

*This resource focuses on Key Idea 1*

## Key Ideas

Forest systems

- 1 **There are different types of forests.**
- 2 Forests change.
- 3 Forests provide an interdependent habitat for a wide variety of plants and animals.

Forest management

- 4 Forests provide valuable resources.
- 5 Forests are managed for a diverse range of purposes.
- 6 Forests are a valuable source of income, employment and trade.
- 7 The utilisation of forests and processing of forest products continues to change.

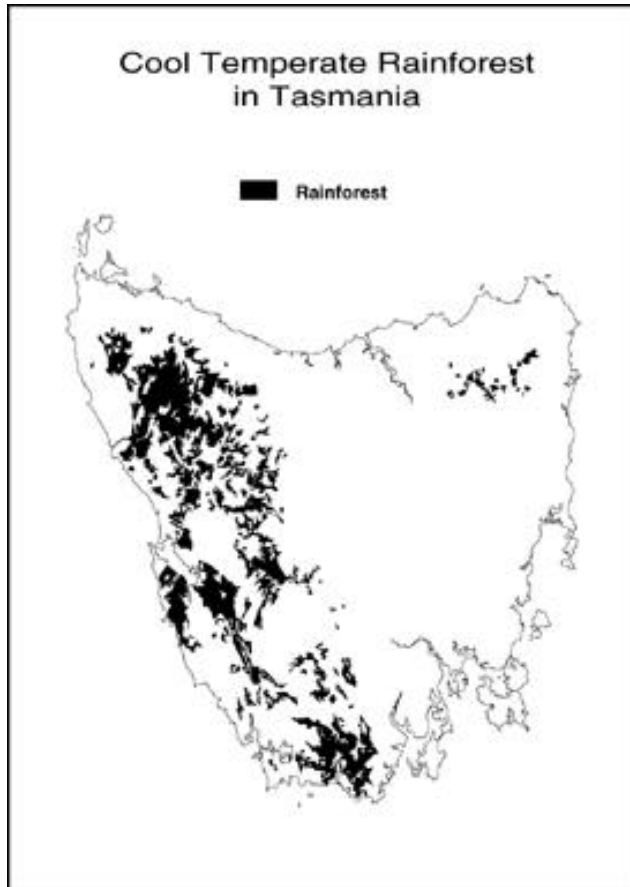
Forest issues

- 8 People have a range of different values associated with forests.
- 9 Many issues arise as a consequence of human use of forests and forest products.
- 10 There are likely, possible and preferred futures for our forests.

From Learning about our forests

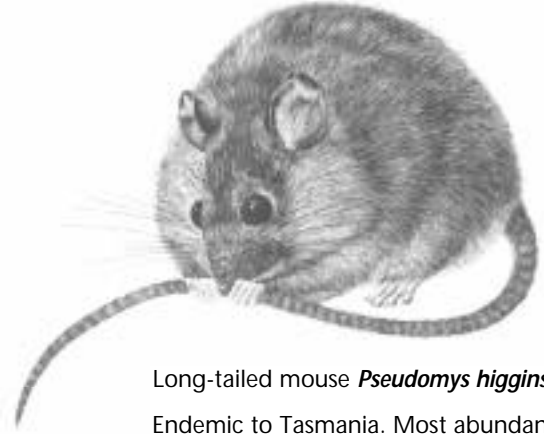
*See the glossary on page 16 for definitions of the words in bold and refer to the Appendix for links to Learning about our forests A resource for schools and teachers*

and transported to re-  
acked vehicles such as bu-  
such as **skidders**, or cable  
has winches and blocks  
expensive to use



Source: Forestry Tasmania

Note: A larger version of the maps on pages 9, 10 and 11 and a colour map showing all three forest types is included in the package. Tasmanian Rainfall map for comparing distribution of forest types and rainfall is included in the package.



Long-tailed mouse *Pseudomys higginsii*

Endemic to Tasmania. Most abundant in high rainfall areas of western Tasmania. Also found in wetter forests of eastern Tasmania and beneath screes in sub-alpine areas. Feeds on fungi, insects, spiders, seeds and fruit.

Illustration: Jane Burrell

## DID YOU KNOW?

- Cool temperate rainforest can be replaced by other forest types where the fire-free interval is less than about 350 years.
- Cool temperate rainforest covers about 600,000 ha or 10% of Tasmania's land surface.
- The main cause of death of myrtle trees is myrtle wilt, a disease caused by the fungus *Chalara australis*. Recent surveys of undisturbed cool temperate rainforest in Tasmania show that, annual mortality due to the disease was about 0.6% per annum. Most fungus infections occur through branch or stem wounds and root grafts with diseased trees.
- The earliest of the current rainforest trees to evolve were the ancestors Huon, King Billy and celery-top pines around 135 million years ago. Of the flowering trees myrtle is one of the oldest with pollen records dating back 85 million years.
- The oldest living organism is a Huon pine which appears to have been reproducing vegetatively for about 10,000 years. Individual Huon pine stems can live well beyond 2,000 years, King Billy over 1,000 years and celery-top around 800 years. This compares with the eucalypts maximum life span of a little over 400 years in wet forests.
- Changing weather patterns can result in variations in the width of growth rings in trees. Changing climate patterns going back thousands of years have been identified using growth rings in rainforest pines.
- Although many Tasmanian mammals can be found in cool temperate rainforest, only the endemic long-tailed mouse makes its home primarily in rainforest. No rainforest mammal is considered an endangered species in Tasmania.
- No bird species is found only in Tasmanian rainforest, similarly with reptiles and amphibians.
- Sassafras trees commonly replace themselves by **basal sprouts** ; when a tree crown dies from old age a new stem from the same root stock takes its place.

## Appendix: Links to 'Learning about our forests:A resource for schools and teachers'

### Content Overview Links

(see 'A resource for schools and teachers' page 12–17)

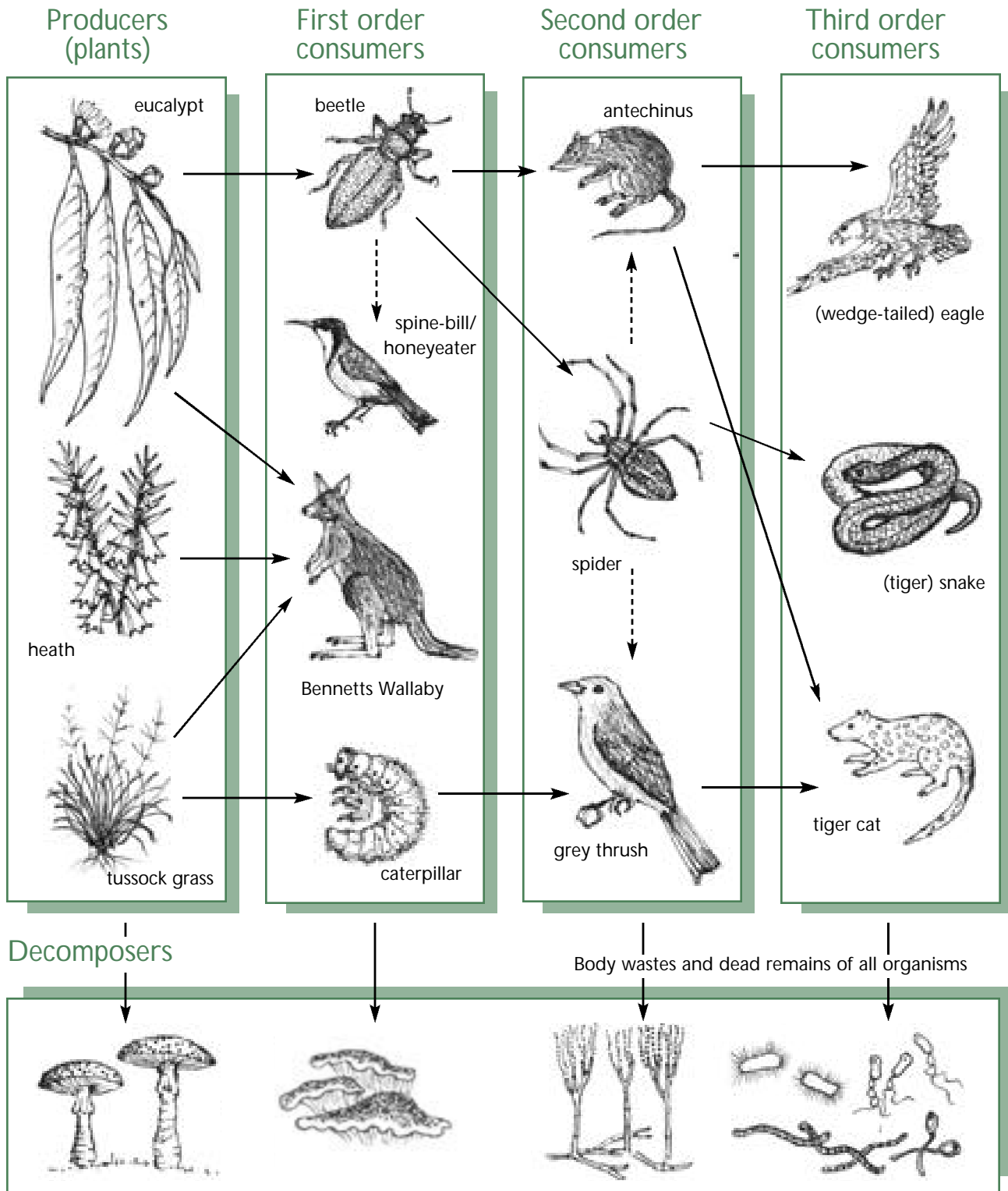
SOSE	SCIENCE
<ul style="list-style-type: none"> <li>• features of different forest environments</li> <li>• <b>What is a forest?</b></li> <li>• unique and common features of forests</li> <li>• relationship between environmental factors and location of forest types in Tasmania:               <ul style="list-style-type: none"> <li>- cool temperate rainforest</li> <li>- wet eucalypt forest</li> <li>- dry sclerophyll forest</li> </ul> </li> <li>• Australian and global forest systems</li> </ul>	<ul style="list-style-type: none"> <li>• the needs of different forest plants</li> <li>• <b>remnant rainforest in Tasmania</b></li> </ul>

### Starter Idea Links, for example

SOSE Level 1 – what is a forest?				
(see 'A resource for schools and teachers' page 19)				
Strand	Strand Organiser	Possible Activities	ICP	Key Idea/s
Place and Space	Features of Places	1.4 Explore trees in the school ground and gather information by using the senses, sketching, discussing shapes and identifying the different parts of trees. Show, discuss and share pictures and experiences of forest environments. Introduce 'forest' vocabulary words.	1.16 1.17	1
Science Level 5 – remnant rainforest in Tasmania				
(see 'A resource for schools and teachers' page 29)				
Strand	Strand Organiser	Possible Activities	WS	Key Idea/s
Life and Living	Living together	5.9 Visit a wet gully, or remnant rainforest, and report on features of the habitat that would protect it from fire and drought. Investigate the location of remnant rainforest in Tasmania and suggest reasons for their survival. Suggest some evolutionary problems for these environments.	5.13 5.14 5.15 5.16 5.18	1

# A Tasmanian terrestrial (land) food web

Note: Some linkages within consumer groups are also shown (--->)



# Modern methods of timber harvesting and regeneration

Today, deciding which type of harvesting method should be used to log a particular timber **coupe**, or area to be harvested, is an important management issue. Environmental as well as economic effects are a major consideration in making decisions, along with the size of the coupe, the **terrain**, the type of forest and the harvesting equipment available. In Tasmania the *Forest Practices Code* determines strict environmental guidelines governing the use of harvesting equipment and all commercial operations must abide by an approved Timber Harvesting Plan. Management methods for timber harvesting currently used in Tasmania's native eucalypt forests include clearfelling and selection logging.

## Clearfelling

Using the clearfelling method, all commercially valuable trees in a coupe are harvested at one time. Retention of trees near waterways or in habitat strips and adjacent areas provides habitats for animals and insects. Clearfelling is highly economical and is used in areas where widespread burning is required to create a suitable seedbed for **regeneration** of new

forest. After clearing and burning, seed taken from the site before harvesting is sown across the area, either by hand or from the air.

## Selection logging

Several different methods of selection logging are employed in Tasmania. These are described and illustrated below.



Seedtree retention. Illustration: Jane Burrell

*Seedtree retention.* This method is similar to clearfelling, but is applied to open forests where a continuing seed source from unfelled trees (usually 7-12 per hectare) will maximise forest regeneration. The area around the seedtrees must be prepared by burning or mechanical disturbance, and once the new forest is established the seedtrees are removed.

*Shelterwood.* This method is usually applied to high altitude open forests. All the mature trees are removed in stages, generally about 20 years apart. Removal of the mature trees allows younger trees to grow through, and regeneration of new trees occurs under the opened canopy. This method results in ongoing growth of different aged trees.



Shelterwood. Illustration: Jane Burrell



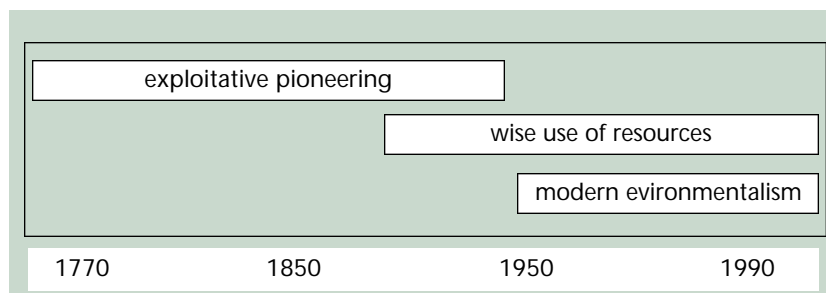
Overstorey removal. Illustration: Jane Burrell

*Overstorey removal.* Similar to shelterwood, but applied to two-aged forests, where the younger aged trees are well-stocked and over 5 metres in height. The older class is removed in one harvest and the younger trees are thinned and then allowed to grow to full maturity.

# How our changing values have changed the role of governments

Changes in Australian attitudes to land over the past two hundred years demonstrate a complex interplay of many 'visions' and values, reflecting wider changes in our nation's history. These changes can be seen in the way government involvement in land management has changed since 1788. Frawley 1994 (developing the work of Heathcote) identifies the evolution of three broad eras in the role Australian governments have taken with regard to the environment since 1788 (Table 1).

Table 1: Three broad eras in evolving Australian visions since 1788 (following Frawley, 1994)



The first is an era of exploitative pioneering, a period beginning shortly after European settlement, characterised by nil or minimum government intervention. Where government support for resource development existed, it showed no consideration of environmental effects or future consequences.

The second era, from around 1900 (but strongest before 1960), has seen a focus on national development, but also a concern for the 'wise use' of resources. This has been a period of increasing government intervention in environmental management – for both conservation and developmental purposes, and to protect capital investment and sectoral interests.

The third era, from the 1960s, is characterised by the rise of modern environmentalism. During this period the development ethos has been consistently challenged and a wide range of environmental legislation passed by state and federal governments.

## Different people – different values

Every person has their own way of looking at the world, a different sense of what is important, and a different set of values. While we each have personal values, they are often similar to the values held by people in our family, work, religious or cultural communities. Throughout our lives, we are all members of many communities. The shared values of a community are important because they reflect and strengthen our individual perceptions of the world. It makes us feel comfortable and secure to know that the way we perceive the world around us is how others see it too.

Although we are often unaware of them, our values are very important to us. They go a long way to defining who we are, what we believe in and stand for, and our sense of meaning in the world.

## Different communities perceive the forests differently

When people disagree on issues such as how we manage, use and preserve Tasmania's forests, it is generally because they value different things about our forests. On a broader level, the five European 'visions' referred to earlier illustrate how Australians have changed the way they perceive the environment over time. (Aboriginal perceptions illustrate a different set of cultural values.) However, other sets of values also exist that are related to a particular community's location, economy, education levels, employment base, culture and orientation. These values could be said to be community-specific rather than era-specific. In the many complex forest debates throughout Tasmania's history, value differences between communities have played an important role.

**Table 4. Mainland Tasmanian reptiles with distribution and habit preferences.**

Endemic species are indicated by an E. Source: Rawlinson (1974), Cogger (1986) Hutchinson and Donnellan (1988), Hutchinson et al. (1990), Smith (1990), Reounsevell et al. (1996).

Species	Common name	Thermal zone		Vegetation usage				Habits
		Cool	Cold	NF	DSF	WSF	TRF	
<i>Lampropholis delicata</i>	delicate grass skink	X		X	X			Forages in leaf litter in medium density vegetation
<i>Pseudemoia pagerstecheri</i>	tussock skink	X	X	X	X			Limited to areas of low tussocky vegetation
<i>Pseudemoia entrecasteauxii</i>	southern grass skink	X	X	X	X			Limited to open areas or low grassy undergrowth
<i>Pseudemoia rawlinsoni</i>	glossy grass skink	X	X	X				Humid areas with dense ground cover (e.g. marshes, boggy creek valleys, wet heathland)
<i>Niveoscincus greeni</i> E	northern snow skink		X	X				Rocky areas in alpine zone
<i>Niveoscincus orocryptus</i> E	mountain skink	X	X					Low vegetation in alpine and subalpine areas in the south-west
<i>Niveoscincus metallicus</i>	metallic skink	X	X	X	X	X	X	Widespread and common. Occurs in rocky area and most vegetation types especially forests
<i>Niveoscincus microlepidotus</i> E	southern snow skink		X	X				Rocky areas in alpine and subalpine in southern Tasmania
<i>Niveoscincus ocellatus</i> E	ocellated skink	X	X	X	X			Restricted to areas of extensive rocky outcrops
<i>Niveoscincus pretiosus</i> E	Tasmanian tree skink	X	X	X	X	X		Occurs in a variety of vegetated habitats or rocky areas
<i>Bassiana duperryi</i>	three-lined skink	X		X	X			Restricted to areas with low or open vegetation
<i>Lerista bougainvillii</i>	Bougainville's skink	X		X	X			North-east Tasmania on loose sandy soils
<i>Egernia whitei</i>	White's skink	X		X	X			Occurs mainly in open rocky areas
<i>Cyclodomorphus casuarinae</i>	she-oak skink	X		X	X	X		Most vegetation types, commonest in clearings bordered by dense arboreal vegetation
<i>Tiliqua nigrolutea</i>	blotched blue-tongue	X		X	X			Most common in clearings with dense heath or arboreal lizard vegetation nearby
<i>Tympanocryptis diemensis</i>	mountain dragon	X		X	X			Open vegetated areas including coastal heath
<i>Austrelaps superbus</i>	copperhead snake		X	X	X			Most abundant in low lying areas subject to periodic flooding
<i>Notechis ater</i>	tiger snake	X	X	X	X	X	X	In all vegetation types but most common around watercourses and swamps
<i>Drysdalia coronoides</i>	white-lipped snake	X	X	X	X	X		Low tussocky or heath-like vegetation

# Looking at the *Key Ideas* through print & visual texts



## *Introduction*

This teacher resource is divided into three sections. **Section 1** is primarily related to Key Ideas 1–7 as described in **Learning about our forests** and contains reviews of:

- fiction and non-fiction books;
- poetry;
- video texts; and
- posters, with some suggestions for their use by teachers and students in a study of **Learning about our forests**.

**Sections 2 and 3** are primarily related to Forest Issues Key Ideas 8–10. Section 2, 'Exploring Forest Issues: The part that language plays in presenting an issue', is related directly to an approach to exploring the print and visual resources reviewed in Section 3. It provides a brief analysis of how language and visual image are used by authors, artists and directors and how they can be used by students to present and influence attitudes and particular points of view concerning forest issues. **Section 3** reviews print and visual texts, including video texts. Included also are suggestions for a range of learning activities for each of the texts reviewed.

