



Australian Entomological Society

AES Conservation Committee

Statement on current fire crisis in Australia

- The current extensive bushfires will have a profound impact on the abundance and diversity of native insect species and, consequently, on the many plants and animals that rely on them.
- Insects (and other invertebrates) are vital for a healthy environment. They are critical to Australia's biodiversity, they are food for many other animals, and contribute to essential processes that maintain ecosystems, such as pollination, herbivory, predation, parasitism, soil aeration and nutrient recycling.
- Human-induced climate change is the overriding factor responsible for the unprecedented scale of these fires. Higher temperatures and lower rainfall have resulted in drier, more flammable vegetation and a longer fire season.
- Few insects have strategies to escape fire. Some have life stages in the soil, under rocks and in vegetation that may provide them some protection from the fire as it sweeps through the landscape. Most insects are killed by fire and their recovery relies on recolonisation from unburnt areas. The severity and extent of these fires means that there are probably few, if any, refuges that remain for survival. Consequently, many insect species may well go locally extinct, especially rare species, or those with small distributions (short range endemics) and/or specialised requirements such as specific host plants.
- Previous burning (either planned or natural) of native vegetation has had little, if any, impact in mitigating the current fires. In many cases frequent burning actually increases available fuel loads in the short to medium term. Most insect populations cannot survive frequent and large scale burning.
- Clearing of forests and removal of roadside vegetation does not prevent fires. Roadside strips supporting natural vegetation provide important refuges and habitat for insects. In many rural areas, these vegetation remnants offer critical habitats for populations of many insects, including those beneficial to agriculture such as pollinators and parasites.
- Recommendations:
 - Surveys are needed to determine the extent of loss, and to plan the recovery of insect species and populations after the fires.
 - Fuel reduction burning should only be used at small spatial scales (micro mosaic burning), to protect people, essential assets and infrastructure.

- The total area of protected habitat (national parks, conservation reserves) needs to increase in order to mitigate these losses in Australia's natural heritage.
- Land clearing of natural habitats, including important roadside vegetation, needs to stop. Rehabilitation of degraded areas is urgently needed.
- National parks need to be refocussed to the protection of native biodiversity without the compromise of commercial developments and other economic activities.
- Much more action needs to be taken at the national and international level to prevent further climate change.