



As the Bushfire season approaches, many of us are still deeply affected by the 2019 / 2020 catastrophic events and are still moving through the recovery process. Life moves on and people get busy and preoccupied and when it's not 'in your face' it's often forgotten or 'not real'. Because this season looks more 'favourable' (though who can tell) this is a timely reminder that we must not become complacent in taking action towards a new way of thinking and approaching Bushfire and Climate Change because the science says the issues are not going away without urgent action.

We need to change our behaviours and policies at a personal, local and National level. It's hard for many people to know where to start with designing, renovating, adapting and planting our gardens and landscapes and given our changed climate we need to educate ourselves on a whole new way of responding to climate, landscape and lifestyle.

Information relating to Bushfire topics such as design, species selection and soil recovery are abundant but trawling through it all may become overwhelming. We want to help make it easier and get these public resources out there so more people can play their part through self-education.

The resources below are cherry picked in no particular order nor with any leaning. Some are scientific reports and others from a permaculture perspective. Thanks to Warwick Bone and John Champagne, fellow permaculturalists. Please read on and grow your knowledge, share widely, and do your part for making our communities safer and our landscapes more appropriate

Protecting your Property with Plants

- 1) *Designing your Garden for Fire Resilience*
Permaculture is all about Design, and Robyn Francis, one of the foremost designers in the world, goes through some designing tips to reduce fire risk in your garden, including a list of suggested plants to use.
<https://permaculture.com.au/designing-your-garden-for-fire>
- 2) *Australian Native Plants for Fire Resistance*
Excellent bullet points about plants and fire resistance, including lists of suggested plants to use.
<https://www.australianplants.com/assets/Australian-Native-Plants-for-Fire-Resistance/>
- 3) *Fire Resistant and Retardant plants*
An excellent list from the Plant Society of Australia (Victoria) of suggested plants, including the difference between resistant and retardant qualities.
<https://apsvic.org.au/fire-resistant-and-retardant-plants/>
- 4) *Fire Retardant Trees and Plants*
Another good list of plants for your garden design or renovation.
<https://www.jimsmowing.com.au/.../fire-retardant-trees-and-p.../>
- 5) *Tips for Bushfire Resistant Plants and Trees*
Coming from ABC Perth, some useful tips plus a list of suggested plants, including groundcovers.
<https://www.abc.net.au/local/stories/2014/10/23/4112923.htm>
- 6) *Australian Plants for Fire Prone Areas*
From the Australian Native Plants Society, tips and hints, along with plant selection for various climates across our big country.
<http://anpsa.org.au/fire.html>
- 7) *Another site with some great reading*
<https://www.recreatingthecountry.com.au/blog/deciduous-trees-can-provide-crucial-bushfire-protection>

- 8) *What to plant, where to plant and how to maintain a beautiful native garden to make our home safer during the fire season.*
<https://www.recreatingthecountry.com.au/blog/native-gardens-for-fire-safety-in-rural-southern-australia>
- 9) *Landscaping for Bushfire: Garden Design and Plant Selection* provides information on garden design and plant selection which can be used for new or existing gardens in high-risk bushfire areas.
<https://www.cfa.vic.gov.au/plan-prepare/landscaping>
- 10) *Farm Plantations can reduce Fire Risk*, when thinking about farm plantations and bushfires, the potential benefits are maximised if a plantation is well positioned, well designed and well managed.
<https://www.recreatingthecountry.com.au/blog/farm-plantations-can-reduce-bushfire-risk>
- 11) *Firescaping: Plants That Help Protect Your Property from Fire:*
A good primer from the US on different fire protection zones and suitable plants.
<https://www.finegardening.com/article/firescaping-plants-help-protect-property-fire>
- 12) *Designing and Planting A Firebreak*
Some excellent firebreak design tips and suggestions of plants to use.
<https://acsgarden.com/articles/other-gardening/designing-and-planting-a-firebreak.aspx>
- 13) *Bushfire Resistant Plants*
From the StateFlora department of South Australia, some hits and tips, with a link to a list of suggested plants to use in your garden.
<https://www.stateflora.sa.gov.au/.../why-.../bushfire-resistance>
- 14) *Deciduous trees can provide crucial bushfire protection in rural Australia*
A good discussion around the use of deciduous trees in your garden and how they can protect your house.
<https://www.recreatingthecountry.com.au/.../deciduous-trees-c...>
- 15) *PDF – Landscaping for bushfire prone areas – Victoria Department of Education*
A comprehensive PDF to download, going through strategies for fire protection plantings in schools
https://www.education.vic.gov.au/Documents/school/principals/infrastructure/bfpronelandsc.pdf?fbclid=IwAR2rpfkXdz1YmA1LcKvOjsw7QZGo_-6n3CvAqKPTGZ-0Oht566GwSo0E0bE
- 16) *How to use Succulents as a Firebreak*
A video showing how a property in the US was protected when a large bank of succulents stopped a fire in its tracks
<https://www.youtube.com/watch?v=JrP2h2li8ps>
- 17) *Can you Name the Most Fire-Resistant Trees?*
The Answers May Surprise You?
<https://www.frontlinewildfire.com/can-name-fire-resistant-.../>
- 18) <https://deepgreenpermaculture.com/2020/02/25/australian-native-and-exotic-fire-resistant-trees-and-plants-for-fireproof-landscapes/>
Another excellent resource of fire resistant and fire-retardant species, both Native and Exotic.

How Fire Affects Soil and Indigenous Fire Management

The recent fires in Australia have wrought great damage on the land and efforts are already underway to remediate that damage where possible. However, before we can begin to repair soil, we need to understand what damage has occurred and can how that damage can affect other parts of the ecosystem. This includes Air, Water, Biological Life, and so on.

Some of these resources are quick and easy reads, and for the more inquisitive, there are a number of extensive research papers for you to read.

The resources listed range from Australia to the US and Russia, and include information about indigenous fire management by Indigenous Australians.

- 1) <http://fire.forestencyclopedia.net/p/p622>
This is a good place to start, with an overview and details of how fire affect the constitution of the soil and locks up some nutrients, not to mention the biological life.

- 2) https://www.dpi.nsw.gov.au/.../impact_of_fire_on_soil_life_an...
A short introduction into the effects of fire on soil constituents.
- 3) PDF - <https://www.environment.nsw.gov.au/.../fire-and-soils-170691....>
A longer read on the effects of fire on soils, looking at additional factors such as erosion, runoff, and water flows including drinking water.
- 4) <https://www.klc.org.au/indigenous-fire-management>
A brief look at how fire was used as a land management strategy by Indigenous Australians in the Kimberley's.
- 5) <https://www.creativespirits.info/aboriginalculture/land/aboriginal-fire-management>
A detailed article about how Indigenous Australians manage the land using fire. Any fire will have consequences for the soil, the challenge is to balance the pros and cons. The key message here seems to be small and cold fires often, as a preventative measure to protect against occasional big large fires that can inflict major damage.
- 6) <https://www.sciencedaily.com/releas.../2018/.../180910160632.htm>
Recent research out of the USA though suggests that low-severity wildfires impact soils more than previously believed.
- 7) https://forest.moscowfsl.wsu.edu/.../INT_2.../DeBano_INT-280.php
A research paper looking at how fire affects nutrient cycling and the physical, chemical, and biological properties of soils.
- 8) <https://www.sciencedaily.com/releas.../2018/.../181212071803.htm>
A short article dealing with how fire affects water runoff in soils.
- 9) PDF - https://www.fs.fed.us/pnw/pubs/pnw_gtr759.pdf
A detailed report on research looking at how fire affects soil hydrology, soil organisms, carbon storage and loss, soil nutrient availability, and how prescribed burning influences soils.
- 10) <http://www2.nau.edu/~gaud/bio300w/frsl.htm>
A longish page looking specifically at nutrient cycles post forest fire.
- 11) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4874409/>
A lengthy and details paper on the effects of fire on soils from a human point of view throughout history.
- 12) <https://www.fs.usda.gov/treesearch/pubs/42163>
A US paper about the double effects of fires on soils. "Fire affects nutrient cycling and the physical, chemical, and biological properties of soils occupied by western montane forests. Combustion of litter and soil organic matter (OM) increases the availability of some nutrients, although others are volatilized (for example, N, P, S). Soil OM loss also affects cation exchange capacity, organic chelation, aggregate stability, macro pore space, infiltration, and soil microorganisms. Nitrogen replenishment must be emphasized when prescribed burning programs are planned or during rehabilitation following wildfires."
- 13) <https://www.hindawi.com/journals/ijecol/2017/3985631/>
Detailed research into how forest fires affect soils in Russia, including carbon loss and Ph levels.
- 14) <https://www.facebook.com/designingPermaculture/posts/500524593780035>
Post Bushfire Garden, Pasture and Forest Recovery - a list of resources that look deeper into how the landscape is damaged by fire, and how we can help the natural recovery, from the home garden to farms and forests.
- 15) *Ancient Australian Cool Burning*
<https://www.recreatingthecountry.com.au/blog/ancient-australian-culture-cool-burning>

Reflections on Fire and Fire Awareness and After the Fire

- 1) *Joan Webster - Bushfire Safety Awareness*. Joan has a ton of experience and knowledge regarding fighting bushfires and has published several books on the subject. Her FB page and books are all worth reading in detail.
<https://www.facebook.com/Joanoam/>
- 2) *David Holmgren – Reflections on fire – February 2019*
In February 2019 we had the first direct bushfire threat to Melliodora in thirty years leading to 'Reflections on fire'. That experience had us tweaking our plans for this summer, which has been so devastating in other fire-vulnerable regions where climate change drought has been more intense.
<https://holmgren.com.au/reflections-on-fire-february-2019/>
- 3) *David Holmgren - Bushfire resilient land and Climate Care*
David outlines that while devastating, the recent Australian bushfires provide an opportunity to come to terms with both the legacies of colonisation and the unfolding climate emergency in ways that empower bottom up householder and community level resilience.
<https://holmgren.com.au/bushfire-resilient-land-and-climate-care/>
- 4) *David Holmgren - Bushfire related extracts from his book RetroSuburbia*
<https://retrosurbia.com/reading/retrosurbia-bushfire-resilience-extract/>
- 5) *David Holmgren - Bushfire Resilient Communities and Landscapes*
A 52 page discussion paper focused on David's home community of Daylesford and Hepburn where it is already influencing community and local government action.
<https://holmgren.com.au/bushfire-resilience/>
- 6) *David Holmgren - The Flywire House: A case study in design against bushfire*
<https://store.holmgren.com.au/product/flywire-house/>
- 7) *David Holmgren – Revegetating and Reducing Fire Risk in Spring Creek Gully*
David explaining a low cost technique for revegetating eroded gullies without heavy machinery or chemicals, turning thick, fire-prone blackberry cover into useful fire-resistant trees on what was a landscape completely denuded in the gold era.
<https://www.youtube.com/watch?v=5r13x3lmlhl>
- 8) *Regrarians – After the Fire Webinar*
A live webinar featuring panellists Brittany Cole Bush, Art Ludwig, David Holmgren, Allan Savory & Darren J. Doherty, covering the phenomena of fire, planning, management and tools for recovering from fire & fire prevention/risk mitigation, working with community groups, service providers, policy makers & legislators.
https://www.youtube.com/watch?v=26sW_y0a9n0
- 9) *Oregon State University – Wildfire Information Resources*
The Wildfire Unit from the OSU PDV
<https://catalog.extension.oregonstate.edu/topic/forestry-and-wood-processing/wildfire>
- 10) *Rebuilding Gardens after Fire and Flood*
A range of short pieces with hints and tips on what to do after your garden has been "affected" by bushfire and/or flood.
<https://www.abc.net.au/gardening/rebuilding-gardens/11944990>

Making Families Safe In Their Country Homes

- 1) **BUSHFIRES 2020 – MAKING FAMILIES SAFE IN THEIR COUNTRY HOMES**
- 2) <https://www.recreatingthecountry.com.au/blog/bushfires-2020-how-can-we-make-living-in-the-country-safe>