

Book review

FIRESTICK ECOLOGY: FAIRDINKUM SCIENCE IN PLAIN ENGLISH

By Vic Jurskis

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Albert Einstein is reported to have said, 'When consensus is reached, thinking stops.' Occasionally, individuals are courageous enough to publically challenge 'consensus' views. Vic Jurskis is one such individual.

In *Firestick Ecology*, Jurskis challenges widely held views about the history of bushfire in Australia, and proposes how fire should be managed to protect communities and the environment based on historical evidence, his professional experience, and his understanding of ecosystem dynamics. The author contends that fire ecology can be adequately understood by interpreting observations made through space and time, while taking a reductionist approach is expensive, complex and may not lead to the truth.

Jurskis asserts that before the arrival of Aborigines, Australia was a wilderness, with the 'balance of nature' maintained by natural, non-human influences. This balance was upset by the arrival of Aborigines and their firestick – their frequent and widespread burning transformed the Australian bush and led to loss of megafauna because burning eradicated their nutritious browse. With the arrival of Aborigines, Australia ceased to be a wilderness; it was a largely human-shaped bushland that greeted the first Europeans. With European usurpation, traditional Aboriginal burning was suppressed, and within a relatively short time, fire regimes changed – the bush thickened, soils became eutrophic, trees became sick and megafires became common. This altered vegetation is considered by many to be 'natural', whereas Jurskis argues that it is unnatural – a consequence of the extirpation of frequent, low-intensity human fire.

Drawing on the journals of early explorers and settlers, Jurskis describes the Australian bush as shaped by Aboriginal burning. He argues that these explorers were astute observers and understood the patterning of vegetation and the role of burning. Regular low-intensity fires maintained an open, diverse and productive environment, which supported a civilisation for thousands of years. Jurskis argues that the ecological history based on observations of early explorers and settlers is important for understanding the past and the present.

A parsimonious approach to ecology is a strong thread running through this book, as is ideology versus good science. Jurskis reminds us that the scientific method is about keen observation, critical thinking, and hypothesis construction and testing. He is critical of scientists who have a pre-formed view of fire ecology based on a flawed ideology of an Australian 'wilderness' that downplays the role and influence of humans. These scientists, says Jurskis, set about proving what they assume to be the case, often using complex statistics and

sophisticated models to give the work a sense of scientific credibility and to make it publishable in scientific journals. He cites several classic case studies where he believes ecologists have 'got it wrong', including grazing in the Australian High Country being the cause of erosion, and the bell-miner-associated dieback of eucalypt trees in southern Australia – Jurskis argues that the root cause of tree dieback is soil eutrophication due to lack of frequent low-intensity burning.

Jurskis is also critical of green groups and politicians who foster the notion of an Australian wilderness without people and 'lock up' national parks. This often results in the elimination of regular low-intensity prescribed burning akin to traditional Aboriginal practices, leading to a decline in ecosystem health, as well as megafires and the associated devastation of human communities and the environment.

The chapter dealing with disturbance and succession is particularly interesting. Jurskis argues that a disturbance is an unnatural event and that to determine whether fire is a disturbance (unnatural) or a natural event, it is necessary to examine and understand the ecological history and physical evidence of the environment. Jurskis makes the case that following the arrival of Aboriginal people, their widespread and regular use of fire was a disturbance, but after 40 000 years of Aboriginal habitation, a new balance of nature had been established, which incorporated the people's regular low-intensity fires as natural. The next disturbance, or unnatural event, was the elimination of Aboriginal burning following European settlement. Attempted fire exclusion and fire suppression, argues Jurskis, is unnatural and has resulted in damaging megafires and 'sick' ecosystems.

Jurskis criticises political processes, misrepresentation of ecological history and bad science that result in inappropriate land-use policies. For example, he argues that present-day red gum forests that have been preserved because they are natural are, in fact, unnatural, being the result of post-European-settlement mismanagement.

The key message of this book is summed up in the words of Jurskis: 'There is only one legitimate perspective. The firestick created and maintained the biodiversity and the fire-safe environment that greeted European settlers. To conserve biodiversity and live safely, we need to apply it willingly, frequently and with practice and skill.'

While alteration of fire regimes since European settlement is unlikely to be the sole cause of all the changes to Australian ecosystems discussed by Jurskis, he makes a compelling argument that it is an important one.

This book is interesting; well researched and scholarly but written in plain English. It is refreshingly unambiguous; some readers will find it confronting, bordering on aggressive. If you have an interest in Australian bushfire management, you will benefit from reading this book. You may not agree with all of Jurskis' ideas but they are bound to make you think.

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