GRID REFERENCE VS VICE-COUNTY CHECKER FOR RECORDER 6

STUART BALL, JNCC, MAY 2009

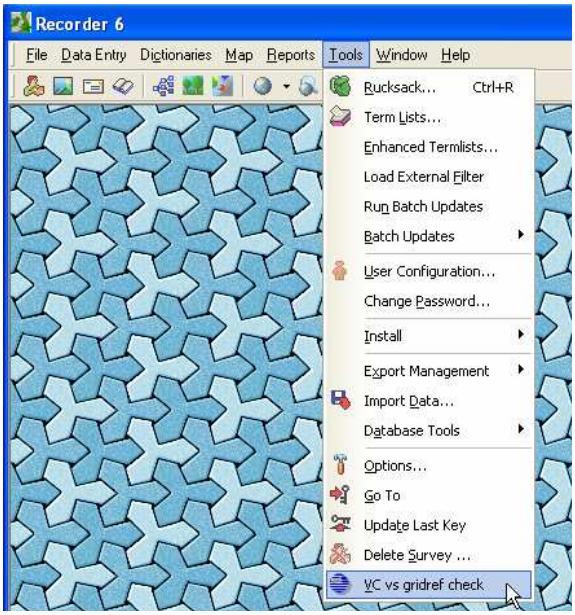
INSTALLATION

1. Download the zip file containing the addin and supporting files.
2. Unzip it to a location to which you have access when you are running Recorder 6. (Note that this must not be the \Recorder 6\Addins directory!) The zip file should contain:
    a. VCchecker.ocx – the addin
    b. vcs.bmp – icon for the addin
    c. vcinfo.zip – supporting files
3. Start Recorder 6. If you are using Windows Vista (or Windows 7), you should start Recorder using the "Run as administrator" option[1].
4. Within Recorder 6, select **Tools – Install – Add-in Module ...** from the menu. The Add-ins Configuration window should open.
5. Click [Install] and then locate the file VCchecker.ocx from the location where you unzipped the downloaded file in step 2. Click [Open] and the addin should be installed.
6. You can now delete the downloaded zip file and the files you extracted from it.

You should find that installing the addin has created a new directory \Recorder 6\Addins \vc_check . This contains a large file called vc_info.txt - which is a list of the vice-counties which occur within each grid square in GB. It also contains a directory outlines which contains a file for each vice-county. These files hold the coordinates of the vice-county outline. These are all simple text files.

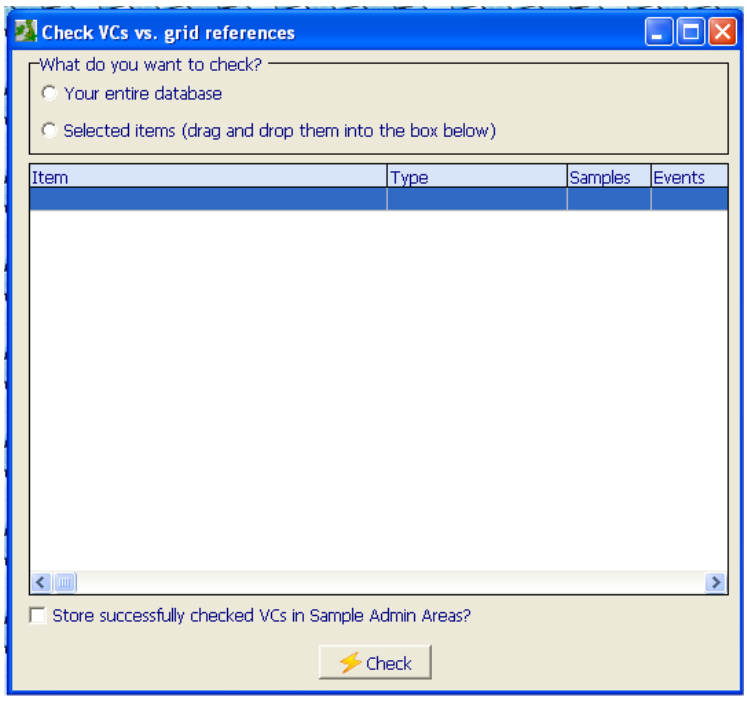
USING THE VC CHECKER

Once the addin has been installed, Recorder should have a new item in the Tools menu



[1] Right-click on the menu item or desktop icon you normally se to start Recorder and choose this option from the drop-down menu. You need to have local machine administration rights whenever you install an addin under Windows Vista or later. However, once an addin is installed, you don't need any special privileges to use it.

Selecting this menu item opens the tool:

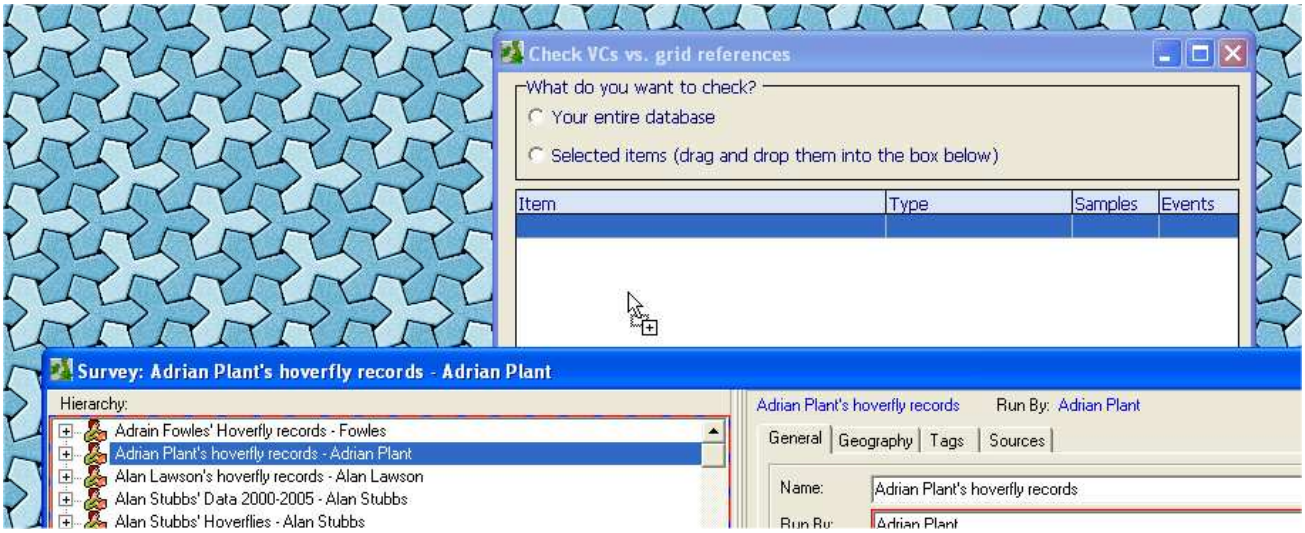


What do you want to check?	Click one of these options. Choosing "Your entire database" option may take a long time if you have a lot of records.
List of items	If you want to check individual items, drag and drop them here and they will be displayed in the list. The list shows the item you drop, its type and the number of sample and survey event linked to it *which have both an OSGB grid reference and are linked to a vice county*. Only items which have both these attributes can be checked. If the numbers shown are 0 and 0 it means that no samples or survey events that met these conditions were found.
Store successfully checked VCs in Sample Admin Areas	You will only see this is you are using Recorder 6.14 or later. A new facility was added in this version to store an Administrative Area (such as a vice-county) directly for a sample (instead of via a Location as before). Tick the box if you would like the VC to be stored in this new table if it passed the check and the entry is not already present.

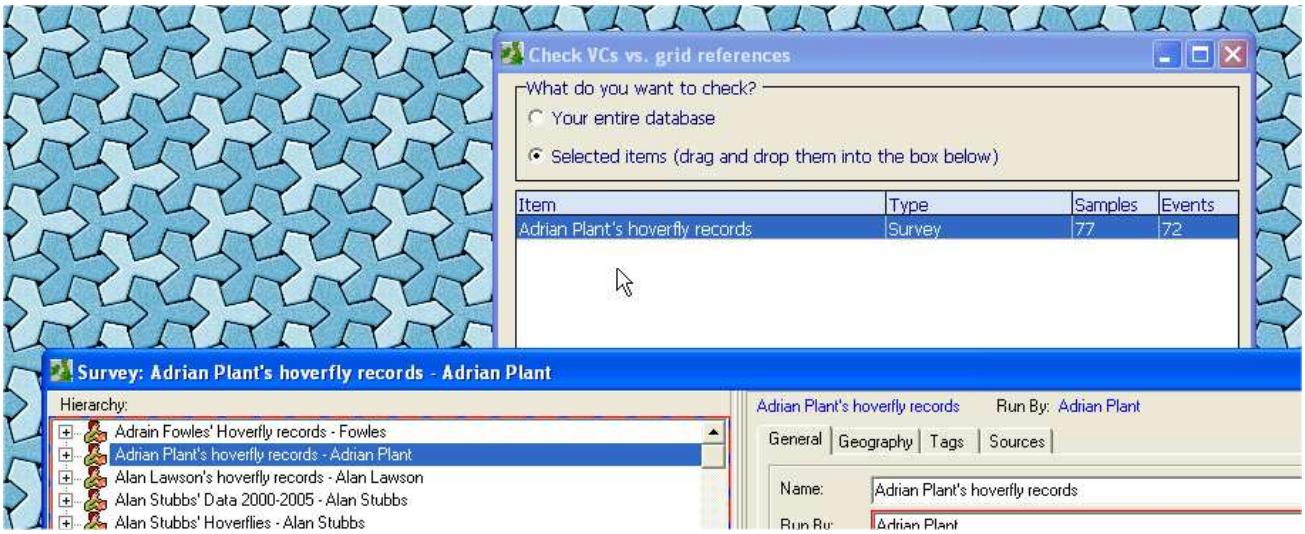
SELECTING ITEMS TO CHECK

You can select items to check by dragging items from any of Recorder's main windows and dropping them on the list in the tool. The items it will accept are Administrative areas, Biotopes, Biotope records, Individual's names, Locations, Organisation's names, References, Samples, Surveys, Survey events, Taxon names and Taxon records. Taxon names can including those of higher taxa in hierarchical list. For example, drag in a genus and records of all the species in that genus will be included as well as any records attached to the genus name.

Example: Drag a Survey from the Observation window

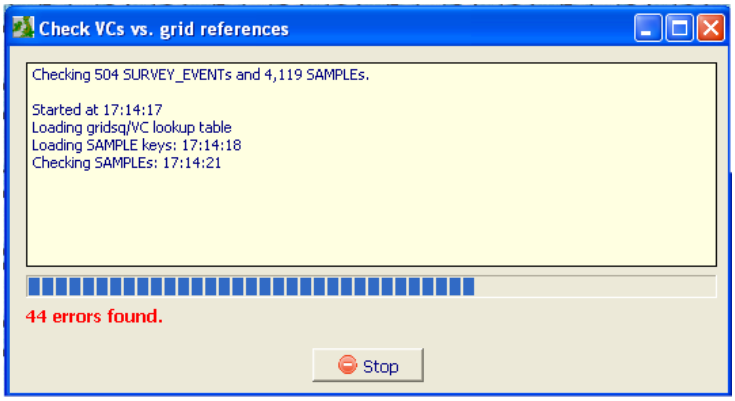


… and drop it on the Checker's list. The number of samples and survey events it contains that have a grid ref and are linked to a vice-county are shown.

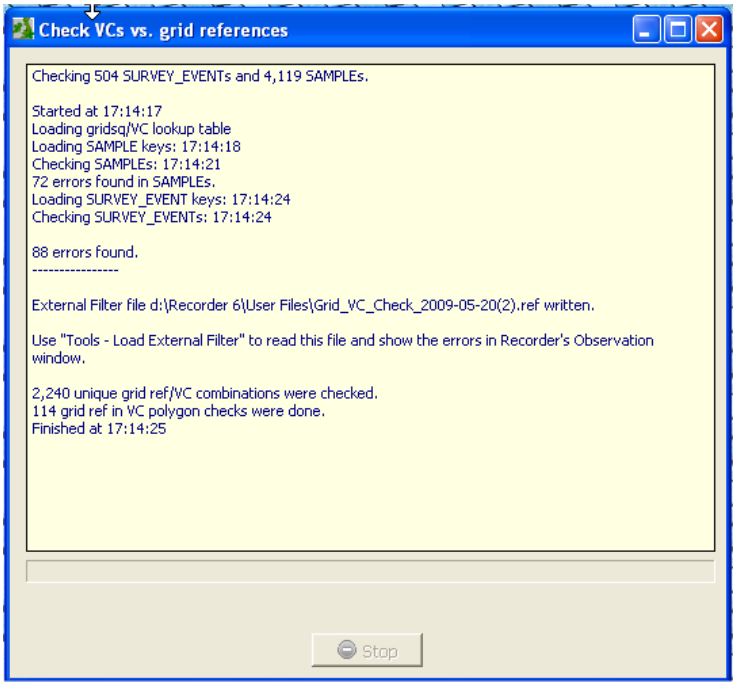


If you drop the wrong item in the list, just click on it to highlight it and then press the delete key on your keyboard and it will be removed again.

Once the items you want to check are correctly listed, click the [Check] button to start the checking process. A progress bar is shown and the number of errors found so far displayed.



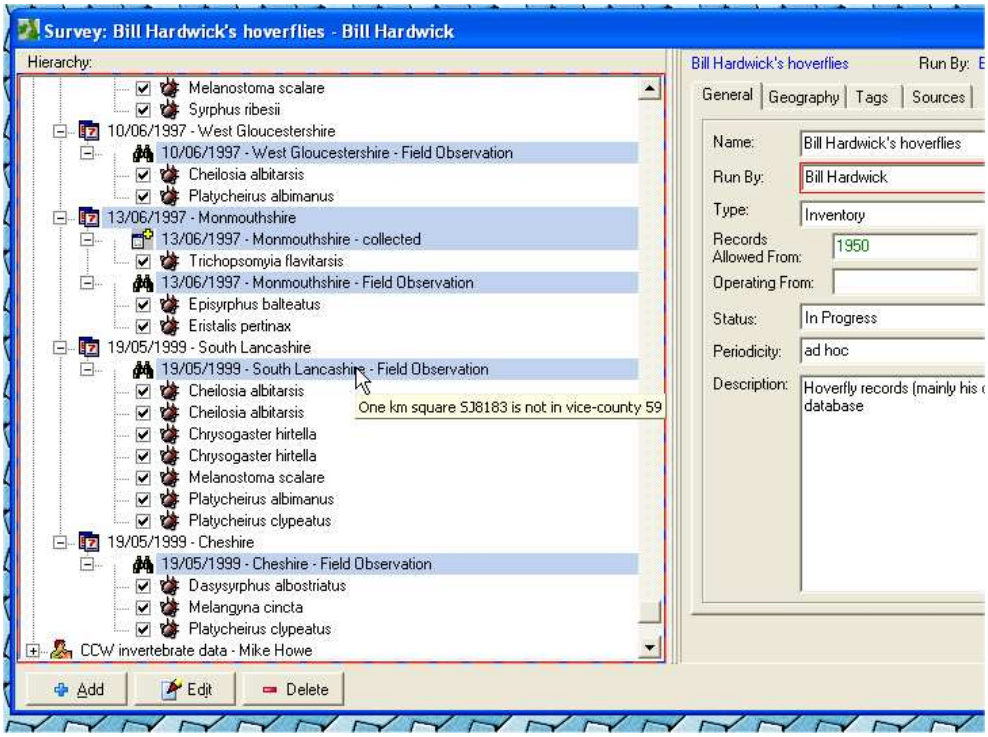
You can click the [Stop] button at any time. It may not respond immediately, be patient and wait for the current step to finish and then it will respond and ask you to confirm you really want to stop now.



Once the checks have been finished, you will see a report about the errors that were found, if any. They are written to an "External Filter" file (.ref).

Close the addin (click the button at the top-right corner).

To make use of the results, select **Tools – Load External Filter** from the menu and then select the file that was just written. In the example above, it is called "Grid_VC_Check_2009-05-20(2).ref" as shown in the progress report. The Observation window will open with the survey(s) containing the error discovered by the checker displayed. You can expand a Survey by clicking on it so that it is highlighted and then pressing * *on the numeric keypad* (this is a general Windows keyboard shortcut for expanding hierarchies). The items with error are highlighted in light blue. Hovering your mouse over a highlighted item will show a message detailing the problem.



Next, you need to investigate the problem and then edit the information in Recorder to correct it. It could be because the recorder made a mistake in entering the grid reference (perhaps check by searching for the location name in a gazetteer), but got the vice-county right, or because they got the wrong vice-county – or both! Correcting the error may involve editing the grid reference in the sample and/or survey event or you may need to edit the list of Administrative areas in the related Location to correct the vice-county if that is what was wrong.

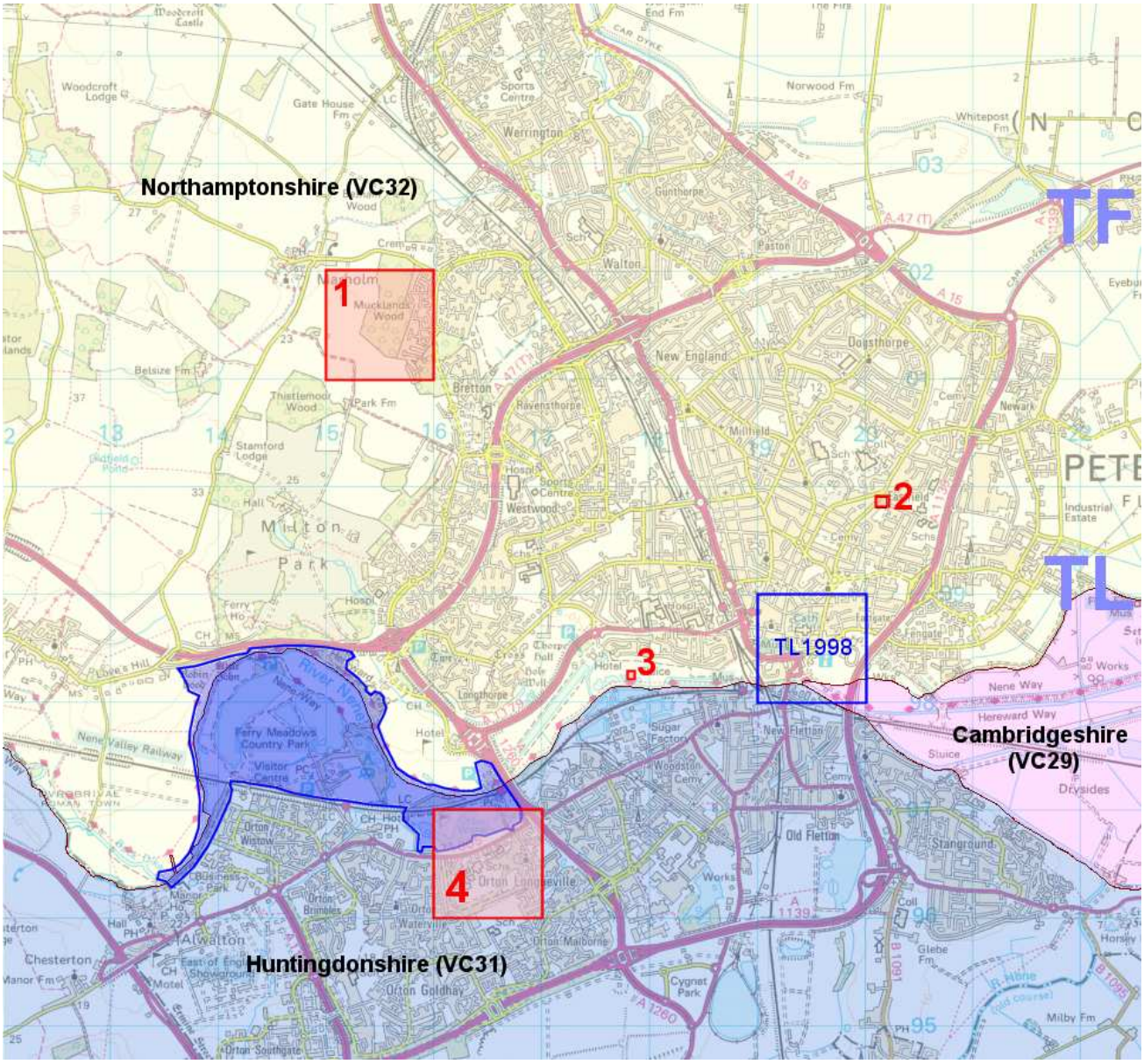
HOW IT WORKS

Consider the map of the Peterborough area (below). Peterborough happens to lie at the intersection of three vice-counties: Northamptonshire (vc32), Huntingdonshire (vc31) and Cambridgeshire (vc29). So, if we consider grid square TL1998 (marked on the map – pretty much the town centre, including the cathedral), all three of these vice-counties impinge upon it. Indeed, if we look for this square in the vc_info.txt file, we will find three entries:

```
Grid,VC,x,y,nVCs
HP40,112,448,1204,1
…
TL1998,29,519,298,3
TL1998,31,519,298,3
TL1998,32,519,298,3
…
```

The table tells us that TL1998 includes areas in three vice-counties (the 3 in the final column) and their numbers are in the 2nd column and are 29, 31 and 32.

Let us consider some records, held in Recorder 6, and plotted on the map as red squares 1, 2, 3 and 4.



RECORD 1

Mucklands Wood, TF1501, VC32. This record was loaded via the Import Wizard and the sample and survey event are both linked to Location "Northamptonshire" which has a single Admin area – VC32.

The checker gets the 1km square grid reference and VC. It looks up grid square TF1501 in vc_info.txt and finds:

```
TF1501,32,515,301,1
```

There is only one vice-county in this square and it is indeed vc32. The record passes the check.

RECORD 2

Garden of 255 Eastfield Road, TL201998, VC32 (my garden!). The sample and survey event for this record are linked to a Location "Garden of 255 Eastfield Road". This has just one admin area – VC32.

The checker gets the 6-figure precision grid reference and VC. It extracts the 1km square reference, TL2099, looks it up in vc_info.txt and finds:

```
TL2099,32,520,299,1
```

Again there is only one vice-county in this square, VC32. There is no need to check further, any grid ref in this 1km square must be in VC32 so it can pass the record immediately.

RECORD 3

Boardwalks LNR, TL177982, VC31. The sample and survey event for this record are linked to the Location "Huntingdonshire" which has a single Admin area, VC31. The site name "Boardwalks LNR", is held as a string in the Location name field of the sample.

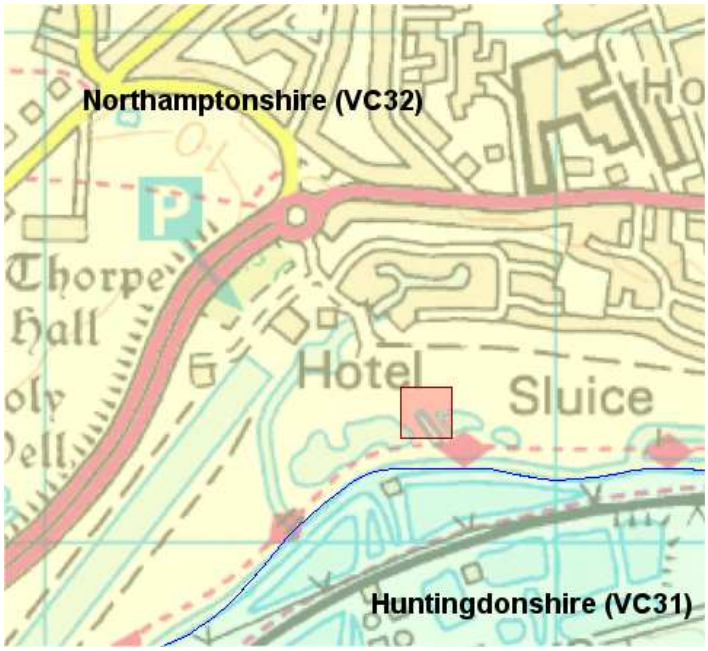
The checker gets the 6-figure precision grid reference and VC. It extracts the 1km square reference, TL1798, looks it up in vc_info.txt and finds:

```
TL1798,31,517,298,2
TL1798,32,517,298,2
```

This time there are two VCs in the 1km square, 31 and 32. The VC given in the record (31) is one of them so we are OK so far. But we have more information – we have a 6-figure grid reference. In this situation where more than one VC impinges on a 1km square AND the precision of the grid reference is better than 1km, it is worth going further and checking the grid reference against the vice-county's outline. This is quite a computationally intensive task, so it is not done unless it really adds something.

Since the VC given in the record is 31, the checker loads the boundary from the file vc031_gpc.txt and tests whether the rectangle defined by grid square TL177982 is within or overlaps the vice-county boundary. It finds that it does not, so an error is reported.

Investigating more closely, we find that this 100m grid square is north of the River Nene – which marks the vice-county boundary (the bright blue line). Boardwalks LNR is the area around the set of ponds marked on the map, so the grid reference is correct. It is the VC which is incorrect, it should be Northamptonshire, VC32.



RECORD 4

Ferry Meadows Country Park, Orton Mere, TL1696, VC31. The sample and survey event are linked to Location “Ferry Meadows Country Park” (with the boundary shown on the map). This is linked to two Admin areas, VC31 and 32. Since it spans the River Nene, this is correct. Both VCs impinge on this site.. The more detailed location “Orton Mere” is given in the Location name string in the sample.

The checker gets the 1km square grid reference and the two VCs listed for the Location. It looks up grid square TL1696 in vc_info.txt and finds:

```
TL1696,31,516,296,1
```

Since there is only one VC in this square and it is one of those listed for the Location, the record is passed.

Looking at the map, we can see that Orton Mere is actually south of the river, so the VC for this record is actually 31 – Huntingdonshire, so it would be possible to make this record more precise (e.g. by adding a Sample Admin Are in Recorder 6.14). However, this is not the job of the VC checker addin!

THE RULES

Hopefully, you can see from these examples, why the rules that the checker uses are as follows:

1. If the grid reference precision is less that 1km square (i.e. 10km, 5km or tetrad), extract the 10km square. Look up the 10km square in vc_info.txt. If the VC(s) given in the record are amongst the VC(s) listed for the square then the record passes.

2. If the grid reference precision is 1km or better, extract the 1km square reference. Look up the 1km square in vc_info.txt.

3. If only one VC is listed for this square and it is amongst those listed in the record, then it passes whatever the grid reference precision. Doing a grid in polygon check would add nothing because we know the entire square is in the same VC.

4. If more than one VC is listed for the 1km square, but the grid reference precision is only 1km, we can do no more. If the VC(s) given in the record are amongst those listed for the square, then it passes.

5. If the 1km square has more than one VC listed AND the grid reference precision is better than 1km, we can check the rectangle defined by the grid reference against the outline(s) of the VC(s) given in the record. If the rectangle is within or overlaps a boundary, the record passes.