

T7-A3: Fire mosaics in landscape fire planning

Dr Steve Leonard

Senior Ecologist, Fire Science Coordinator
Department of Natural Resources and Environment Tasmania

Dr Brendon McAtee

Node Research Manager, WA & SA
Natural Hazards Research Australia



The Purpose of this Project

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Incorporate fire mosaics into
landscape fire planning to
achieve desired landscape
objectives

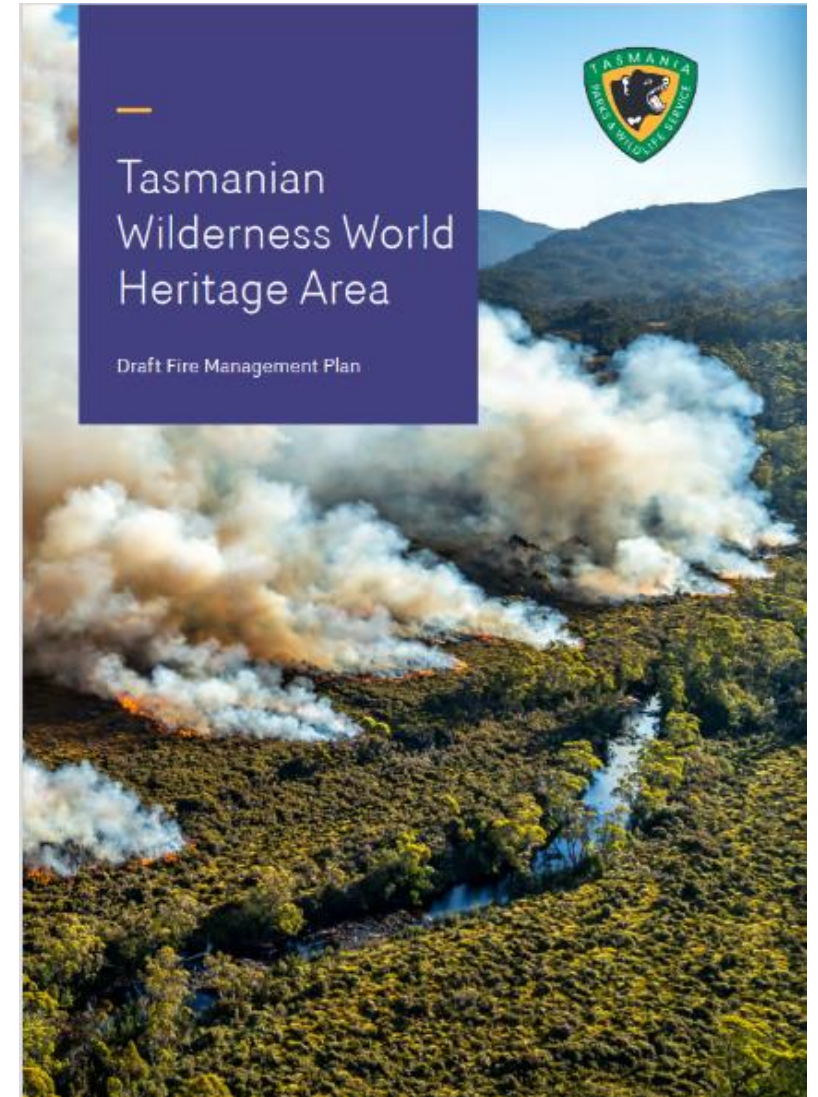
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Drivers for this Project

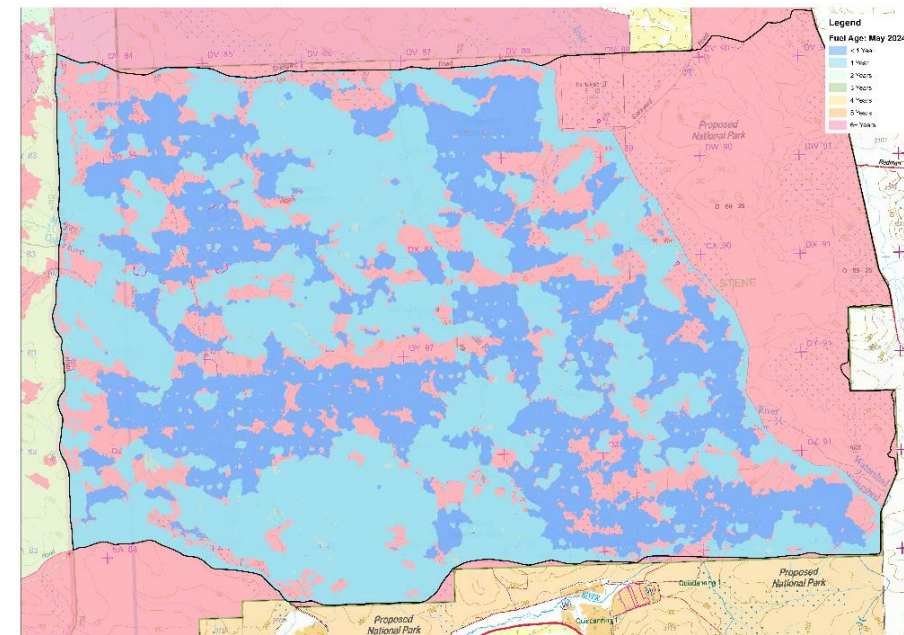
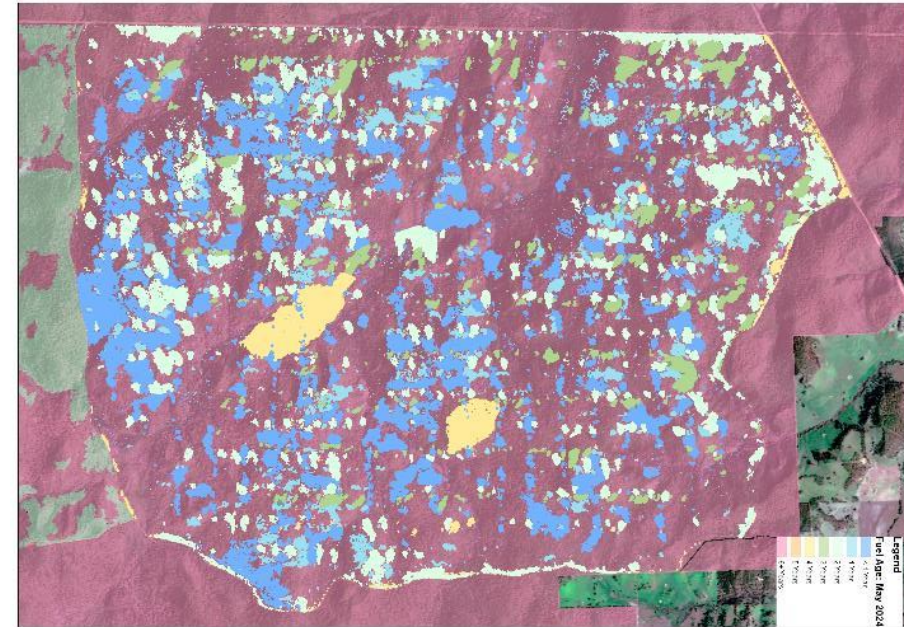
TWWHA Fire Management Plan 2021

- “Use fire to break up continuous layers of fuel, thereby creating a mosaic of different fuel loads across the landscape.”

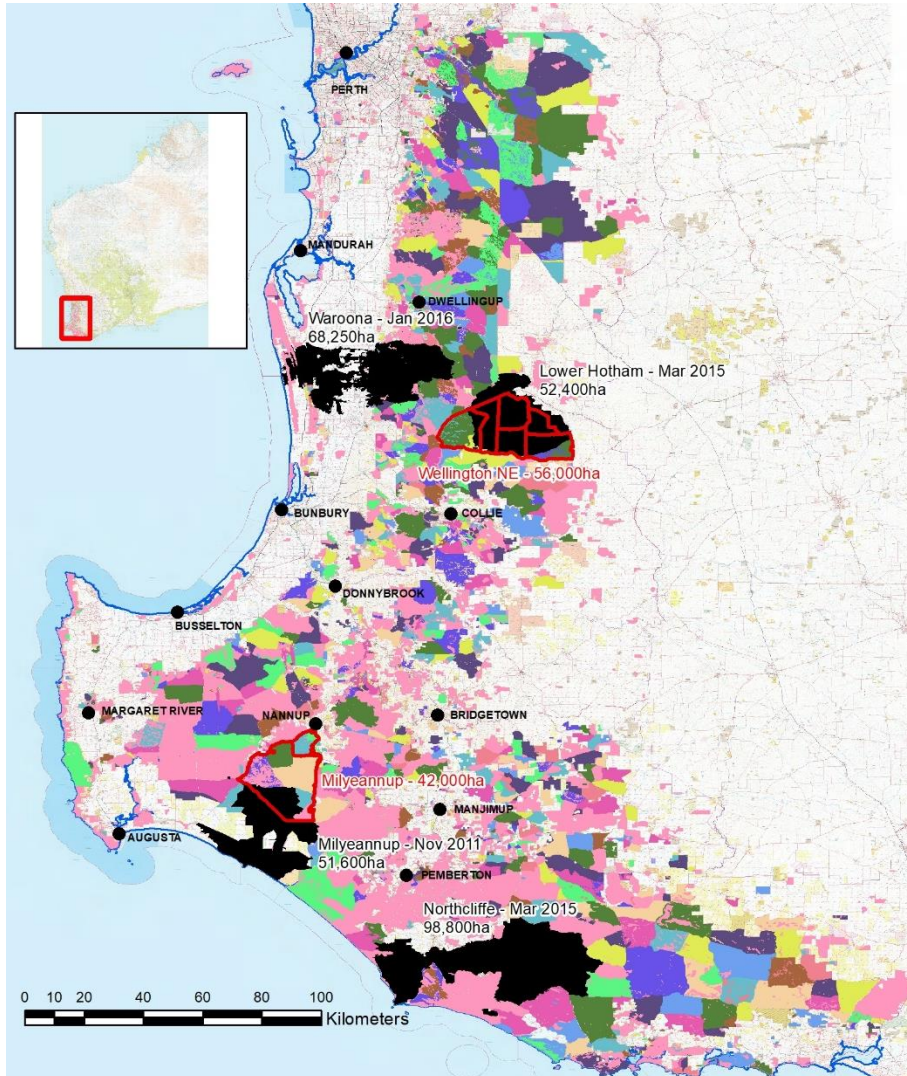


Important Knowledge

- Attributes of mosaic?
 - fire and fire regime attributes (severity, interval etc.)
 - mix of fire histories
 - patch size
 - spatial arrangement
 - etc.
- Metrics for above
- Relationships between mosaic attributes and Objectives (natural, cultural, risk reduction)
- How to plan and implement desired mosaics?



Drivers for this Project



- ~70% of treated area maintained at a level where severe bushfire impact/runs are significantly reduced or non-existent.
- Refugia and long unburnt areas are maintained and protected from severe bushfire runs.
- Better satellite imagery and analysis will allow for better reporting against success criteria and ongoing targeted application of fire each treatment.
- Management costs (per ha treated) for the application of fire in these areas are significantly reduced.

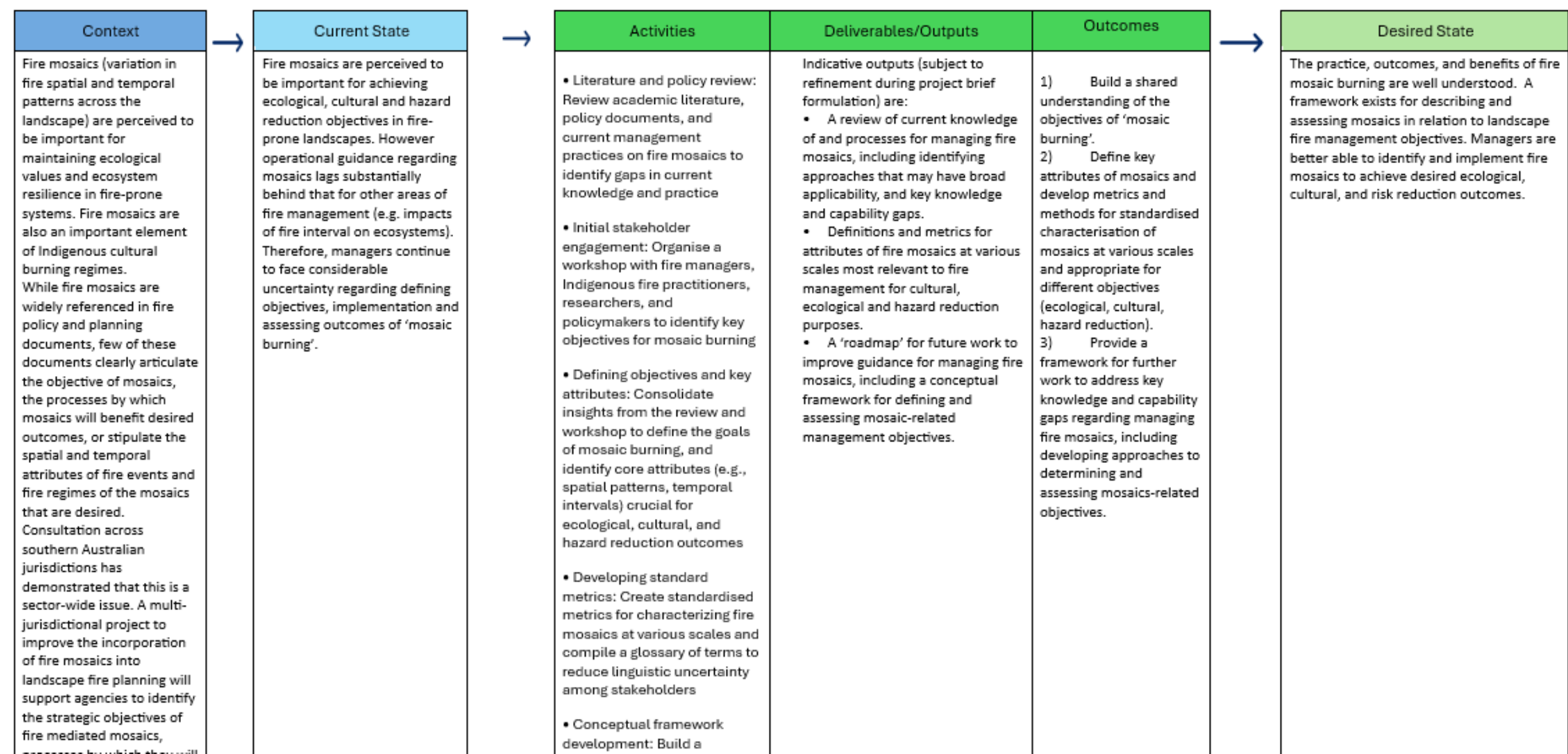


Important Knowledge

- Once fuel loads reach about 7t/ha, conditions have to be more typical of 'normal' burn conditions to achieve mosaic (milder FDI).
- Old fuels (>10yo) likely to be difficult to establish a fine grain mosaic in the first application of fire.
- Fire can be introduced into young fuels in Spring, but if there is concern about reignition and burning out of potential refugia/creeklines then need to ensure rainfall is due soon after.
- In higher FDI conditions, start with very broad ignition patterns and close up gaps as required on the day.
- Wind is the critical factor to achieve spread in fuels <6yo.



Goal: Incorporate fire mosaics into landscape fire planning to achieve desired landscape objectives



Current State
Fire mosaics are perceived to be important for achieving ecological, cultural and hazard reduction objectives in fire-prone landscapes. However operational guidance regarding mosaics lags substantially behind that for other areas of fire management (e.g. impacts of fire interval on ecosystems) Therefore, managers continue to face considerable uncertainty regarding defining objectives, implementation an assessing outcomes of ‘mosaic burning’.

Activities	Deliverables/Outputs	Outcomes
• Literature and policy review: Review academic literature, policy documents, and current management practices on fire mosaics to identify gaps in current knowledge and practice • Initial stakeholder engagement: Organise a workshop with fire managers, Indigenous fire practitioners, researchers, and policymakers to identify key objectives for mosaic burning • Defining objectives and key attributes: Consolidate insights from the review and workshop to define the goals of mosaic burning, and identify core attributes (e.g., spatial patterns, temporal intervals) crucial for ecological, cultural, and hazard reduction outcomes	Indicative outputs (subject to refinement during project brief formulation) are: • A review of current knowledge of and processes for managing fire mosaics, including identifying approaches that may have broad applicability, and key knowledge and capability gaps. • Definitions and metrics for attributes of fire mosaics at various scales most relevant to fire management for cultural, ecological and hazard reduction purposes. • A ‘roadmap’ for future work to improve guidance for managing fire mosaics, including a conceptual framework for defining and assessing mosaic-related management objectives.	1) Build a shared understanding of the objectives of ‘mosaic burning’. 2) Define key attributes of mosaics and develop metrics and methods for standardised characterisation of mosaics at various scales and appropriate for different objectives (ecological, cultural, hazard reduction). 3) Provide a framework for further work to address key knowledge and capability gaps regarding managing fire mosaics, including developing approaches to determining and assessing mosaics-related objectives.

Desired State
The practice, outcomes, and benefits of fire mosaic burning are well understood. A framework exists for describing and assessing mosaics in relation to landscape fire management objectives. Managers are better able to identify and implement fire mosaics to achieve desired ecological, cultural, and risk reduction outcomes.



We are at the
start of this
work

- Knowledge sharing is key
- Stakeholder engagement is a strong focus of this project
- We are forming a reference group and planning a series of workshops to get all the perspectives



Thank You

Contact:

Brendon.mcatee@naturalhazards.com.au

