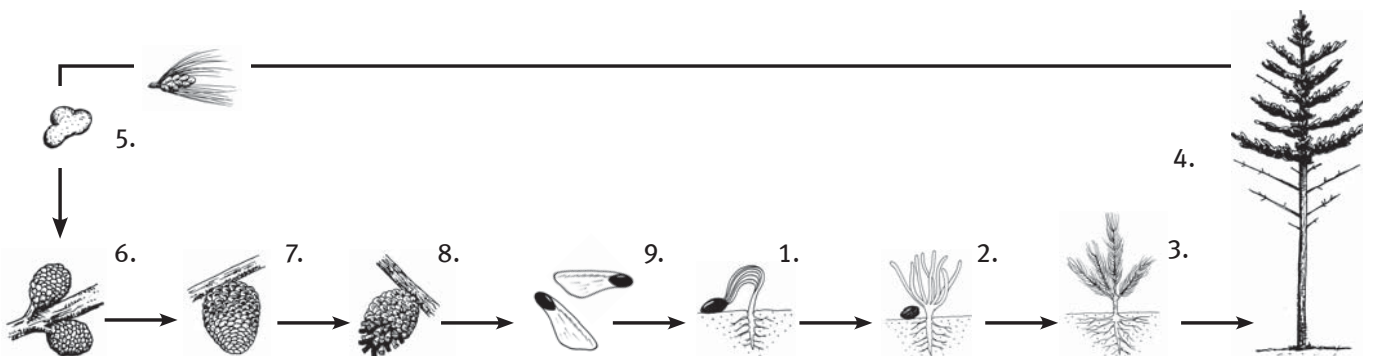
Forests in South Australia

Radiata Pine

Species Profile

1. **Scientific name** - *Pinus radiata*
2. **Common names** - Radiata pine; Monterey pine; remarkable pine
3. **Countries of origin** - California, USA and Mexico (*islands off the west coast*)
4. **Height** - 15 - 30m in the wild and up to 60m in cultivation
5. **Growing requirements** - Propagated from seed or cuttings. Does best in areas with warm days and cool nights, relatively fertile soils and a reasonably high average annual rainfall. Usually grown at altitudes of less than 500m. Can tolerate mild frosts but suffers in snow and drought.

6. **Physical features** - Bark is dark brown, divided by deep ridges; foliage is thin green needles, up to 15cm long, in clusters of three; brown winged seeds held in large cones.
7. **Wood** - Pale-coloured sapwood, pinkish-brown heartwood; relatively even texture.



Growth Cycle of Radiata Pine

1. Seedlings germinate in warm moist soil (*generally in a nursery*).
2. Seedlings start to grow rapidly during spring and summer.
3. Trees can grow to 60m in height and half a metre in diameter (*at chest height*) after 25 to 40 years, depending on climate and soil conditions.
4. Female cones form on the higher branches of mature trees.
5. Minute, yellow, wind-borne pollen grains are released from the male cones and fertilise the female cones in August.
6. Clusters of small male flowers form at the tips of the lower branches, so they rarely fertilise female cones on the same tree.
7. Female cones mature, with ripe seeds, 2.5 years after pollination.
8. Mature cones open in hot, dry conditions and release seeds.
9. Each cone scale protects two winged seeds which are released as the cone opens.



Forests in South Australia

Tasmanian blue gum

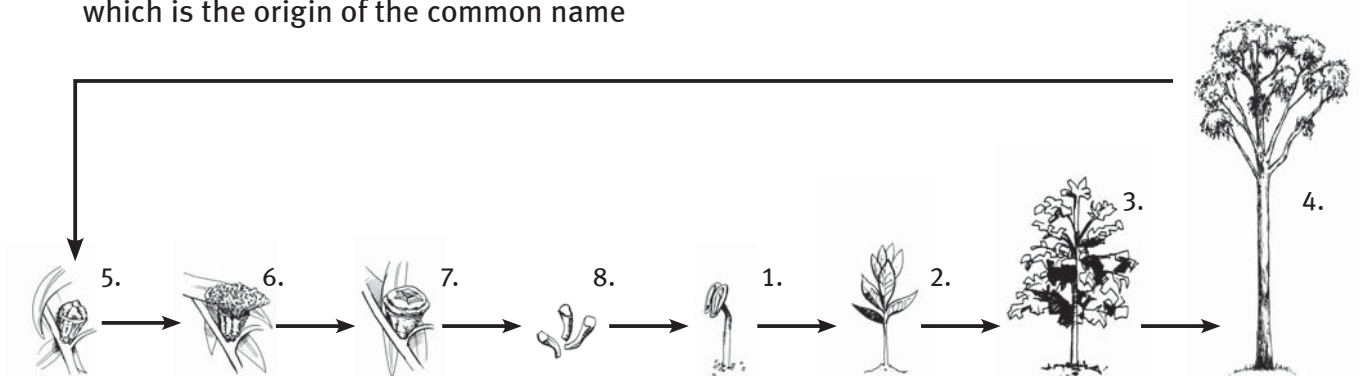
Species Profile

1. **Scientific name** - *Eucalyptus globulus*
2. **Common names** - Tasmanian blue gum
3. **Country of origin** - Australia
4. **Height** - 30 - 55m
5. **Growing requirements** - Propagation is from seed which germinates readily. Shows good growth on sunny, frost-free, lower altitude sites with good quality soils. Less susceptible to insect attack than some other eucalypt species. In very harsh and exposed conditions it can adopt a shrubby habit.
6. **Physical features** - The tree has a rough, greyish bark which is shed from the upper trunk and branches in long ribbons. The broad young leaves are covered with a blue-grey, waxy bloom, which is the origin of the common name

'blue gum'. The mature leaves are narrow, crescent-shaped and dark shining green. The creamy white, scented, flowers bloom from winter to early summer. They are attractive to the bees that pollinate them because they produce copious nectar that yields a strongly-flavoured honey. The flowers are followed by greyish 'gum nut' seed pods. The seeds are shed through valves which open on the top of the pod.



7. **Wood** - Blue gum has an open-textured wood with distinct growth rings.



Growth Cycle of Blue Gum

1. Seed is surface sown in a sunny position (*sometimes in a greenhouse*) in late winter/early spring.
2. The seedlings are transferred into individual pots when the second set of seed leaves has developed.
3. They are then planted out into their permanent positions in early summer, and may need some protection from frost during their first winter.
4. The trees grow fast and can reach 55m in height in good conditions.
5. The flower buds are warty and ribbed and have a flattened operculum (*lid or cap*) with a central knob.
6. Single cream-coloured flowers grow in the axis of each leaf. They are hermaphrodite (*have both male and female organs*).
7. Woody fruits (*gum nuts*) form on the trees.
8. Numerous small seeds are shed through valves which open on the top of the fruit.