

Chapter 7.0: Component Groups

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7.0 Component Groups

7.1 What is a Component Group?

Like a section, Component Groups (CG's) are areas of relatively homogeneous land use or areas where stand characteristics are the same, which are often too small or difficult to map, yet are still important enough to identify separately.

In effect they can be viewed as 'sub-sections', in that they often have similar characteristics to sections, but they are just not mapped.

All Sections must have *at least* one CG and can have up to 30 although more than 5 is likely to be very rare.

If the section is relatively homogenous, and there are no small areas within it that are discrete in their nature or land use, then the section will have one component group which will occupy the entire section. In this case all components in the section will be held within this single CG.

This single CG may have one or more components (one or more tree species, storeys or land use types).

Two separate CG's would be established in a section if the components in it fell into two identifiable spatial groupings.

For example, a section may contain: Japanese larch, Sitka spruce, Norway spruce and sessile oak. They could be recorded as one section and one CG, with four components, implying an intimate mixture of all species.

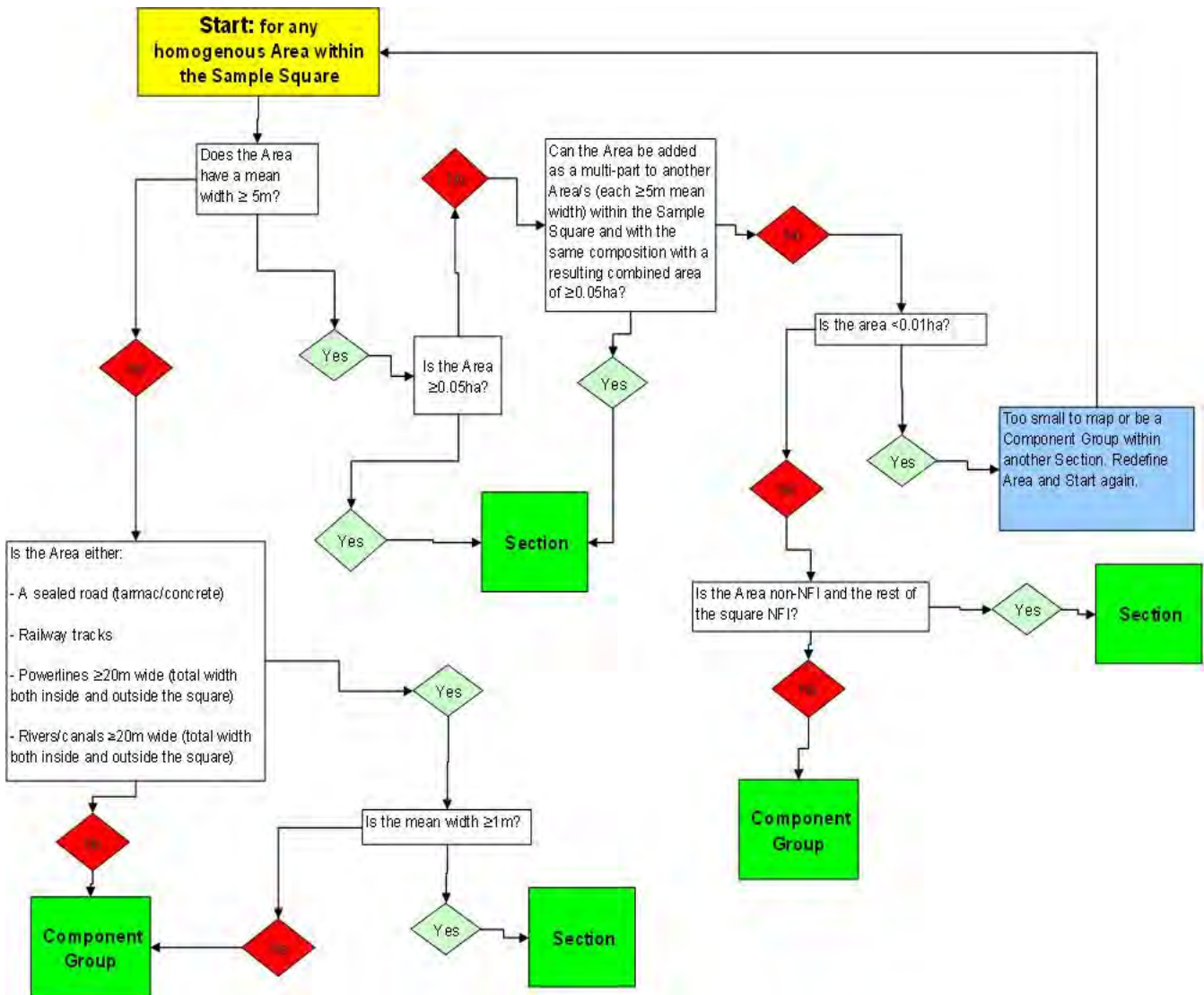
If, on closer observation, it was noticed that the larch and Sitka spruce were spatially grouped, forming one type of crop, and the oak and Norway spruce were separately spatially grouped, forming another type of crop, they should be treated as separate entities (Component Groups). In this case the Section would have two CGs. One CG would record the Norway spruce and Oak, the other would record the Sitka spruce and larch.

Component groups can also be used to 'attach' small areas of other stands or other land parcels to a treed section. This is used when the feature itself, as it exists within the square, does not have a sufficient minimum mappable area (0.05ha) to form a Section in its own right. It generally occurs where a square boundary just cuts into another land

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parcel and the remaining fraction is too small to form an independent section. See below:

Flowchart 7 - 1: Section vs. Component Group



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Example 1: a NFI-Treed Section (0.7ha) contains a Scout camp with a number of small buildings scattered throughout it resulting in an intimate mixture of trees and buildings. It is not possible to map out each of the small buildings individually even though the total area covered by the buildings is greater than the minimum section size (0.05ha). In this case it is permissible to create a single Section with two Component Groups – one of trees and one of buildings. Thus if the Section was composed of 50% treed and 50% buildings each Component Group would be 0.35ha in extent.

Where an area has been incorrectly sectioned, and mensuration assessments completed, in *exceptional* circumstances it may be allowable to accommodate these as a CG within another Section.

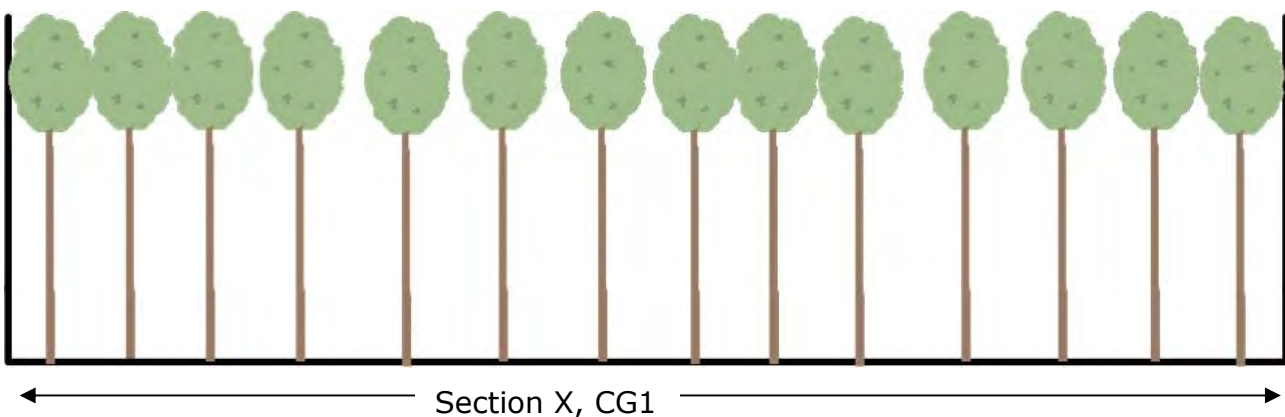
Example 2: a section has been incorrectly created by the surveyor and the mensuration plots/points generated and assessed - then the surveyor notes an area within the section that should actually be a separate section. The surveyor is now in a quandary, ideally the square should be re-sectioned, with all the associated problems such as losing the mensuration data associated with the plots/points already assessed. In such circumstances it is allowable to define such an area as a CG of the previously defined section. However, QA will only pass a maximum CG size of 0.2ha in wooded areas and 0.15ha in non-wooded areas.

7.1.1 Examples of Component Groups within a Section

Example 7 - 1: A single storey (e.g. Upper), single species (e.g. Scots pine) section.

One Component Group –

1. Upper Storey, Scots pine.

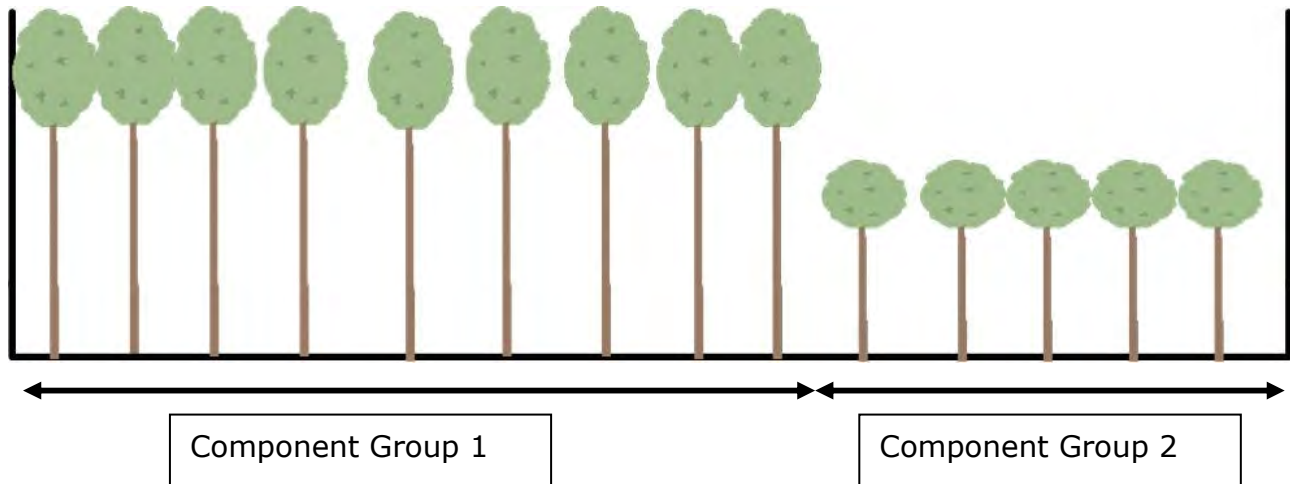


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Example 7 - 2: A single species within the Section but two distinct storey heights separated spatially.

Two Component Groups –

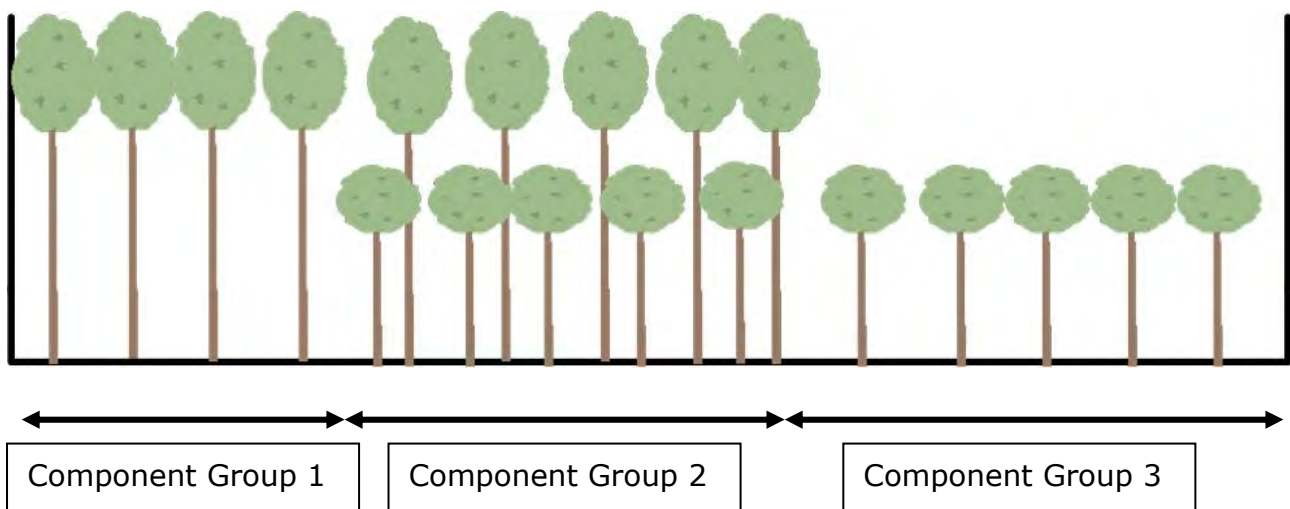
- 1. Upper storey, Scots pine.**
- 2. Lower storey, Scots pine.**



Example 7 - 3: A single species within the Section but two distinct storey heights, partially separated spatially but also merging spatially.

Three Component Groups –

- 1. Upper storey, Scots pine.**
- 2. Upper storey, Scots pine and Lower storey, Scots pine.**
- 3. Lower storey, Scots pine**

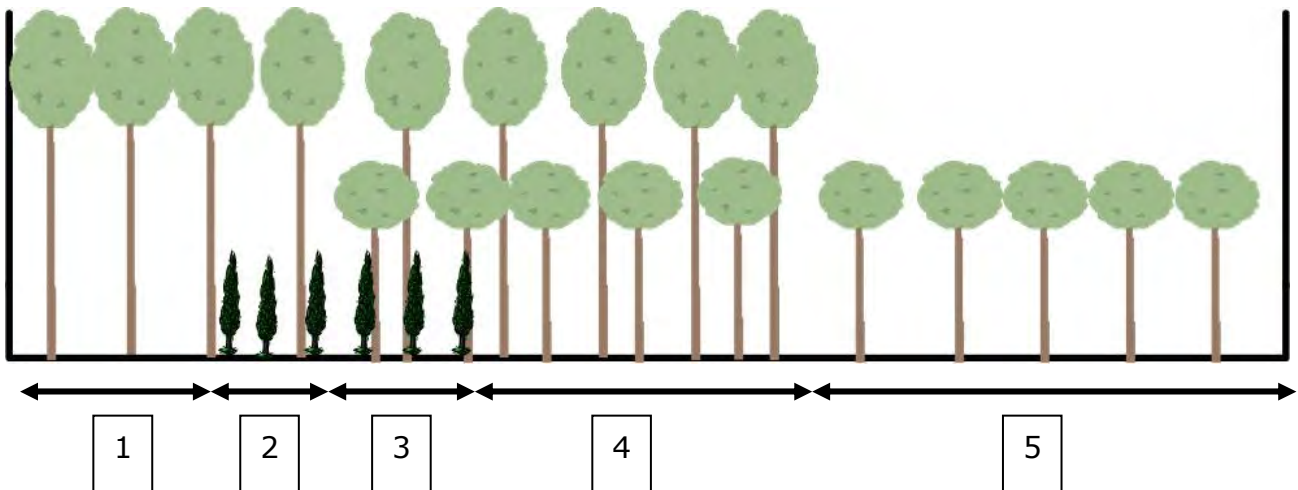


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Example 7 - 4: a two species, 3 storey, Section.

Five Component Groups –

- 1. Upper storey, Scots pine.**
- 2. Upper storey, Scots pine and Lower storey, Western hemlock.**
- 3. Upper storey, Scots pine and Middle storey, Scots pine and Lower storey, Western hemlock.**
- 4. Upper storey, Scots pine and Middle storey, Scots pine.**
- 5. Middle storey Scots pine**



7.2 Variations in Component Group allocation for Re-measure squares.

There are no changes in protocol or additional factors to assess in component groups in a Re-measure square compared to a new square.

You will however have to make your own assessment of the component groupings within the section and square as per the standard protocol and compare this to that of the previous surveyor. In these instances you will have to discern if there has been No change, Real change, or Surveyor error between the surveys.

7.2.1 No Change

If the assessments accord, then there is no change to record and the previous values can be confirmed (at component level).

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7.2.2 Real Change

If however real change has occurred and for example a new group has become evident, then the component grouping will need to be edited to reflect this. Examples of this may be obvious, like a small patch of windblow, or a small clear cut or less obvious like a small cluster of dense birch growing through into a corner of a spruce restock site. Observe these and edit accordingly to reflect this. There is no need to record this as a 'real change', as all changes at this level are automatically categorised to be such.

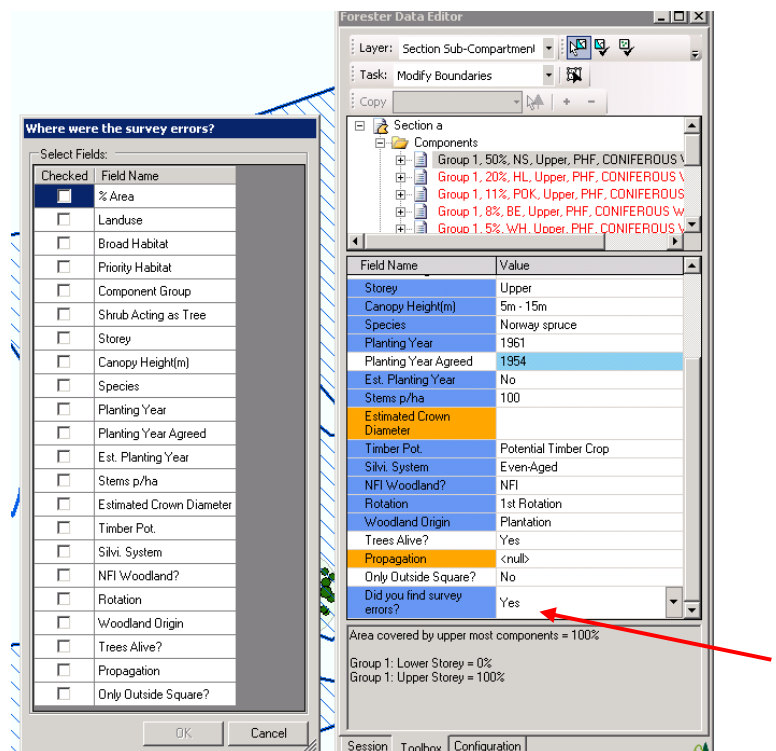
7.2.3 Surveyor error

If however you find a difference between your assessment of components groups and the previous surveyors that cannot have arisen due to real change in the intervening 5 years and must be due to the previous surveyor making an error, this requires a slightly different procedure.

If the differences are minor in nature and could be put down to differences in subjective interpretation, accept the Component groups as are and record as no change.

However if differences are significant and notable then you need to correct the component grouping, either through re brigading the existing components under new groupings, or by creating new components and brigading these. If you need to do this you need to record these changes as being due to surveyor error. Record this in the components which you changed for this, where you will need to update the 'Did you find survey errors' field in the component edit dialogue, choosing 'yes'.

A new dialogue box will open entitled 'Where were the survey errors?' Check the box next to Component Group. This data will enable the NFI analysis team to discern between you changing component groupings for real change and surveyor error.



7.3 Tolerances to apply in assessing between surveyor error and no change

Surveyors need to be given guidance as to what is acceptable subjectivity that should be classified as 'no change' and what is notable or significant differences and needs to be recorded as either error or real change.

7.3.1 Real Change

Some examples of real changes to look for are cited in the real change definition above. In terms of component grouping, much like sectioning, real change is most likely to have arisen within a 5 year window through human activity like clear felling, thinning, development or planting.

It is less likely to have arisen through natural processes such as growth and competition, browsing or regeneration, but this will occur. There will be circumstances, especially in areas involving the establishment of young trees where new component groups could arise or old component groups disappear, as trees either intrude or die and this will be more common.

7.3.2 Surveyor error

A good general 'rule of thumb' is that if the previous surveyor was no more than 10% different in their assessment from you, in the areas of the survey which are more subjective, such as some instances of component grouping and sectioning and allocating areas to these, accept these to maintain consistency in measurement. If however component grouping is significantly or notably different and is therefore misrepresentative, correct that within the survey and record as surveyor error.

As stated component groups should be split out when they are notably or significantly different as defined by the factors set out sectioning in chapter 4 (landuse, species, NFI/Non NFI).

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7.3.3 Minor differences to accept

There will be situations where you should accept minor differences between the surveys. An example would be where a component group that you would not have split out was split out. Here you disagree with the previous surveyor as the area split out into the component group within the section is only slightly different to the rest of the section. For example by:

- One set of tree mixtures versus another set of tree mixtures, with an overlap in species between the two and a common priority habitat.
- Two non native clusterings.
- Two native clusterings.
- Two clusterings similar in species and different by only one storey.
- Two CG's different by only a weak / thin understory.
- Two CG's different by a weak / low impact treatment.
- A very minor species composition difference (less than 10% of canopy).
- Through a poor NVC assessment

In such instances you may elect to maintain the existing component grouping.

7.3.4 What not to accept

Where, if assessing a new sample square, you would have created a component group as you see a discrete homogenous area *sat within a section of a significant and notably different nature*. Examples of notable 'black and white' difference would be:

- One pure species grouping vs. another.
- One clear separation of a distinct habitat versus another.
- One landuse versus another.
- Open versus forest landuses.
- Non native versus native.
- Conifer versus broadleaved.
- Woodland / open.
- NFI / Non NFI.

The previous surveyor may also have not achieved the section:component group split that you would have. Again there are tolerances to take into account here before correcting the previous component groups and sections and declaring that the previous surveyor made an error. See chapters 5 and 6.

Examples at which to split out existing component groups into sections:

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If you have a discrete homogenous area that is clearly above the section area threshold (0.05ha) within a section and meet the criteria for sections set in Chapter 4.

You can apply a tolerance to this in accepting previous surveyor's component groupings of 0.04 ha to 0.06 ha.

Similarly if you have a section that is less than the minimum area, keep that section.

In extreme circumstances, where the component grouping and or Sectioning is absolutely wrong and the component grouping and component allocation is so different that it would undermine both the representation of the stand as a 'true and fair' picture and your ability to complete the square within one or two days, then the final option is to forget trying to align the two surveys and to wipe the previous survey data (from your copy – the original will be held by FC) and start from scratch as per a new survey. Additional payments can be made to compensate for the extra time taken to do this.

7.4 Summary

When you observe differences between the two interpretations of the site, which it would be 'fair and reasonable' to say were 'major' (say 80% or 90% different) then obviously that must be corrected.

Where it is 'fair and reasonable' to say differences are 'minor' in nature we do not need to correct the data. In most circumstances it is relatively straight forward to identify 'minor' or very low levels of difference between the surveys and once identified low levels can be tolerated (say 1% or 2%).

It is the 'middle' ground between 'minor' and 'major' difference that will require more consideration to treat correctly and that requires skill.

In assessing the 'correctness' and acceptability of component grouping you will need to not only take into account the area of the square impacted, but also the nature of the impact and to think through how any such factors could impact on the survey overall.

For example a missed area of Non NFI urban development that accounts for only 1% of the total square area cannot be missed out of the survey and must be corrected. This is because it is a clear error and there is no possibility it is a matter of subjective interpretation. Also as it directly impacts on the assessment of woodland area if it remained uncorrected it would directly increase the woodland area reported in that region.

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Whilst a difference in area allocation between two similar high forest component groups of say 2% of square area is more acceptable, as 1) it is hard to say which surveyor had the % allocation correct and 2) it would only have a marginal impact on the reporting of a sub category within woodland and would not impact on the woodland area assessment.

Once you have these factors in mind you have to make your best assessment of whether to make changes to component groupings and / or Section boundaries on the day and to assess and record as appropriate the reason for this.