



NSW RURAL FIRE SERVICE

Changes to the Australian Fire Danger Ratings

Thea Laffin
Community Engagement Officer
Faulconbridge Brigade

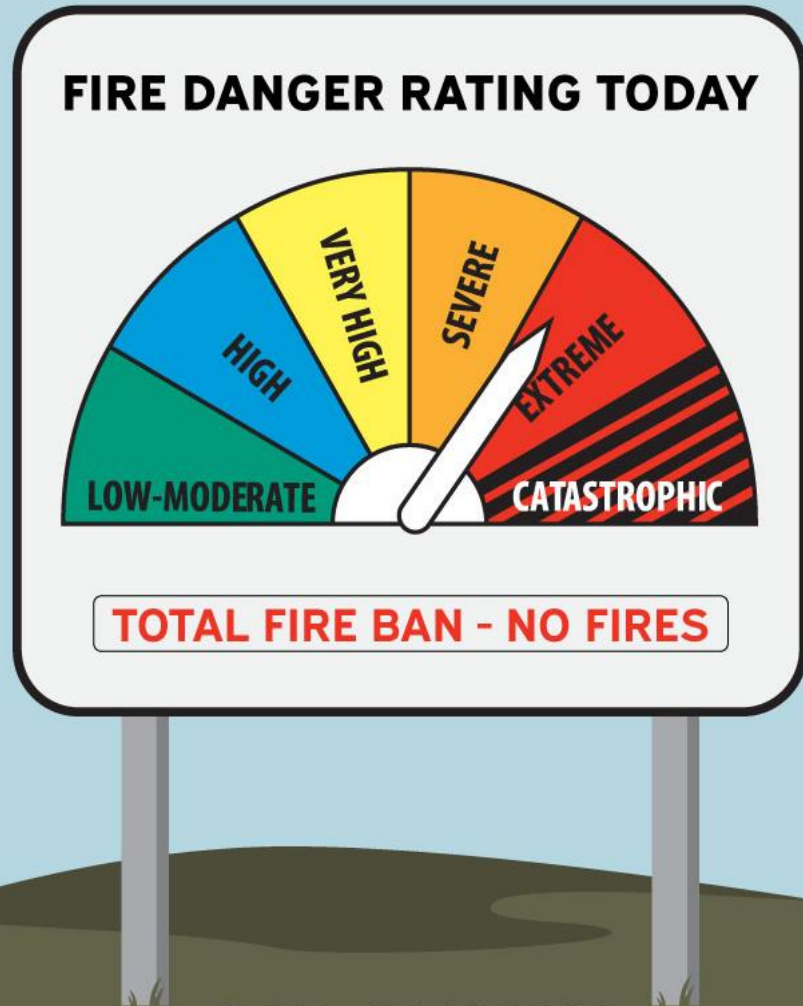


What are fire danger ratings?

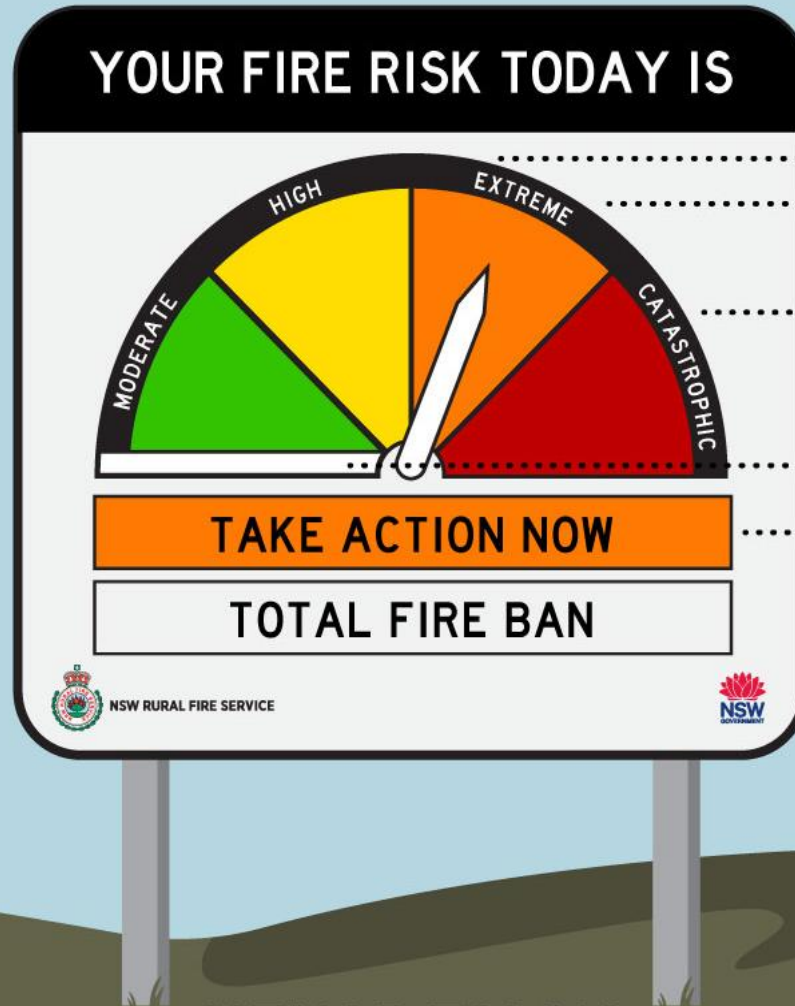
- Fire Danger Ratings describe the potential level of danger should a bush fire start. They do not indicate the chance of a fire occurring, although this is a common misconception.
- Ratings are calculated using a combination of weather forecasting and information about vegetation that could fuel a fire.
- Fire Danger Ratings are important in Australia because bush fires can be extremely dangerous, and people need to be forewarned so that they can take action to protect themselves and their community.



The new Fire Danger Rating System



OLD DESIGN



NEW DESIGN

NEW FEATURES

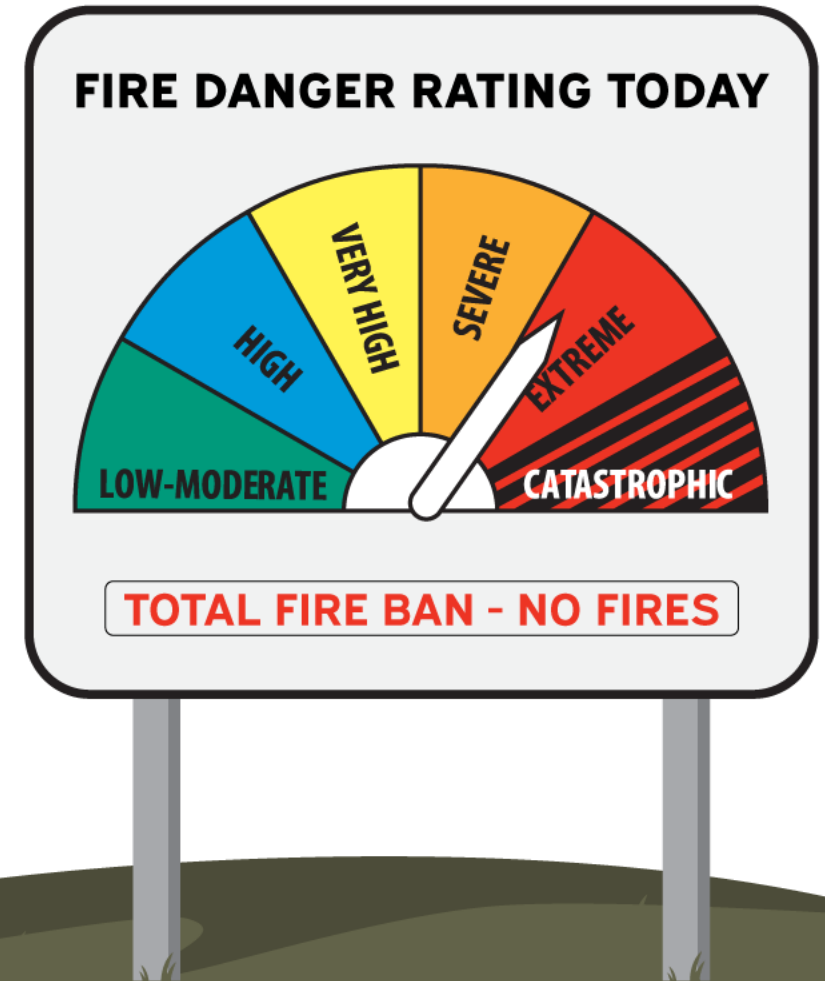
- Now 4 ratings and colour levels instead of 6
- The rating names in a white font on a black ribbon
- The size, location and shade of colour used for the wedges
- The white bar at the bottom left is used on days when there is no fire danger rating

OPTIONAL ELEMENTS

- Community messaging on the sign is considered best practice
- A timestamp and date stamp have been recommended

The social research

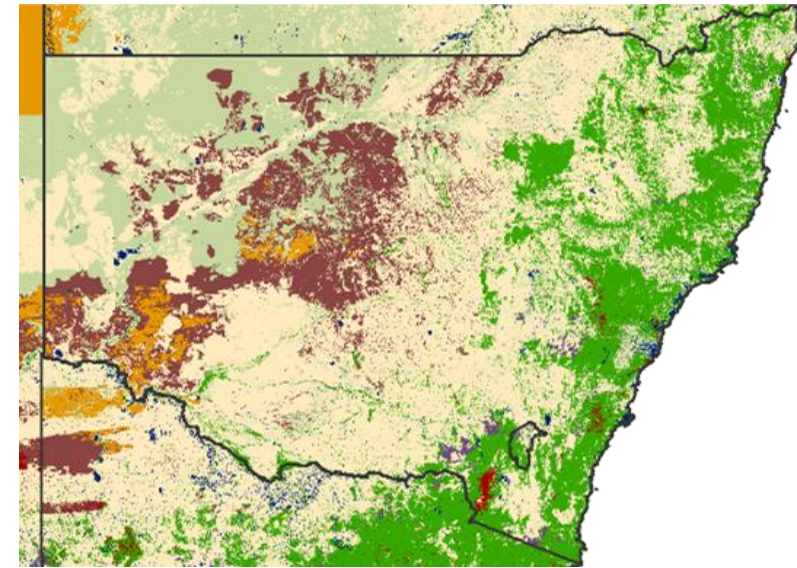
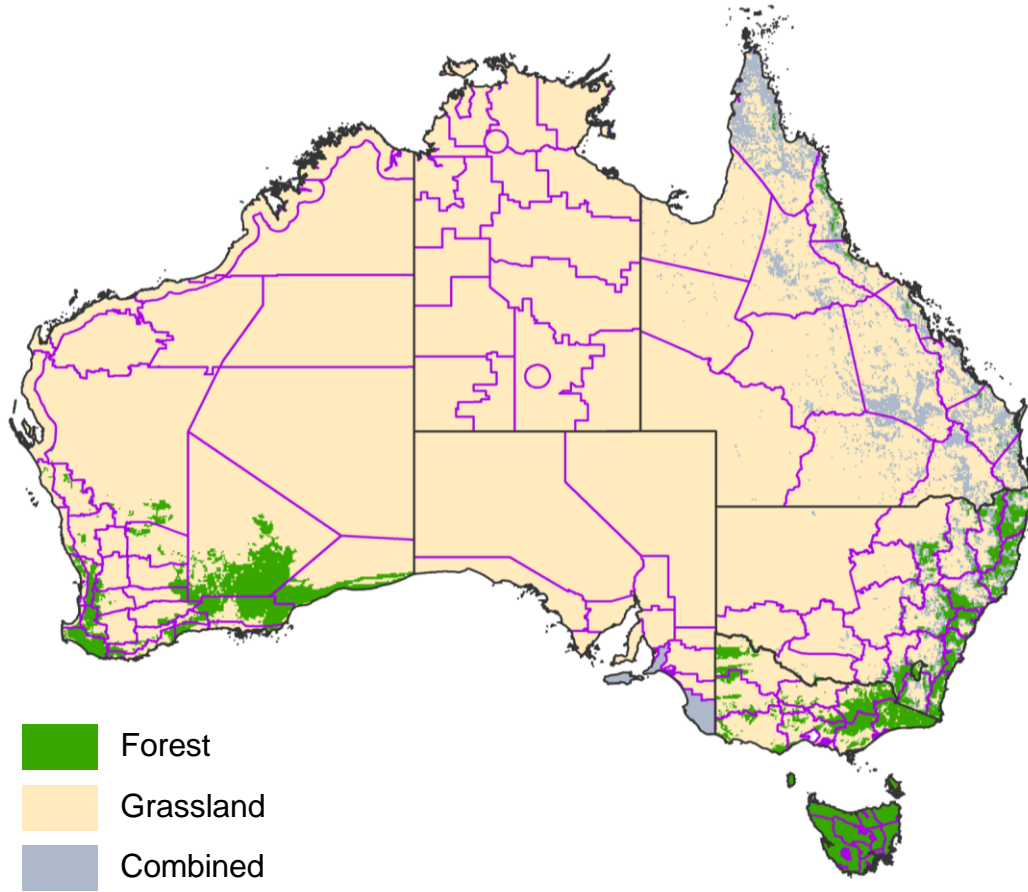
- Social research about the existing fire danger system was conducted in 2018 including one of the largest surveys ever conducted in Australia
- It found:
 - Most people knew about the Fire Danger Ratings (72% unprompted and 93% prompted)
 - However 52% believed the Fire Danger Ratings predict how likely a fire is to occur
 - There is limited understanding of the actions required at each level
 - Almost all believed you don't need to start taking action until the rating passes the mid point




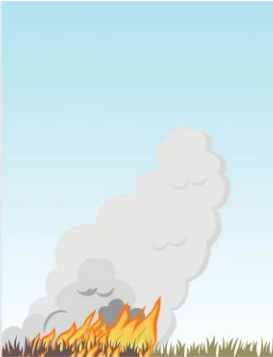






The science



Fire behaviour models: current compared to new AFDRS

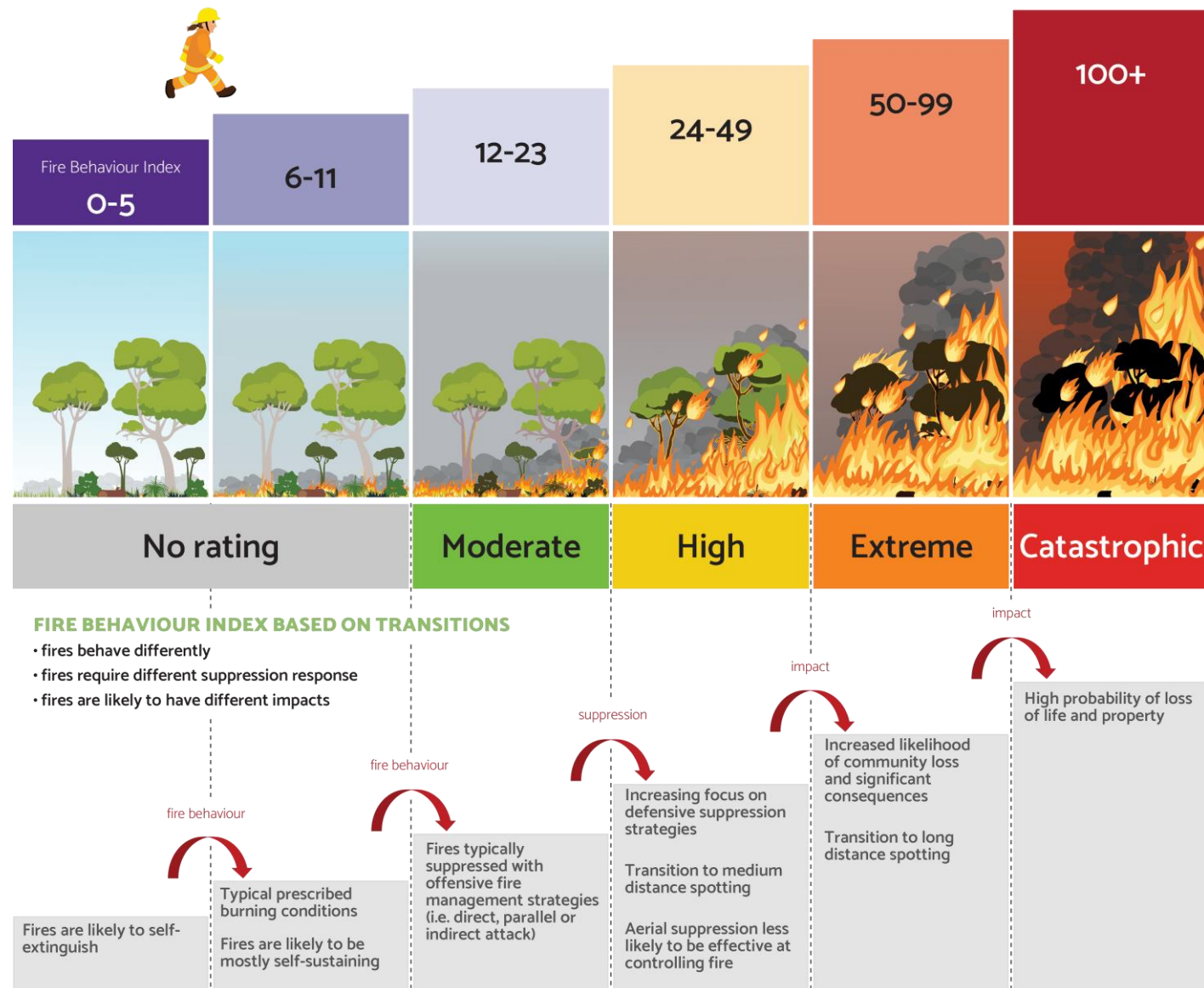


Improved science – now eight fire behaviour models

							
Forest	Grassland	Grassy woodland	Spinifex	Shrubland	Mallee heath	Buttongrass	Pine
Vesta Dry Eucalypt Forest Fire Model	CSIRO Grasslandfire spread	CSIRO Grassland for northern Australia	Desert Spinifex model	Shrubland model	Mallee-Heath model	Buttongrass Moorlands model	Adjusted Pine model
Cheney et al. 2013	Cheney et al. 1998 and Cruz et al. 2015b	Cheney et al. 1998 and Cruz et al. 2015b	Burrows et al. 2017	Anderson et al. 2015	Cruz et al. 2013	Marsden-Smedley and Catchpole 1995b	Modification of Cruz et al. (2008)

Fire Behaviour Index – for Decision Making

- The Fire Behaviour Index (FBI) provides a scale of potential fire behaviour based on:
 - Fire intensity
 - Flame height
 - Rate of spread
 - Spotting potential
- It can be used to support decisions such as:
 - When it is safe to prescribed burn
 - Which bushfire suppression strategies are safe or effective
 - When it is not safe to use equipment that may spark a fire
 - When Total Fire Bans may be required



The community



Benefits



A truly national approach to fire danger ratings across all states and territories.



Greater accuracy in the daily fire danger ratings based on science, meaning fewer false alarms. e.g. improvements to daily fire weather forecasts for members.



An easier to understand system, so people can make informed decisions based on their circumstances



Future potential for tailored information, such as more localised fire danger/industry-specific messaging.

Fire Danger Rating Community Messaging

Fire Danger	MODERATE	HIGH	EXTREME	CATASTROPHIC
Key Message	Plan and prepare.	Be ready to act.	Take action now to protect your life and property.	For your survival Leave bush fire risk areas.
Fire Behaviour	Most fires can be controlled.	Fires can be dangerous.	Fires will spread quickly and be extremely dangerous.	If a fire starts and takes hold, lives are likely to be lost.
Supporting Messages	<ul style="list-style-type: none"> Stay up to date and be ready to act if there is a fire. 	<ul style="list-style-type: none"> There's a heightened risk. Be alert for fires in your area. Decide what you will do if a fire starts. If a fire starts, your life and property may be at risk. The safest option is to avoid bush fire risk areas. 	<ul style="list-style-type: none"> These are dangerous fire conditions. Check your bush fire plan and ensure that your property is fire ready. If a fire starts, take immediate action. If you and your property are not prepared to the highest level, go to a safer location well before the fire impacts. Reconsider travel through bush fire risk areas. 	<ul style="list-style-type: none"> These are the most dangerous conditions for a fire. Your life may depend on the decisions you make, even before there is a fire. Stay safe by going to a safer location early in the morning or the night before. Homes cannot withstand fires in these conditions. You may not be able to leave, and help may not be available.

Monitor conditions and official sources for warnings. Adhere to local regulations governing fire activity. Ensure any industrial or agricultural activities adhere to relevant industry guidelines. If a fire starts near you, take action immediately to protect your life. Do not wait for a warning.

What do I need to do?



What do I need to do?

The new Australian Fire Danger Rating System was implemented on 1st September 2022.

Things you need to do

- Become familiar with the new ratings
- Review your Bushfire Safety Plans
- Encourage family and friends to learn about the new system
- Respond to the call to action where necessary

Total Fire Ban Declaration

will typically be issued at **FBI 50** and above (**Extreme**)

Suspension of Permits

will typically be suspended at **FBI 24** and above (**High**)

Harvest Safety Alert

Issued at **FBI 40** and above (**High**)

