

Bushfire recovery and biodiversity

Fact sheet | January 2015



Post fire



Early recovery



After five years

Fire is a natural process that our native vegetation is adapted to. Although burnt sites appear to be devastated, fire can be beneficial in maintaining habitat diversity and therefore important for the survival of many species of plants and animals.

In fact, newly burnt habitat is home to a range of plants and animals that flourish before much of the former vegetation regrows. Many species of native plant have seed that is stimulated to germinate by fire while others have adapted to reshoot vigorously from roots or stems.

Intense fire can alter wildlife habitat in the short- to medium-term by removing old, hollow-bearing trees, leaf litter, plant cover and some food sources.

Tree hollows are important for local fauna and can take many years to be replaced in the landscape. However, fire can also be beneficial for some fauna by increasing the number of fallen logs and branches and in some cases, it may assist with hollow formation when tree limbs are lost.

Most areas of native vegetation are able to recover from fire events naturally over time, but landholders can support this process by carefully managing any potential threats to recovery that may emerge.

Support and advice is available at your local natural resources centre, through Natural Resources Adelaide and Mt Lofty Ranges.



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Threats to recovering habitat

Allowing time for your bush to regrow and ensuring that your habitat is protected from threats is critical to conserving the full range of flora and fauna.

Your patch may have been a refuge during the bushfires, so removing threats at unburnt sites may assist native species in the area to recover.

Threats to watch for include:

Weed invasion

Many weeds respond positively to fire. The pre-fire condition of bushland often determines the post-fire weed response. The burning of weedy bushland can make it weedier, but the fire may also trigger many native plants to germinate too.

Erosion

Exposed soils can become susceptible to wind and water erosion. Minimising soil disturbance is often beneficial in burnt ground.

Grazing of new growth

Most herbivores (e.g. rabbits, kangaroos and domestic stock) enjoy grazing on new growth which can prevent or severely impact the natural regeneration of many native plants.

Actions to assist recovery

Erosion control

The best way to protect exposed soils is to allow the natural regeneration of native plants.

If there is erosion in watercourses or on steep slopes, silt fencing, branches or straw bales can be used to prevent erosion at a small scale (be careful to use weed free bales!).

Minimise soil disturbance on burnt areas and stick to existing vehicle tracks. Be mindful of the plant disease *Phytophthora* that is known to occur within the region.

Weed control

Although fire can promote weed growth it can also provide access to weed infestations. There is also an opportunity to capitalise on the germination of weed seed by undertaking weed control before new seedlings produce the next generation of seed.

Utilise the plant identification skills of your local Natural Resources District Officer to help identify weeds and ensure best practice weed control to not harm surrounding native plants that are also likely to be germinating.

Seedlings of native plants and weeds are often hard to tell apart. Contact your local Natural Resources Officer for weed management advice to avoid impacting on native seedlings.

Ensure that vehicles and equipment that contractors and advisors use are clean and free of weeds before entering your property to replenish water supplies, rehabilitate fire breaks, clear fence lines and re-establish vegetation.

Fencing

Prompt replacement of fencing to prevent access to native vegetation by stock will help protect the soil and regenerating plants.

Patching old fences is often a short-term measure as galvanised netting and wire affected by fire can perish after a couple of years and fences may ultimately need to be replaced. Every wooden strainer should be checked as they can burn underground with the damage not initially noticeable.

Fire can provide an opportunity to rethink fence and paddock design to better protect bushland.

Remember to include sufficient access gates in new fence lines so that fire appliances can easily access your property if they need to protect it in future.

Feral animal control

Control of rabbits/hares/goats will help reduce grazing pressure on regenerating plants.

While feral animals are at low levels, integrated control methods are most effective. Contact your local Natural Resources District Officer for more information.

Kangaroo control

Kangaroos can severely hamper regeneration, particularly without natural predators to keep their numbers in check. Contact your local natural resources centre to discuss kangaroo control and to obtain a destruction permit if necessary.

Livestock

Livestock can impact on the regeneration of native vegetation and elevate the level of erosion of bare soils. Reducing stocking rates post fire can help with soil conservation and the recovery of native plants that may be present.

Shelter

Leave any fallen timber where it falls, this is the natural way fauna habitat is created and is important refuge for wildlife post fire.



Monitoring regeneration after fire

Now is a good opportunity to monitor the regeneration of vegetation over time. You will be amazed at how quickly some plants re-grow.

Photographs

Photographs are a great way of recording how vegetation changes over time, particularly in the years after a fire.

You may wish to set up a small number of permanent photo points to record changes over time.

Select representative areas and install a star picket at each point. Record the date and direction the photos are taken in. It is useful to take four photos, facing N, S, E and W.

Take a lot of landscape shots as well for reviewing later as your property recovers.

Bird surveys

There are a range of birds that are likely to capitalise on the different habitat type created by the fire, including some of the threatened bird species of the Mt Lofty Ranges (such as Scarlet Robins).

Keep an eye out for birds that are occupying burnt areas and see how the different bird species recolonise the area.



Scarlet Robin. Photo: Marin Stokes.

Plant surveys

In the year after the fire there may be many species of native plant that germinate, flower, set seed and then disappear until the next fire event. If you are keen to obtain a full list of the plants in your bushland, think about surveying your area in the first spring following the fire.

Revegetation

It is always best to allow native vegetation to regenerate naturally. Priority should be given to sensitive weed control, taking care to prevent any off-target damage to the native plants.

You may find, with careful watching, that you see a flush of fire responsive native species which you may not see at any other time except after a bushfire.

Outside of native vegetation areas you may wish to expand and link habitat patches through revegetation. Your new fencing plan could help facilitate this.

Ensure that appropriate preparation is undertaken to minimise damage from herbivores such as rabbits, hares and possibly kangaroos.

- Choose only species that were present in the local area and that suit the habitat patch.
- Consider habitat needs such as the eventual structure of the vegetation.
- Follow up watering may be required over hot periods to ensure survival.

Your local Natural Resources AMLR District Officer can provide advice on the best plant species to revegetate with to maximise the benefits for local wildlife and to minimise the risk of weed establishment.

Further information

Post-fire natural resources management information is available on our website or from your local natural resources centre.

www.naturalresources.sa.gov.au/adelaidemtloftyranges





Natural resources centres

Gawler (08) 8523 7700

Lobethal (08) 8389 5900

www.naturalresources.sa.gov.au/adelaidemtloftyranges/

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