

# Fire – part of the ecology and challenges of management

Notes from Brett Beecham for SWAN field day at Toodyay, 26 August 2017

The concept of fire regime as a combination of:

- Interval (time between fires)
- Frequency (number of fires over a given period)
- Size/extent (how small or large the fire is)
- Season (time of year)
- Intensity/severity (how much heat is generated, degree of impact on vegetation or other biota)
- Mosaic (the spatial pattern of patches with different fire histories)

History and changes to fire in the Wheatbelt landscape

- Pre-historic – relevant to the response and adaptations of plants and animals to fire
- Aboriginal – deliberate and widespread use of fire for range of cultural purposes
- European – broad exclusion and suppression

Adaptations and response of flora and fauna to fire

- Plants have different life traits, and their response to fire will reflect the combination of these
- Animals will respond to fire depending on their mobility, and access to food and shelter (habitat)
- Case studies – examples of individual flora and fauna species response to fire depending on what we can observe on site

Some challenges confronting fire managers include:

- Effects of too-frequent fire or long-term fire exclusion (inappropriate fire regime)
- Weeds – often adapted to fire as well
- Habitat fragmentation and small remnant size
- Over-grazing/browsing (rabbits and macropods)
- Fire regimes for conservation and fuel hazard reduction
- Climate Change

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