



# COURTING

## THE ENVIRONMENT

ECOLOGY AND ENVIRONMENTAL RESEARCH FOR LAWYERS

Vol. 2 Issue 1

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DATE: 14 May 2021



## Forest Fire: Beyond the Outrage

Photo: Saurabhsawantphoto - Wikimedia Commons



## KEY ISSUES

# 01.

## Earth as a flammable planet

Fire is a natural phenomenon. Assisted by humans and otherwise, it has shaped almost every landscape, from savannas to forests, over millennia.

# 02.

## Misclassified landscapes

Colonial land classification miscategorised vast areas of savanna grasslands as 'forests'. This posed conservation and management challenges.

# 03.

## Fire-suppression policies

Early forest laws introduced bans on the use of fire and grazing. Local customs that mandated prescribed fires as part of land management were outlawed.

# 04.

## Turning nature into a tinderbox

Over time, these policies changed the vegetation in formerly fire-resistant landscapes. This, along with a warming climate create conditions for uncontrollable and devastating wild fires.

# 05.

## Putting corrective measures in place

Addressing wildfire requires fixing errors in land classification, and adopting appropriate management practices. The knowledge of Adivasi communities could be key.





## THE STORY OF FIRE



India has a long history of controlled burning, since the first humans, who settled in the subcontinent 50,000 years ago. Our natural vegetation has evolved alongside fire.



Fire was historically used in land management - for making fertilizer of organic matter, to promote the growth of fresh grass, to kill pests, and support beneficial species.



Colonial authorities, intent on restricting local use in order to retain timber for industrial purposes, were keen to classify landscapes with even minimal tree cover as 'forest'.

Colonial foresters viewed fire management as a primitive tradition detrimental to tree growth. There was a ban on fire, regardless of the type of landscape or previous fire regime.



As early as 1900s, some foresters voiced concerns that fire suppression was impacting natural vegetation and promoting uncontrollable wildfires. Nevertheless 'fire is evil' stayed the motto.



Independent India's forest services built on this legacy. It filtered into legislations such as the the Wildlife (Protection) Act, 1972 despite the adverse consequences.





## RESEARCH SUMMARIES



## What happens when grasslands are managed as if they were forests?

*Savannahs of Asia: Antiquity, Biogeography, and an Uncertain Future*

Philosophical Transactions of the Royal Society B

[Ratnam and others \(2016\)](#)

Natural landscapes are not 'pristine' spaces. Humans have formed nature, as much as nature has formed them. India's savanna grasslands - occupying much of northern, central and southern India, extending up to the Himalayan foothills - have historically depended on fire and grazing by large herbivores for maintenance. The erroneous management of these misclassified 'degraded forests', that call for bans on fire and livestock grazing has, ironically made them more prone to uncontrollable wildfires.

Sal and teak trees propagate poorly in 'forests' in central and northern India, where fire is suppressed. With the ban on grazing by livestock in southern Indian 'forests', certain tall grasses that were earlier held in check grew rampantly, affecting the population of small herbivores who could not ingest them. Misclassified savannas are also found in the lower Himalayas. The pine in these savannas have thick bark that protect them during fires, and appear to have evolved in a fire-management regime.

Yet another consequence of misclassifying grasslands as forests is that they are subjected to tree plantations. Grasslands in drier areas are now overrun by *Prosopis juliflora* (mesquite). Fire-suppressed moist savannas have been taken over by *Lantana camara* (lantana). Not all fires are beneficial. When actual forests are opened up by logging, it allows for proliferation of unsuitable plant species that are not fire-resistant. Fires in landscapes not evolved for it, devastate those ecosystems.





## RESEARCH SUMMARIES



## Invasive Species

*Invasive Plant Species in Indian Protected Areas: Conserving Biodiversity in Cultural Landscapes*

Plant Invasions in Protected Areas: Patterns, Problems & Challenges

[Hiremath & Sundaram \(2013\)](#)

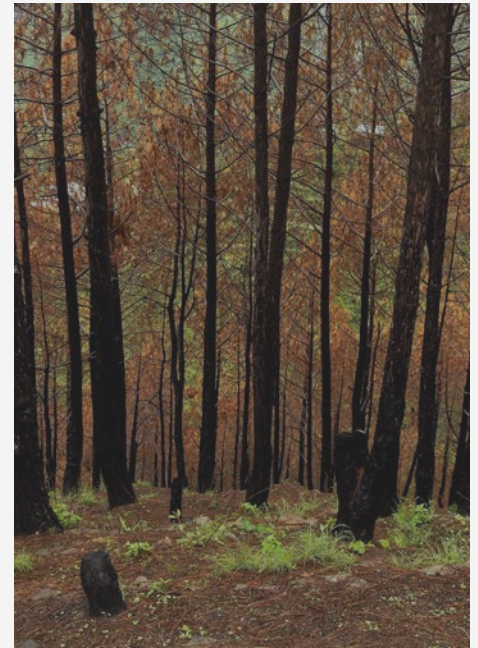


## Prescribed Fires

*Prescribed Fire Science: The Case for a Refined Research Agenda*

Fire Ecology

[Hiers and others \(2020\)](#)



## Indigenous Knowledge

*Indigenous Knowledge and Seasonal Calendar Inform Adaptive Savanna Burning in Northern Australia*

Sustainability

[McKemey and others \(2020\)](#)

Frequently burned areas have less prevalence of invasive species such as lantana, in contrast to protected areas with their fire suppression norms. Lantana is a shrub, but can also climb with the support of trees. Small fires that earlier stayed on ground-level now reach the crowns of trees, spreading extensively to damage native vegetation. Fire bans encourage other invasives like *Cytisus scoparius* (Scotch broom), while grazing bans are linked to the proliferation of *Polygonum polystachyum* (Himalayan knotweed).

Prescribed fires are a solution to unpredictable and damaging wildfires, with impacts on life and property. Prescribed fires are controlled fires that are intentionally ignited, following scientific principles with containment plans and natural barriers in place. Unfortunately scientific and policy attention is largely focused on preventing fire, instead of understanding how to utilize it effectively. Prescribed fire science needs more investment, research, and policy acceptance.

Across the world, countries are recognizing the importance of involving indigenous communities in fire-management, drawing on their traditional knowledge developed over millennia. South America and Australia have adopted a 'participatory and inter-cultural fire management approach', reversing decades of fire suppression policies. Reviving indigenous fire management techniques, alongside western science, has been linked with fewer wildfires, and enhanced biodiversity.



#### WHY 'COURTING THE ENVIRONMENT' ?

In a public interest litigation before a High Court on an environmental matter, the Hon'ble Court remarked that the petitioners had not placed adequate scientific evidence supporting their case. With the wealth of environmental research that happens in reputed scientific institutions in India, it is a shame that it does not often reach environmental lawyers who need it the most. **COURTING THE ENVIRONMENT** is a triannual newsletter that attempts to address this deficit by conveying environmental research to a legal audience.

Photo:Unsplash



#### HIGHLIGHTS

Wildfire is largely a manufactured problem, set in motion by ill-designed forest policies. Climate and land-use changes fuel it.



#### LESSONS

Prescribed fire and sustainable grazing keep ecosystems healthy. The solution to fire is thus fire. Plus sustainable local use.



#### CHALLENGES

Adopting this approach calls for challenging long-held biases towards fire and communities who have harnessed it responsibly.

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