

**T**he aim of this book is to help children understand that we are the guardians of the Earth and have a responsibility to protect our planet. Often we forget that we're part of nature and that we must protect our natural environment. This booklet is designed for children at middle primary school level.

Materials for this book were prepared in partnership between the Shire of Mundaring's Environmental Advisory Committee and Mundaring **Community Bank**® Branch of Bendigo Bank.

# Fun With Nature

## Mundaring Hills Region



**This book belongs to:**

Mundaring  
Community Bank Branch Bendigo Bank





# Tree of Life



The Environmental Advisory Committee (EAC) is made up of people in our community who help the Mundaring Shire Council to manage our local environment. The work of the committee is to provide advice to the Shire to build and create awareness of the environment through education and action. The Shire takes its work for the environment seriously and has an Environmental Management Strategy and a Community Education Strategy.

This booklet forms part of the Community Education Strategy and was written to help young people enjoy and care for our local environment. For further information on the Shire's EAC, please contact the Shire's Environmental Officer on 9290 6666.

The Mundaring **Community Bank®** Branch of Bendigo Bank works with the local community to help build our community. We are proudly owned and operated by local people, and we want to protect and preserve the environment for the future, too. We helped to produce this book because we want our local young people to enjoy their environment and understand how important it is. Call us on 9295 0744 or call in to the branch at 6945 Great Eastern Highway, Mundaring to find out more about what we do.

## Websites:

[www.mundaringcommunitybank.com.au](http://www.mundaringcommunitybank.com.au)  
[www.mundaring.wa.gov.au/residents/pdf/currentgreenpage.pdf](http://www.mundaring.wa.gov.au/residents/pdf/currentgreenpage.pdf)  
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[www.naturebase.net/urbannature](http://www.naturebase.net/urbannature)  
[www.naturebase.net](http://www.naturebase.net) (search fungi)  
[www.nativegrassgroup.asn.au](http://www.nativegrassgroup.asn.au)  
[www.weedwarriors.net.au](http://www.weedwarriors.net.au)  
[www.weeds.org.au](http://www.weeds.org.au)  
[www.floraforfauna.com.au/schools](http://www.floraforfauna.com.au/schools)  
[www.sustainableschools.wa.edu.au](http://www.sustainableschools.wa.edu.au)  
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Materials written and compiled by Carla Swift, Toni Burbidge and Melinda Brezmen  
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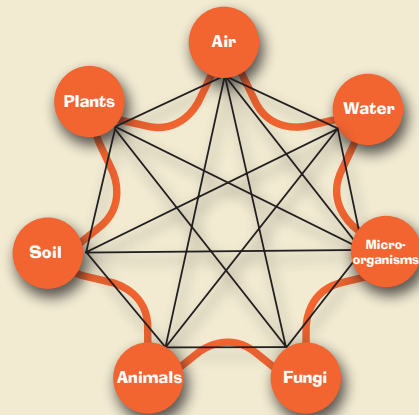
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## Summary

**The web of life** is a complex series of relationships within and among all living things. Human life; along with all other life that exists in nature is dependant upon healthy, functional ecosystems that provide clean air, water and soil.

It is very important to remember that humans are part of nature and we depend on it to sustain our life. All of our food, shelter, clothing and other material possessions originally come from natural resources.

People are the guardians of our Earth and have a responsibility to protect our planet. A guardian is a keeper or protector. Sometimes people forget that they are part of nature, and this is why people sometimes do not remember to care for the environment.

**If you want a clean, healthy environment to live in and for future children to live in, then you can become a guardian of the Earth.**

## 11.

## Activity

**Write a letter to your local environment group offering your support to help them protect local ecosystems for the future. What kind of help can you offer them?**

Below is an example of how to set out a letter.



Your name  
Your address  
Your phone number  
Date

Post to your local catchment group!

Name of the person or group to whom you are writing  
Title of that person

Dear \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Yours sincerely  
Your name (written clearly).

Susannah Brook Catchment Group  
Jane Brook Catchment Group  
Wooroloo Brook LCDC  
Helena River Catchment Group  
Blackadder Woodbridge  
C/- Mundaring Shire's Bushcare Coordinator  
7000 Great Eastern Highway  
Mundaring WA 6073

## Forest

### Healthy Forest



### Degraded Forest



## Activity

### Describing the photos

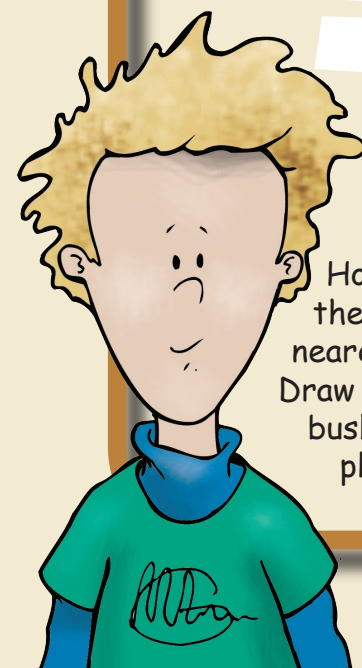
Put a ✓ next to the sentences that describe the main features of healthy forest.

Put a ✗ next to the sentences that describe the main features that may be found in degraded forest.

- ☐ A natural amount of healthy native vegetation with several canopy layers
- ☐ Disturbance from rubbish dumps, gravel pits or erosion
- ☐ Little or no weed invasion
- ☐ Dieback infestation
- ☐ Little or no disturbance from erosion, tracks, rubbish, rabbit diggings
- ☐ Weed invasion
- ☐ Lack of healthy native vegetation

## 2.

How would you rate the health of your nearest patch of bush? Draw a picture of the bushland near your place.





# Dieback

## What is dieback?

**Phytophthora** dieback (pronounced fy-tof-thora), is a type of water pathogen that lives in the soil and plant tissue and causes the roots of plants to rot. Over 40% (almost half) of our local native plant species can be destroyed by dieback.



## How is dieback spread?

Dieback spreads in water that flows above and under the ground. Human activity causes dieback to spread quickly when we re-locate soil by doing things like:

- constructing roads and using earthwork machines;
- driving infected vehicles on bush tracks;
- riding horses in the bush which causes soil to be moved around via their hooves;
- riding bikes through the bush in wet conditions.

## How can we stop dieback?

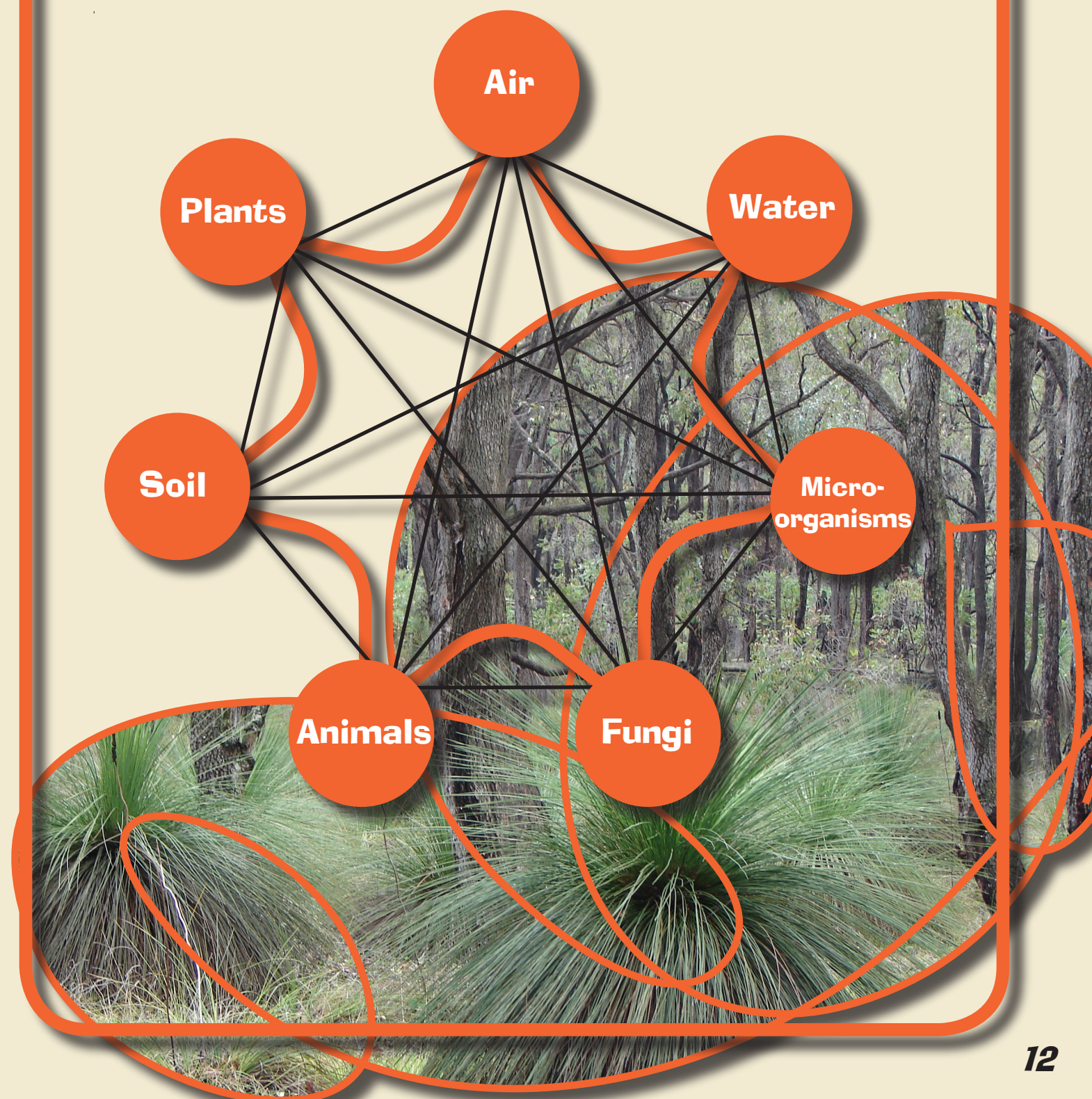
The management of dieback is a complex task that needs help from experts to identify dieback in bushland. The best way to manage dieback is to stop it spreading. To stop dieback from spreading, we need to prevent contaminated soil, sand or gravel being moved from one area of bush to another. For example:

- 1 Keep people out of affected areas of bush so that dieback cannot be spread any further, especially during wet and muddy conditions.
- 2 Stay on tracks, use hard, well drained tracks and avoid puddles.
- 3 Wash down shoes and boots with bleach or methylated spirits before and after entering bushland.
- 4 Vehicles, tools and other machinery should be free of all mud and soil when entering bushland.
- 5 Keep horses' hooves free of soil and mud before entering bushland and avoid going into bushland during wet weather.

# The Web of Life

## Ecosystem

An **ecosystem** is a group of plants, animals and micro-organisms living together in a place such as a forest, lake or river. A forest ecosystem, for example, includes all the connections among living things within the forest as well as the systems that develop between living things and the physical environment such as soil, water and air.





# Protect Native Fauna

## Protect Native Fauna – Reduce Road Deaths

"Get Mum and Dad to drive carefully and protect wildlife"

Too many native animals are injured or killed on our roads.

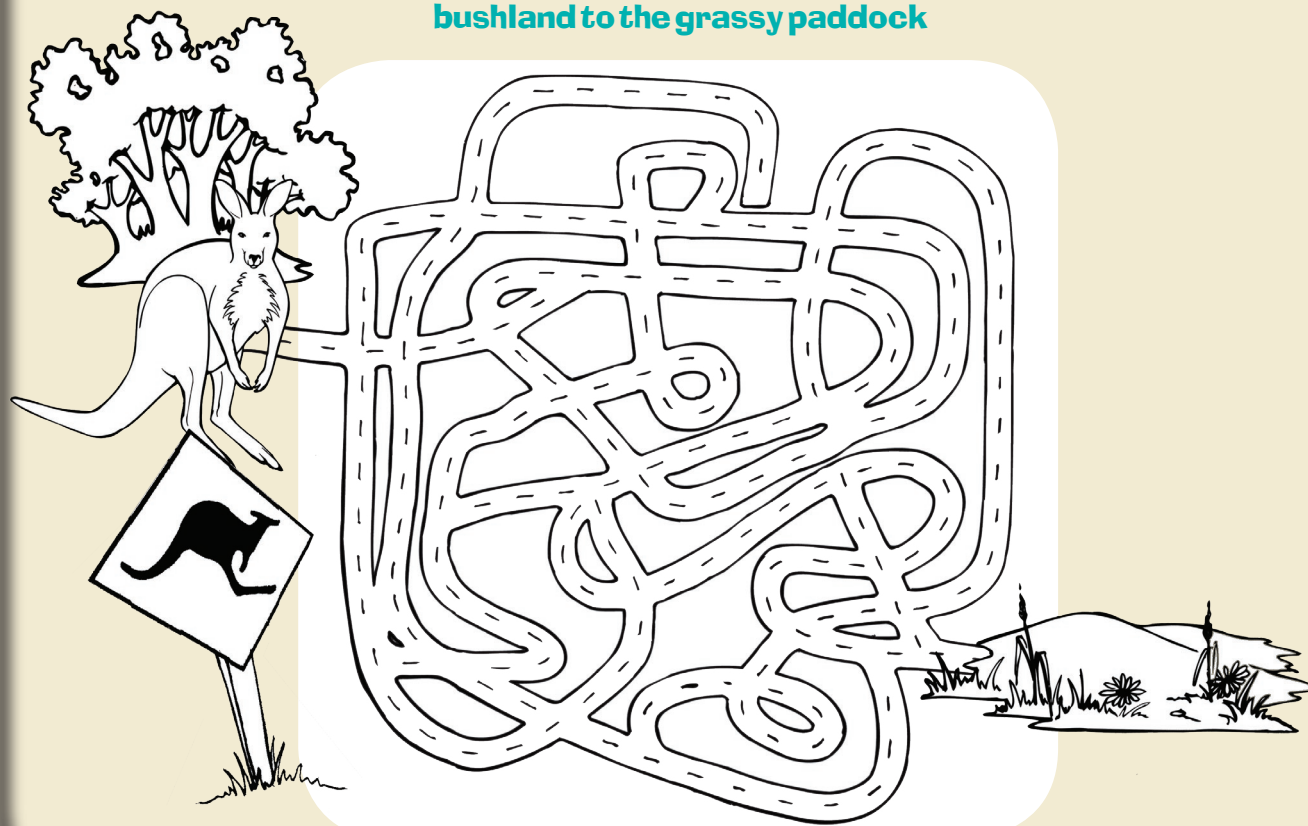


**SLOW  
DOWN WHEN  
YOU SEE A  
WILDLIFE SIGN.  
SLOW DOWN  
AT NIGHT.**

10.

## Activity

Help the kangaroo to find her way safely across the road from bushland to the grassy paddock



# Dieback

3.

## Activity

What other actions might cause dieback to spread from an infected patch of bush to a dieback-free patch of bush?

4.

Using ideas from the opposite page, design and draw a public education sign that could be put up in front of a dieback-affected area of bush. Use pictures or words to explain what people should do to prevent spreading dieback into healthy areas of bush.





# Weeds

## Weeds

Weeds are plants that are growing in the wrong place.

Usually they have been brought in either on purpose or by accident from another part of Australia or overseas (anywhere outside of our local area).



Bridal creeper

The reason why weeds are a problem is that they sometimes take over our bushland, and compete with our local plants for space, water and sunlight. This disturbs the balance of nature.

## Activity

Can you list common weeds or draw one that is growing near your house?  
Discuss how you might manage the spread of this weed.



Baboon bulb



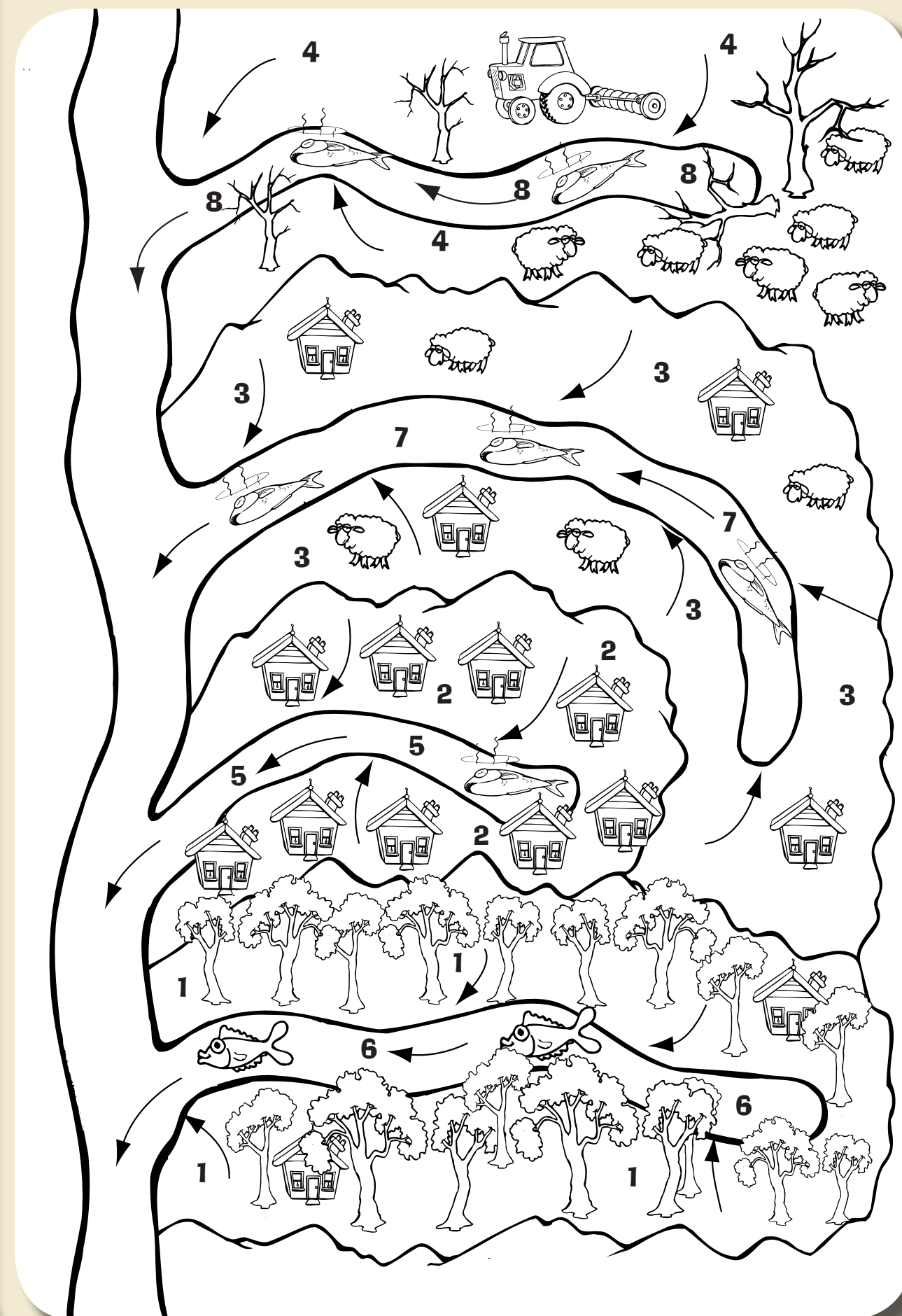
Legume-Ginista



Blackberry



# Creek And Water Quality





## "Everybody lives in a water catchment"

A water catchment is a defined area that feeds water into a particular creek system. Keeping our waterways and groundwater clean is essential for life. What you do to keep water clean in your catchment can affect people, vegetation and wildlife in your area and further down the creek.

Major problems with water quality are caused by polluted or excessive run-off from catchment areas flowing downstream into water ways.

- A healthy catchment with plenty of vegetation and clean run-off will provide creeks with fresh, clean water.
- In an urban catchment people often let rubbish, oil and garden fertiliser get into drains. This results in polluted water running into creeks.
- An agricultural or urban catchment that lacks vegetation may result in soil running into creeks. This soil often carries a lot of nutrients from fertilisers and manure. High nutrient loads in waterways can cause algal blooms, which affect the water environment.
- A catchment that does not have enough vegetation to catch and use rainfall leads to excess surface water flows and rising groundwater levels. Rising groundwater dissolves salt which causes increased salinity in the soil. This can kill or damage vegetation and aquatic wildlife.

The processes that affect water quality are complex. The activity below simplifies the story to get you thinking about how catchment run-off affects the environment.



## Activity

### Flow-on game

Colour in each section of the catchment diagram according to the number given (1 = yellow etc.). When the picture is finished it will tell a visual story about how the run-off from a water catchment can affect water quality further down the creek.

### Colour codes

#### Catchment slopes:

- 1 Yellow = clean run-off
- 2 Red = litter and rubbish run off
- 3 Pink = soil and nutrient rich run-off
- 4 Purple = excess surface water run-off
- 5 Brown = murky brown water
- 6 Blue = healthy water
- 7 Green = water with algal bloom
- 8 Black = salinity

## Pests

Animal pests are animals that are not native to our area. They compete with native animals for **habitat** such as nesting sites and food. Some introduced animals are predators that hunt native wildlife.

Examples of introduced animals that directly affect native animals in bushland include **fox, cat, rabbit and rainbow lorikeet**.



Rainbow lorikeet

A habitat is a place where an animal normally lives. A habitat can be described by its vegetation and physical features.

6.

## Activity

Join the dots to reveal this common introduced animal.





**"Not all grasses are weeds"**

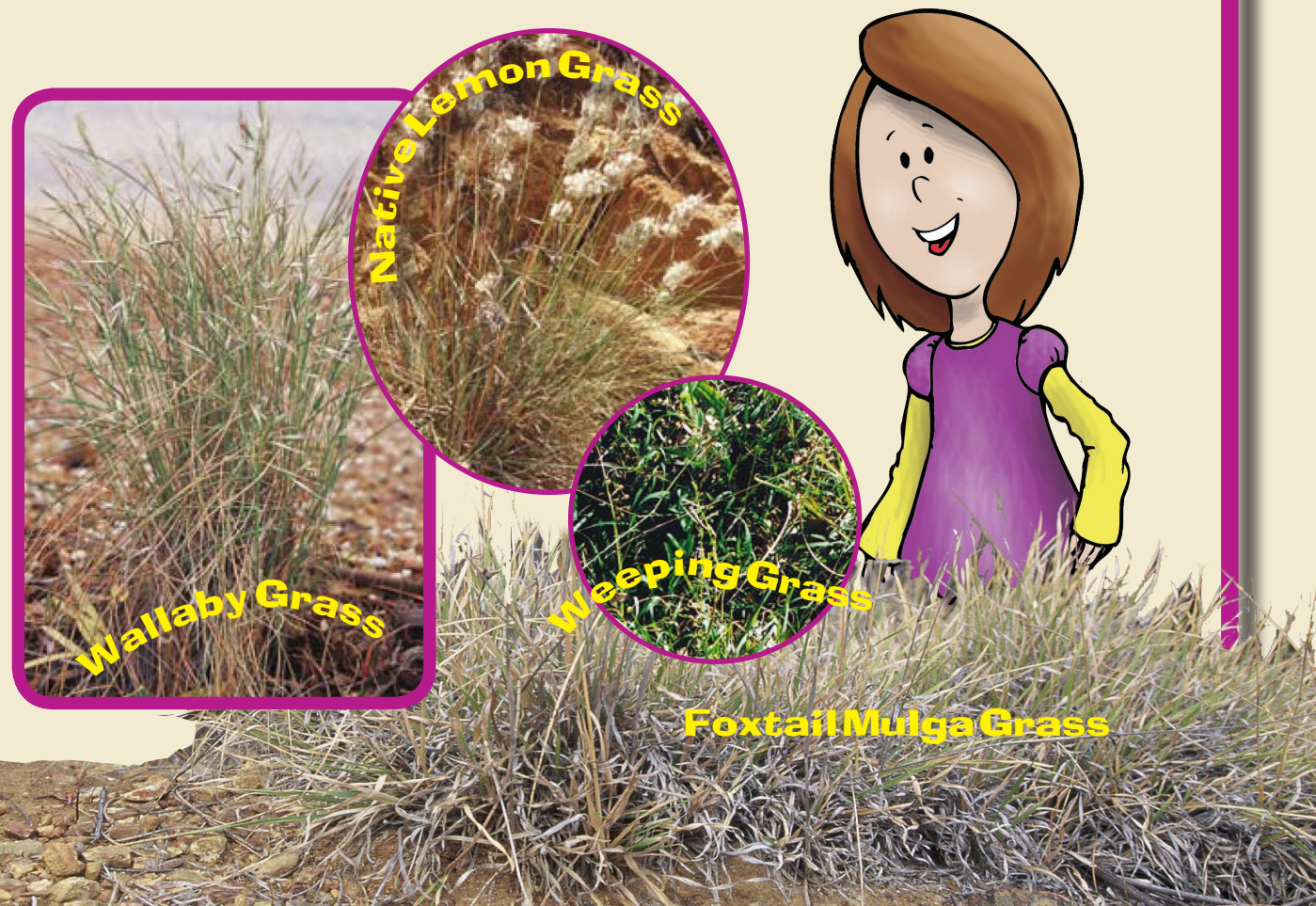
## Benefits of conserving and using native grasses:

- Native grasses have a role in providing habitat for wildlife.
- Many native grasses are perennial (meaning they come back every year). They have deep root systems which assist water penetration and stability of soil. Native grasses help to reduce soil erosion caused by water and wind.
- Native grasses provide good summer grazing for livestock because many stay green through summer or have growth spurts after summer rains.

## Activity

Complete the sentences below by filling in the missing words.

1. Native grasses provide good \_\_\_\_\_ for \_\_\_\_\_ during summer.
2. Native grasses help to reduce soil erosion throughout the year because they are \_\_\_\_\_ and have deep \_\_\_\_\_ systems.



## Fungi

- ✓ Fungi play important roles in ecosystems. They recycle **NUTRIENTS**, breaking down leaf litter and debris to provide food for plants.
- ✓ Fungi also provide a food source for native **MAMMALS** such as the woylie and potoroo.
- ✓ A fungus isn't a plant or an animal. Fungi have their own **KINGDOM**.
- ✓ The part of the fungus you can see is called the **FRUITBODY**.
- ✓ Fungi are made of very small threads called **HYPHAE** (Hi-fay)
- ✓ The main part of the fungus is a dense network of hyphae called the **MYCELIUM** (My-see-lee-um) that is often hidden from sight.
- ✓ Some fungi are edible but some are very **POISONOUS!**

Fungi are **PROTECTED** by the same laws that protect native flora and fauna

- ✓ Common forms of Fungi include **MUSHROOMS**, **TOADSTOOLS** and **BRACKETS**.



## Activity

Find the words that are highlighted above.



B	R	A	C	K	E	T	S	I	T	D	G	P
D	P	R	F	I	B	A	D	E	S	G	T	O
H	R	C	S	N	F	H	K	L	S	R	M	I
Y	O	R	W	G	R	F	J	U	H	S	A	S
P	T	O	A	D	S	T	O	O	L	S	M	O
H	E	F	W	O	V	W	M	F	D	C	M	N
A	C	S	D	M	R	T	G	H	N	S	A	O
E	T	Y	H	K	D	T	G	I	T	N	L	U
G	E	Y	M	U	S	H	R	O	O	M	S	S
Y	D	M	Y	C	E	L	I	U	M	H	F	L
U	L	G	K	D	Y	T	R	G	H	Y	L	P
B	F	R	U	I	T	B	O	D	Y	R	T	Y
V	W	S	N	U	T	R	I	E	N	T	S	G