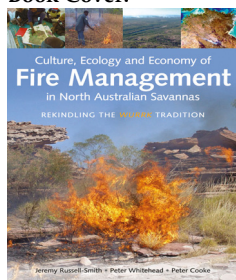


## FIRES, SCIENCE AND SOCIETY

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Culture, ecology  
and economy of fire  
management in north  
Australian savannas:  
Rekindling the *wurrk*  
tradition

**Book Cover:**



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Peter Whitehead  
Peter Cooke

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Australia is often in the news for its bushfires, which have, over the past decade, devastated the southern communities of Sydney, Canberra and Melbourne. What is less well known is that these newsworthy fires in the south of the continent constitute only a tiny fraction of Australia's bushfires. Australia's northern savannas cover vast areas and are thinly populated (0.08 people/km<sup>2</sup>). Currently, about one fifth of this area (known fondly to Australians as the 'Top End') is burned annually and some areas even burn repeatedly every year. As such, fires have been very much part of life in the Top End for thousands of years.

Despite their antiquity, the modern Top End fire regimes have markedly changed over the past century. The links between people, fire and the environment have been broken, impacting negatively on biodiversity, natural capital and cultural assets. Aboriginal people have occupied this land, and used fire in its management, for around 60 000 years. The importance of fire to Aboriginal people is reflected in a wealth of traditions and a rich vocabulary of complex terms relating to fire and its use, and the burning of the landscape by Aboriginal people (who were ecological experts in their own right) was historically widespread and pervasive. However, all of this changed with the arrival of European settlers in the Top End in the late-19th century. The introduction of infectious diseases decimated the Aboriginal people, as was the case with other indigenous populations elsewhere in the world. The survivors were drawn away from their traditional lands and attracted to the mines, mission stations and buffalo-hunting camps that had been established in the adjacent lowlands, with the lure of tobacco being a principal driving force. The result was the creation of a 'modern wilderness', an expansive depopulated area where Aboriginal fire management was substantially weakened. The inevitable shift in fire regimes, from many small, early dry-season burns to fewer larger, late-dry-season burns, has had a significant negative effect on biodiversity, ecosystem functioning, community values and greenhouse gas emissions.

In addition, alien grasses (introduced by settlers to 'improve' pastures) have become invasive, increasing fuel loads and fire intensity, with devastating effects on woody plants. The situation requires an appropriate remedy, but the country's focus has been on the catastrophic fires of the south, which drove a research and management agenda that sought to reduce fire risk and improve emergency responses to fire. This focus on protecting the densely populated south was accompanied by an appreciable lack of recognition of the impact of fires in the north and of the opportunities that existed to improve management practices there.

*Culture, ecology and economy of fire management in north Australian savannas* is an attempt to address this lack of appreciation and it is unlike any of the many fire ecology books that have previously come out of Australia – both in terms of the scope of its coverage and the novelty of the solutions proposed. It is remarkably wide-ranging and seeks to document the basis for an alternative, more appropriate, approach to Australian savanna fire management. It is a multi-authored book, edited by Jeremy Russell-Smith, Peter Whitehead and Peter Cooke, who are all highly experienced and widely published local researchers. The book covers the social history of Aboriginal people and their use of fire, the findings of modern fire ecological research, the contribution of fires to greenhouse gas emissions and options for combining this knowledge to improve management. Its main thesis is that, through collaboration between indigenous landowners and the scientific community, the highly negative trends driven by altered fire regimes can be reversed through restoring indigenous control over burning. Innovative proposals in this regard include, for example, the possibility that Aboriginal people could benefit by trading in carbon credits arising from sound fire management. Its chapters are stand-alone and my only criticism (albeit a minor one) is that a single-authored treatment may have come across as more integrated. However, the story and main recommendations are drawn together in a useful final chapter that examines and summarises new options for the potential environmental and socioeconomic benefits arising from new approaches to fire management.

Although the book describes problems (and possible solutions) that pertain to a unique part of the world, non-Australian scientists, sociologists and managers of fire-prone land will also find it useful for a number of reasons. It provides outstanding examples of, (1) the use of remote sensing to characterise and monitor fire regimes, (2) ground studies to monitor responses, (3) the ecology and management of co-occurring fire-sensitive and fire-adapted vegetation types, (4) methods to estimate greenhouse gas emissions from fires, (5) methods to manipulate fire regimes to sequester carbon and (6) collaborative, interdisciplinary interactions between ecologists, social scientists and land managers. This study could become an influential test case of the degree to which scientists are able to influence progress towards sustainable development, so it will be particularly interesting to follow any developments that arise from the publication of this book. There is no doubt that its editors and authors have done their homework and meticulously documented their findings. Their imaginative proposals for simultaneously addressing environmental challenges and social and economic development are just what are needed in the 21st century. I would recommend this book to anyone who is serious about learning how to work across traditional divides in the interests of improved ecosystem management. ■