

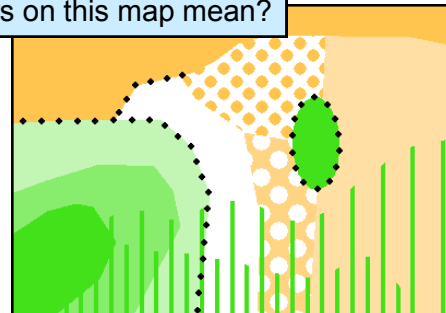
# Know your sport: Vegetation - From yellow to white to green

Many people using orienteering maps for the first time can find the various colours on the map confusing. This may be because they are most used to Ordnance Survey maps where open areas are white and woodland green. On orienteering maps, white areas are woodland and open areas are yellow. Here the use of colours for orienteering is explained.

## The Basics

Orienteering is a competitive sport with the fastest person to visit their controls being the winner. This needs each competitor to select what they consider represents the fastest route between each control for them and the ability to interpret many different aspects of the map. A key element is the speed with which someone can cross different terrain. Can they expect to run at full speed or will the trees be tightly packed making running slow or even impossible?

Can you picture what the colours on this map mean?



According to the specifications for orienteering maps set by the International Orienteering Federation (IOF), the basic principles of colour on maps are:

- white represents runnable forest,
- yellow represents open areas divided into several categories,
- green represents the density of the forest and undergrowth according to its runnability and is divided into several categories.

## Runnability

The term used to describe the speed a competitor can traverse an area is '**runnability**'. The IOF specification divides this into 4 categories according to the likely running speed. If speed through typically open runnable forest is, for example, 5 min/km, the following rates apply:

• open forest	80 - 100%	5 - 6:15 min/km
• slow running	60 - 80%	6:15-8:20 min/km
• difficult to run	20 - 60%	8:20 - 25:00 min/km
• very difficult to run	0 - 20%	> 25:00 min/km

### Complex vegetation seen on part of the Barossa map

Large area of 'Slow running'

Area of 'Rough open land with scattered trees' but with 'Slow running' undergrowth

Small area of 'Open land' (or clearing) in an area of 'Open forest'

Large area of 'Difficult to run'

Section of 'Rough open land with scattered trees'

Small area of 'Rough open' (or clearing) in an area of 'Open forest'

Small area of 'Very difficult to run' (termed a thicket)

Large area of 'Open forest'



For more detailed explanations of these terms, see over

## Woodland Screens

The IOF specifications provide for four variations of runnability in woodland areas. These are listed here along with a fifth which can be used, common when there has been forestry work thinning young trees:



**Forest: easy running:** Typically open runnable forest for the particular type of terrain. If no part of the forest is runnable then no white should appear on the map.



**Forest: slow running:** An area with dense trees (low visibility) which reduces running to about 60-80% of normal speed.



**Forest: difficult to run:** An area with dense trees or thicket (low visibility) which reduce running to about 20-60% of normal speed.



**Vegetation: very difficult to run, impassable:** An area of dense vegetation (trees or undergrowth) which is barely passable. Running reduced to about 0-20% of normal speed. *Notice in this case, it can also refer to the undergrowth rather than the density of the trees.*



**Forest runnable in one direction:** When an area of forest provides good running in one direction but less good in others, white stripes are left in the screen symbol to show the direction of good running. *Note that the stripes do not represent individual sections of run - they are spaced a standard distance apart.*



An example of '**Forest: easy running**'. An area of mature forest allowing competitors to run at their top speed (100% runnability). This is considered the standard forest type and is white on the map.



This example shows an area where there are younger trees which are closer together making it harder to get through. Runnability is therefore less, perhaps only 70% of top speed. An example of '**Forest: slow running**'.



Here we can see a transition in vegetation. The mature trees in the front change to an area of denser younger trees. The runnability changes from 100% to less - perhaps only 30% - a case of '**Forest: difficult to run**'. The map shows this with white at the bottom changing to a medium green at the top. Some mappers might have considered this sufficiently distinct to have used the 'vegetation boundary' (black dots) symbol - but not in this case.

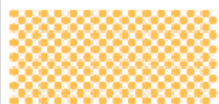


## Open Screens

Although there are many places where an area of woodland comes to an abrupt end followed by an area of open land, in other places, often of natural woodland, the changes are more subtle and it can be difficult for a mapper to decide whether the area is wood or open. To help overcome this difficulty, as well as showing an area as 'open' or 'rough open', the IOF specifications include options to indicate 'with scattered trees'.



**Open land:** Cultivated land, fields, meadows, grassland, etc. without trees, offering easy running.



**Open land with scattered trees:** Meadows with scattered trees or bushes, with grass or similar ground cover offering easy running.



**Rough open land:** Heath, moorland, felled areas, newly planted areas (trees lower than ca. 1 m) or other generally open land with rough ground vegetation, heather or tall grass.



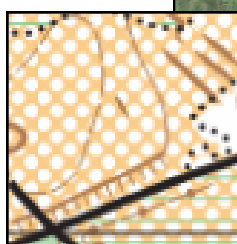
**Rough open land with scattered trees:** Where there are scattered trees in rough open land, areas of white (or green) should appear in the tone. Such an area may be generalised by using a regular pattern of large white dots in the yellow screen.



Here is a wide section of '**Open land**' which is easy to run across. It is shown as bright yellow. If the weather was sunny it would be bathed in (yellow?) sunlight. Also notice that the edge of the woodland is shown here with the black dot symbol showing a '**distinct vegetation boundary**'. The symbol is used to show a distinct forest edge or very distinct change in vegetation within a forest.



Here the ground is more varied and is considered '**Rough open land**'. Although there are a few scattered young trees they are small (typically less than 1m) and would not change the type of classification.



Although still considered rough open, the trees here are larger making this area '**Rough open with scattered trees**'.

You can download copies of the full 'International Specification for Orienteering Maps' (ISOM) from:  
<http://orienteering.org/resources/mapping/>

## Undergrowth

Unfortunately, it is not only areas of dense tress which can slow competitors down. Even though an area might contain mature trees (and would normally be considered suitable for being shown as white) or open (and normally shown in yellow), other vegetation can cause problems. Sometimes considered as the 3 'Bs' these include brambles, bracken and brashings.

- **Brambles** can sometimes spread over large areas of woodland and dense areas can be difficult (and painful) to cross. These tend to be fairly permanent although heavy snow can sometimes knock back some growth.
- **Bracken** grows rapidly in late spring and by mid-summer can be very dense and difficult to push through. However in late October (depending upon when the timing of the first frosty nights) the bracken dies, turns brown and slowly decays. This complicates mapping when the runnability varies through the year. This is termed 'seasonal undergrowth' and may, or may not, be shown on maps. Event details may give an indication as to what to expect.
- **Brashings** (cut branches) are more variable and depend upon forest operations. They are often not shown. Their impact on people will vary and event details might give an indication as to whether they may present problems.



An example of bracken making an area '**Difficult to run**'

To help orienteers take these into account, the IOF specifications include two additional screens for undergrowth which do also indicate that they can be used for 'cut branches' as well:



**Undergrowth: Slow running:** An area of dense undergrowth but otherwise good visibility (brambles, heather, low bushes, and including cut branches) which reduces running to ca. 60-80% of normal speed.



**Undergrowth: Difficult to run:** An area of dense undergrowth but otherwise good visibility (brambles, heather, low bushes, and including cut branches) which reduces running to ca. 20-60% of normal speed.

## Final thought

The decision as to which screen to use in any particular part of the terrain will be taken by the mapper. This will be a judgement - there is no precise way of measuring runnability. In the same way, mappers need to use their judgement to assess whether an area is 'wood' or whether it is open with scattered trees - an increasing density of scattered trees will, at some point, be considered woodland.

An orienteer needs to recognise this and learn to see the map and the terrain through the eyes of the mapper. When competing on a new area, be prepared to take a bit of extra time over the first few controls to get accustomed to how the mapper has viewed runnability and the use of colour. Learn to interpret the map.

Areas of rhododendron bushes can be almost impossible to get through and are nearly always shown as '**Impassable**'. Here a single bush has been plotted with a small green dot.

