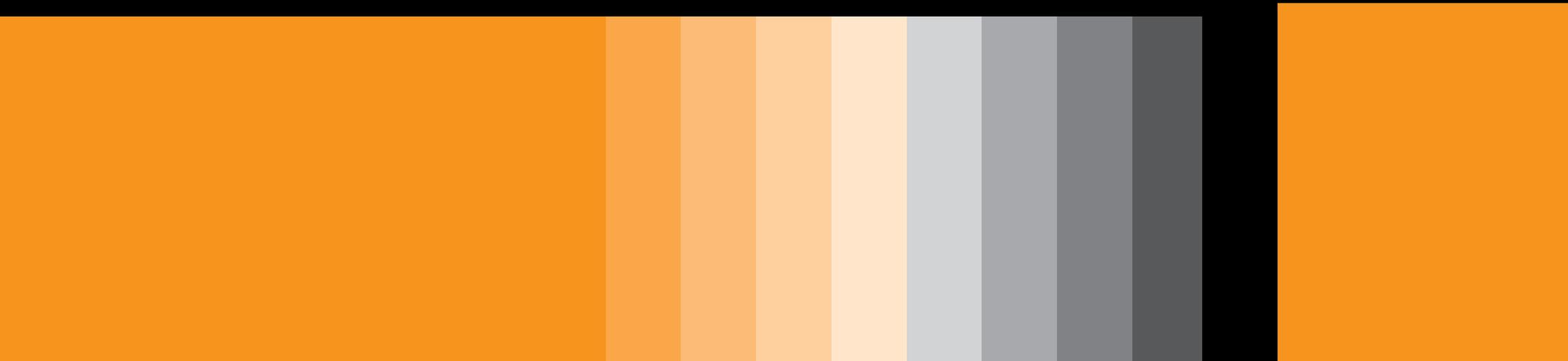




Fire Trail Condition Assessment Field Guide



This guide has been produced under the Natural Disaster Resilience Program and is jointly funded by the Commonwealth, NSW Government and Wyong Shire Council. Assistance, review and photos have also been provided by members of the NSW Local Government Bush Fire Managers Network in association with the Local Government and Shires Association



Wyong Shire Council
2 Hely Street Wyong
PO Box 20 Wyong NSW 2259
P 02 4350 5555 **F** 02 4351 2098
E wsc@wyong.nsw.gov.au
W www.wyong.nsw.gov.au
Opening Hours 8.30am - 5.00pm
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V1
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Fire Trail Condition Assessment Field Guide



1. Bush Fire Trail Condition **VERY GOOD**



2. Bush Fire Trail Condition **GOOD**



3. Bush Fire Trail Condition **FAIR**



4. Bush Fire Trail Condition **POOR**



5. Bush Fire Trail Condition **VERY POOR**



About the Fire Trail Condition Assessment Field Guide

This guide assists in evaluating fire trails on land managed by Wyong Shire Council. It will assist decision makers to:

- **determine the accessibility of a fire trail for fire fighting, hazard reduction burns and maintenance works;**
- **provide a basis for annual fire trail auditing required by the Rural Fires Act 1997;**
- **prioritise and prepare cost estimates for maintenance works; and**
- **assess upgrade works after completion (on an annual basis).**

How to use the Guide

There are five condition ratings for fire trails in Wyong Shire.

1 = Very Good

2 = Good

3 = Fair

4 = Poor

5 = Very Poor

The minimum standard for Operational status is Condition 3 (Fair) or better. Condition 4 (Poor) or 5 (Very Poor) requires immediate attention if the trail is required for operational purposes.

Photos examples for each of these ratings are included so you can see the difference in each fire trail rating.

Note that when assessing a fire trail rating, it should be applied to a 50m length (known as a 'section'). The condition applies to the full 50m section of trail.

It may be necessary to assess the trail more frequently on sections of trail that show sudden condition changes.

This guide follows Best Practice Guidelines for Fire Trail Construction and Maintenance, from the Bush Fire Coordinating Committee's Fire Trail Policy 2/2007 and the RFS Planning for Bush Fire Protection Standard (2006). It is produced under the Natural Disaster Resilience Program and jointly funded by the Commonwealth, NSW Government and Wyong Shire Council. Assistance, review and photos have been provided by members of the NSW Local Government Bush Fire Managers Network in association with the Local Government and Shires Association.

BUSH FIRE TRAIL CONDITION 1: VERY GOOD *(No visible signs of deterioration - as new. 2WD accessible.)*

A fire trail or section of a fire trail is considered 'Condition 1' if the trail has:

Width and design of the fire trail enables safe and ready access for fire fighting vehicles.

Fire trail is trafficable under all weather conditions. Where the fire trail joins a public road, access is controlled to prevent use by non authorised persons.

Fire trail is designed to prevent weed infestation, soil erosion and other land degradation.

- Minimum carriageway width of 4m and additional 1m wide strip on each side of the trail (clear of bushes and long grass).
- Maximum grade of 15° if sealed and not more than 10° if unsealed.
- Minimum vertical clearance of 4m to any overhanging obstructions (tree branches, powerlines).
- Crossfall of the trail is not more than 10°.
- Passing bays included in trail design every 200m (20m x 3m) OR regular opportunities for tankers to pass (tankers are 6m wide and 8m deep to any gates, with an inner minimum turning radius of 6m and outer minimum radius of 12m).
- Accessible to fire fighters and maintained in a serviceable condition.
- Appropriate drainage and erosion controls.
- Fire trail system is connected to the property access road and/or to the through road system at least two points. More frequent connections approximately 200m apart preferred.
- It is properly designed to avoid inundation (other than a flood or storm surge) where it crosses a wetland or other land that can be seasonally inundated.
- Access controls for fire trails are provided and locked with a key/lock system authorised by the local RFS.
- Fire trail design considers natural hydrological flows.
- Fire trail design acts as an effective barrier to the spread of weeds and nutrients.
- Fire trail construction does not expose acid-sulphate soils.

Fire Trail Condition **1. VERY GOOD**



(No visible signs of deterioration - as new. 2WD accessible.)



1.
VERY GOOD!

BUSH FIRE TRAIL CONDITION 2: GOOD

(Little sign of deterioration. Requires only minor maintenance/ repair. Generally 2WD accessible)

A fire trail or section of a fire trail is considered 'Condition 2' if the trail has:

Width and design of the fire trail enables safe access for fire fighting vehicles.

Fire trail is trafficable under all weather conditions but needs some minor repair. Where the fire trail joins a public road, access may or may not be controlled to prevent use by non authorised persons.

Fire trail is designed to prevent weed infestation, soil erosion and other land degradation but requires maintenance works on design features (washouts, rollovers, etc.).

- Minimum carriageway width of 4m, with corridor approximately 6m wide.
- Maximum grade of 15° if sealed and not more than 10° if unsealed.
- Minimum vertical clearance of 4m. Some vegetation on the edge of carriageway may cause slight impediment to visibility.
- Crossfall of the trail no more than 10°.
- Passing bays included in trail design every 200m (20m x 3m) OR regular opportunities for tankers to pass (tankers are 6m wide and 8m deep to any gates, with an inner minimum turning radius of 6m and outer minimum radius of 12m).
- Easy access for fire fighters and is maintained in a serviceable condition. Sealed or concrete trails are mostly intact with little sign of deterioration. Edges appear stable and not worn away.
- Appropriate drainage and erosion controls, though minor maintenance work is required.
- Is connected to the property access road and/or to the through road system in a number of locations.
- It is properly designed to avoid inundation (other than a flood or storm surge) where it crosses a wetland or other land that can be seasonally inundated.
- Access controls for fire trails are provided and locked with a key/lock system authorised by the local RFS.
- Fire trail design considers natural hydrological flows.
- Fire trail design acts as a barrier to the spread of weeds and nutrients.
- Fire trail construction does not expose acid-sulphate soils.

Fire Trail Condition 2. **GOOD**



(Little sign of deterioration. Requires only minor maintenance/ repair. Generally 2WD accessible)



2.
GOOD

BUSH FIRE TRAIL CONDITION 3: FAIR

(Visible signs of deterioration. Moderate repairs required. Generally light duty 4WD/SUV accessible)

A fire trail or section of a fire trail is considered 'Condition 3' if:

Width and design of the fire trail enables access for fire fighting vehicles.

Fire trail is trafficable under all weather conditions but needs moderate repair. Where the fire trail joins a public road, access may or may not be controlled to prevent use by non authorised persons.

Fire trail is designed to prevent weed infestation, soil erosion and other land degradation but requires maintenance of design features (washouts, rollovers, etc.).

- It has a minimum carriageway width less than 4m.
- Its maximum grade is greater than 15° if sealed and greater than 10° if unsealed.
- Minimum vertical clearance of less than 4m. Overhanging and trailside vegetation may cause impediment to visibility.
- Crossfall of the trail is more than 10°.
- Passing bays included in trail design OR regular opportunities for tankers to pass (tankers are 6m wide and 8m deep to any gates, with an inner minimum turning radius of 6m and outer minimum radius of 12m).
- Is accessible to fire fighters, maintained in a serviceable condition, and has a tightly bound, even surface, with sealed or concrete trails intact. Edges appear stable and free of obvious erosion.
- Drainage and erosion controls are provided, though maintenance is required.
- It is connected to the property access road and/or to the through road system at intervals of 200m or less.
- Fire trail does not traverse a wetland but may be subject to periodic inundation in parts.
- Access controls for fire trails are provided and locked with a key/lock system authorized by the local RFS.
- Fire trail design may interfere with natural hydrological flows.
- Fire trail design may act as an effective barrier to the spread of weeds and nutrients.
- Fire trail construction does not expose acid-sulphate soils.

Fire Trail Condition **3. FAIR**



(Visible signs of deterioration. Moderate repairs required. Generally light duty 4WD/SUV accessible)



3.
FAIR

BUSH FIRE TRAIL CONDITION 4: POOR

(May still be usable but major works are required. Insufficient surface material, non existent drainage, inadequate crossfall etc. Low range 4WD necessary in places.)

A fire trail or section of a fire trail is considered 'Condition 4' if:

The width and design of the fire trail does not enable safe access for fire fighting vehicles.

Fire trail is only trafficable in dry conditions and needs significant repair. Where the fire trail joins a public road, access may or may not be controlled to prevent use by non authorised persons.

Fire trail is not designed to prevent weed infestation, soil erosion and other land degradation. Fire trail needs considerable construction and / or maintenance (washouts, rollovers, etc.).

- It has a minimum carriageway width between 2.5 m and 4 m.
 - Its maximum grade is greater than 15° if sealed and greater than 10° if unsealed.
 - Majority of trail does not have a minimum vertical clearance of 4 m (frequent overhanging obstructions). Vegetation above and adjacent to the edge of carriageway causes an impediment to visibility and minor impediment to vehicle movement.
 - Crossfall of the trail is more than 10°.
 - Passing bays are not formally included in trail design.
 - The fire trail is accessible to fire fighters and maintained in a serviceable condition by the owner of the land. Sealed or concrete trails are intact. Edges appear stable and free of obvious erosion.
-
- Appropriate drainage and erosion controls are provided.
 - It is connected to the property access road and/or to the through road system at intervals of 200m or less.
 - It does not traverse a wetland or other land subject to periodic inundation (other than a flood or storm surge).
 - Access control for fire trails are not provided, are unlocked or have a key/lock system that local RFS does not have access to. Non-authorised persons may be able to access the fire trail.
 - Fire trail design interferes with natural hydrological flows.
-
- Fire trail does not act as an effective barrier to the spread of weeds and nutrients.
 - Fire trail construction may expose acid-sulphate soils.

Fire Trail Condition 4. **POOR**



(May still be usable but major works are required. Insufficient surface material, non existent drainage, inadequate crossfall etc. Low range 4WD necessary in places.)



4.
POOR

BUSH FIRE TRAIL CONDITION 5: VERY POOR

(Low range 4WD necessary, not suitable for use as a fire trail. Requires reconstruction. Trail may be completely impassable in places.)

A fire trail or section of a fire trail is considered 'Condition 5' if:

Fire trail is not trafficable and requires significant repair and / or construction. Where the fire trail joins a public road, access may or may not be controlled to prevent use by non authorised persons.

Fire trail is not designed to prevent weed infestation, soil erosion and other land degradation. Fire trail requires considerable construction and / or maintenance (washouts, rollovers etc.).

- It is not accessible to fire fighters and is not maintained in a serviceable condition by the owner of the land.
- Edges lack stability and may be obviously eroding.
- It has ineffective drainage and erosion controls. Deep ruts, washouts, etc, make trail impassable.
- It has inadequate connection to the road system.
- It crosses a wetland or other land subject to periodic inundation (other than a flood or storm surge).
- Access controls for fire trails are not provided, are unlocked or have a key/lock system that local RFS does not have access to. Non-authorised persons are able to access the fire trail.
- Fire trail design does not consider natural hydrological flows.
- Fire trail design does not act as an effective barrier to the spread of weeds and nutrients.
- Fire trail construction may expose acid-sulphate soils.

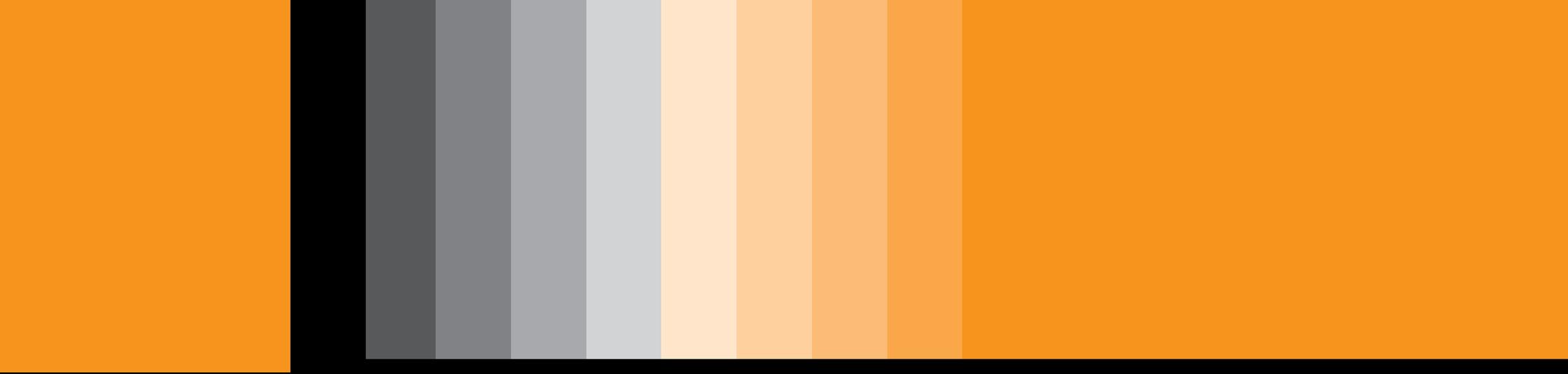
Fire Trail Condition 5. **VERY POOR**



(Low range 4WD necessary, not suitable for use as a fire trail. Requires reconstruction. Trail may be completely impassable in places.)



VERY POOR 5.



Council Civic Centre 2 Hely St Wyong | PO Box 20 Wyong NSW 2259 | Open 8.30am - 5.00pm, Monday to Friday | E wsc@wyong.nsw.gov.au | T 4350 5555 | General Manager Michael Whittaker

