

## Track marking

The triangular waugal trail marker is integral to the Track's character and is not only used on trees but on many other items along the way such as timber posts and large logs; in special circumstances boulders, fences, stiles and bridges; and (with approval) power poles through towns. Their varying age, locations and sometimes quirky placement down the Track has inspired countless poems, stories and photographs of 'following the Waugal'.

There are inevitably varying opinions of how many waugals are 'enough', but it is important that the Track is marked to reflect the appropriate trail classification (a class 3 to 4 trail to Australian Standard AS2156.1) and is of a consistent standard. These notes are derived from the "Track and Trail Signage Guidelines" (currently in draft), developed by the P&WS of DBCA.

While the guidelines dictate the standard, flexibility and common sense in their implementation is often required depending on the situation on the ground. Points of possible misunderstanding such as intersections vary widely in their landscape location, angle of approach (and departure) of routes involved, obscuring vegetation and representation on maps or navigation applications.

The original Track marking (or remarking eg. after fire) should be done by BTF Support Volunteers (preferably together with the sectional volunteer), who have a thorough understanding of what's needed; or by properly trained P&WS staff.

### The role of the sectional volunteer is to:

- **monitor the condition of markers, in particular to ensure a reasonable gap between tree and marker is maintained**
- **identify and replace missing markers (eg. where "souvenired")**
- **keep vegetation clear of timber posts, signs, stiles and way-marked power poles to minimise potential fire damage**

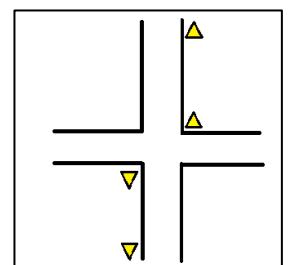
These notes should assist you in understanding the principles of Track marking as seen on your section, and to carry out maintenance of marking when necessary.

### Frequency

- Markers are positioned at a maximum of 500 metres apart where the trail is distinct and there are no other trail or track options for the user to take
- In practice, this distance will vary depending on intersections and other features. For example, where such a section of trail is between 500-1000m, install markers at the halfway point (so if that distance is roughly 700m, mark a tree at roughly 350m).

### Marking an intersection (crossover)

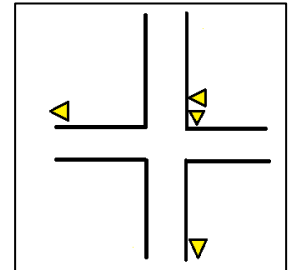
- Four markers are used to mark the Track crossing straight through an intersection
- A marker is placed on the opposite side for both directions
- The left or right side of the Track may be used as convenient, but a trail user approaching the crossroad must be able to see the marker on the other side of the road to be crossed.



- Posts, where used, are placed with the marker facing the trail users
- In any case an additional confirmation marker is installed towards both sides of travel, within view of the intersection and roughly 20-50 metres from the turn or crossroad. Confirmation markers should be visible in both directions from the centre of the intersection.
- Confirmation markers are always vertical. The only exception is where they double as an intersection turn marker.

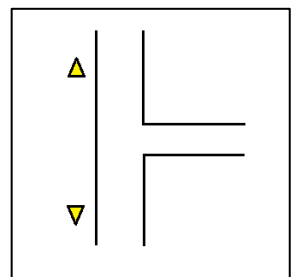
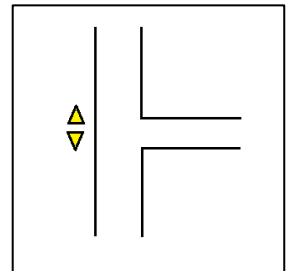
### Marking an intersection (turn)

- Four markers are used to mark the Track turning at an intersection
- Wherever possible, markers are placed in the opposite outer corner in an 'L' to indicate both directions of travel. Using the outer corner is important. A walker not anticipating a turn off from a well-defined track is more likely to spot a marker on the outside (straight ahead view), rather than on the inside of the turn. If there isn't an appropriate tree on the outer corner, there may be one straight ahead in full view of the walker.
- For added insurance, where turning off wide tracks, or where the marked tree is less than ideally located, mark the inner corner as well or a tree which is in full view of the walker.
- Again, two confirmation markers are installed – one in either direction.



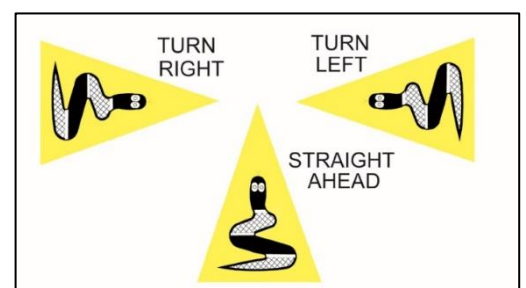
### Marking a side road pass

- Two markers only are used to mark the route where there is a side trail or road, aka T-junction, but the alignment is straight ahead
- A post or tree marking is used to confirm direction of travel
- The best location for marking is usually opposite the side track or road. Pick a tree, generally opposite the side road, and install markers on both sides of that tree (first diagram). Of course, if you cannot find a single tree in the right spot, use two trees each marked so that it is seen past the side road intersection (second diagram).
- No confirmation markers are required



### Positioning and installation tips

- Position markers perfectly vertical with the apex facing up indicating that the trail goes straight ahead; or perfectly horizontal with the apex pointing left or right, indicating a left or right hand change of direction (see diagram). Angling the marker can cause confusion and should be avoided.
- Where they are installed on trees, markers are nailed at roughly eye height (maximum of 2 metres).
- When marking always ensure equal visibility from both directions, as current marking may only be installed and checked travelling in one direction.
- Installing markers on both sides of a suitable tree makes future maintenance easier. However, when marking intersections mark the best tree available to achieve clarity (see intersection sketches and guidance above) and don't use the opposite side of a tree if the marker is not clearly visible from a reasonable distance.



- Avoid placing markers on young trees as they grow quickly; however if a young tree is needed to best show the direction of the Track, then use it.
- It is preferable to install markers on jarrah, wandoo, blackbutt/yarri, sheoak or mature karri. If there is no alternative, marri may be used, however nails need be driven in on a downward angle, leaving a 10mm gap (described below) to ensure sap doesn't run down the face of the marker (see photo).
- For most trees the use of two 65mm galvanised decking nails (griplock helical) is sufficient. For marri use 75mm griplock helical nails.
- A short hammer stroke is recommended to avoid the hammer slipping off the nail head and damaging the marker.
- Ensure a minimum 10mm, or finger width, gap between the tree and the marker to allow for tree growth (see photo). This gap also allows for maintenance of the marker as the tree grows. The spacing can be maintained by removing and reinstalling the marker. Due to the gap, nails can be removed easily or cut by hacksaw without damage to either the marker or the tree.
- It is easier to maximise the gap on trees with thick bark growth by scraping back a small section of bark slightly larger than the marker. However, you should avoid scraping too deep to avoid damaging the cambium tissues between the bark and wood of the tree.
- It is good practice to "spring" the marker out against the nail heads by angling the top nail slightly down and the bottom nail up. This ensures the full gap is available for growth and may also protect the marker from fire damage (especially cool burns where the tree bark only smoulders). Preservation of the marker is important for obvious reasons, and also cost. Markers are surprisingly expensive.



## Ongoing maintenance

- It is important to remember that the primary purpose of a trail marker is to **aid** the user's navigation. Markers that serve this purpose should not be replaced unless they are damaged and no longer functional.
- When resetting a marker in young marri, care needs to be taken as their bark tends to come away easily from the wood. It may be better to use side cutters or a hacksaw to cut the nails rather than attempt to extract them.

## Maintenance after bushfires and prescribed burns

- Hot burn bushfires generally mean tree markers need replacement. Prescribed burns tend to be less severe, but some damage may occur.
- Provided the section had previously been brought up to guideline standard, only those locations previously marked should have new markers installed.
- In areas where the loss of vegetation has made the tread of the Track indistinct, additional markers should not be added. Instead use flagging (surveyors) tape to provide guidance between the established marked locations. Once sufficient regrowth has occurred and the tread is clear, section volunteers should remove the flagging.