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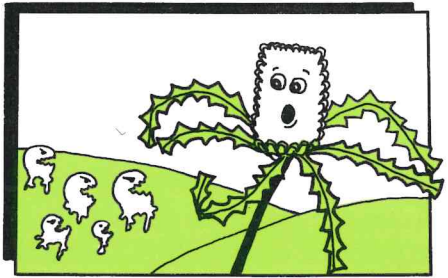
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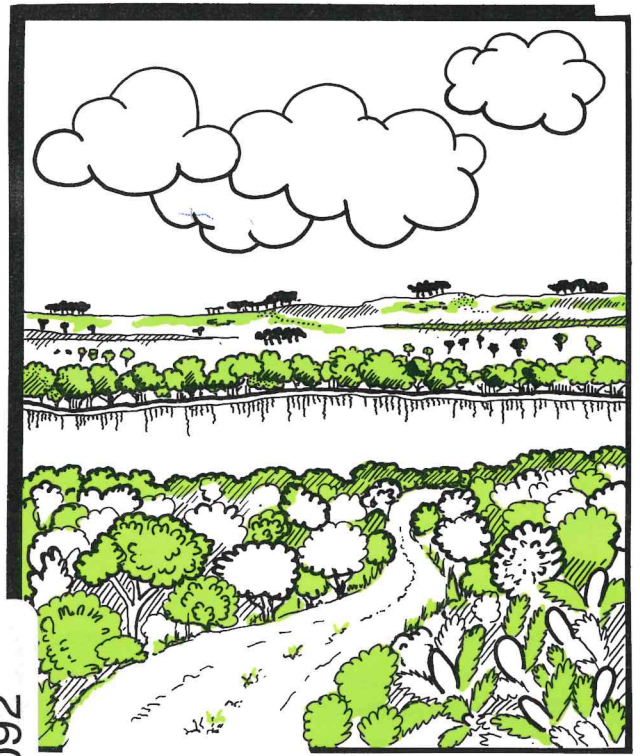
Department of Conservation and Land Management

Caring ... Naturally

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DIEBACK DIEBACK DIEBACK

on the Central West Coast



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Department of Conservation and Land Management

DIEBACK : What is it?

Dieback in Western Australia is a disease caused by a fungus called *Phytophthora*. The fungus was introduced from the tropics. It is microscopic and lives in the soil. Roots of plants are infected with the fungus; this restricts the plant's ability to take up water or nutrients, eventually causing its death.

Although you can't see the actual fungus, you can see where it has been. Because infected plants are deprived of water they often look similar to plants dying of drought.

Over 1,000 species of native plants can be killed by dieback. Most, like banksias and dryandras, die very quickly. Their leaves turn brown or yellow and, unlike some burnt plants, they will never resprout.

Some trees, such as jarrah, can fight the fungus in their roots for years and die back slowly. Hence the common name for the disease is "dieback".

There are seven species of *Phytophthora* present in WA:

- ❖ *Phytophthora cinnamomi*
- ❖ *Phytophthora megasperma* var. *sojae*
- ❖ *Phytophthora megasperma* var. *megasperma*
- ❖ *Phytophthora citricola*
- ❖ *Phytophthora drechsleri*
- ❖ *Phytophthora nicotianae* var. *parasitica*
- ❖ *Phytophthora cryptogea*

Where is it?

The fungus is spread widely throughout the central west coastal area, but fortunately most of our national parks and nature reserves are still free of the disease.

The central west coastal area is at risk in places where it is warm and moist for most of the year, such as creek lines and seasonal wetlands. Because dieback is caused by a tropical fungus, it thrives in these warm and moist conditions.

Unfortunately, many of the plants so superbly adapted to growing on the infertile central west coastal sandplain have very little resistance to dieback.

Why must we stop its spread?

Many of the plants that live in the national parks and reserves of the central west coast are rare and endangered or geographically restricted. These rare plants aren't found anywhere else in the world. If dieback infects the areas where they grow, we may lose many species - some of them forever.

Once the fungus has invaded a patch of bush there is, at present, **NO PRACTICAL CURE.**

SOME NATIONAL PARKS AND NATURE RESERVES OF THE CENTRAL WEST COAST



Many hectares of beautiful bushland can be turned into dieback "graveyards". Researchers are working hard to find a cure, but we must buy time by keeping dieback restricted to as small an area as possible.

The best way to prevent dieback is to stop it spreading.

How does it spread?

Phytophthora fungi have three types of spores. The small spore, or zoospore, is very active and swims in water. The larger chlamydospores and oospores are formed in and around the roots of plants. All spores can reproduce the fungus.



Zoospores spread very quickly downhill with waterflow. Dieback moves uphill more slowly by growth through roots that touch each other.

Anything that moves the infected plants or soil from one place to another will also spread infection.

One of the main ways of spreading infected soil and plants is on the underbodies and wheels of cars and machines. Four-wheel drives and heavy earth-moving equipment are particularly likely to move soil in this way.



How can you help stop the spread?

Because vehicles are a common way of spreading dieback, it is sometimes necessary to close tracks and restrict access to certain areas. Washing down or brushing off any excess soil and vegetation before and after going into areas of concern will also help reduce fungus spread.

If you visit the central west coast area, keep to well formed, well drained roads and obey "road closed" signs. As few areas as possible will be closed, and by keeping out of them you will help preserve the beauty of the rest of the parks and reserves.

By acting now to prevent dieback spread on the central west coast, we will avoid having to close off large areas in the future.

It is essential to have your co-operation.

Park visitors and land users can become our greatest allies in the fight against dieback by taking note of areas where plants are dead and notifying the nearest branch of the Department of Conservation and Land Management (CALM) of any suspected outbreaks.

Land users such as miners, apiarists, wildflower pickers and recreationists on vacant Crown land or CALM estate should contact the nearest CALM office for further dieback hygiene procedures.

What is CALM doing to stop the spread?

CALM is committed to preventing the spread of dieback. The Department is very strict about hygiene. All its vehicles and machinery are washed down after working in dieback areas to prevent them spreading dieback to uninfected sites.

Only essential work on roads and firebreaks is allowed. Major roads are maintained, making it less likely that vehicles will pick up infected soil.

CALM researchers are working hard to understand more about the nature of the disease and how it spreads in order to find a cure.