Instructions for Using Cumbria's Interactive Atlas

Introduction

The Cumbria Atlas offers a simple but powerful means of exploring a wide range of statistical information about Cumbria using interactive maps, tables and charts. The aim of the Cumbria Atlas is to enable users to better understand the characteristics and needs of areas across the county.

Caveats for using the data

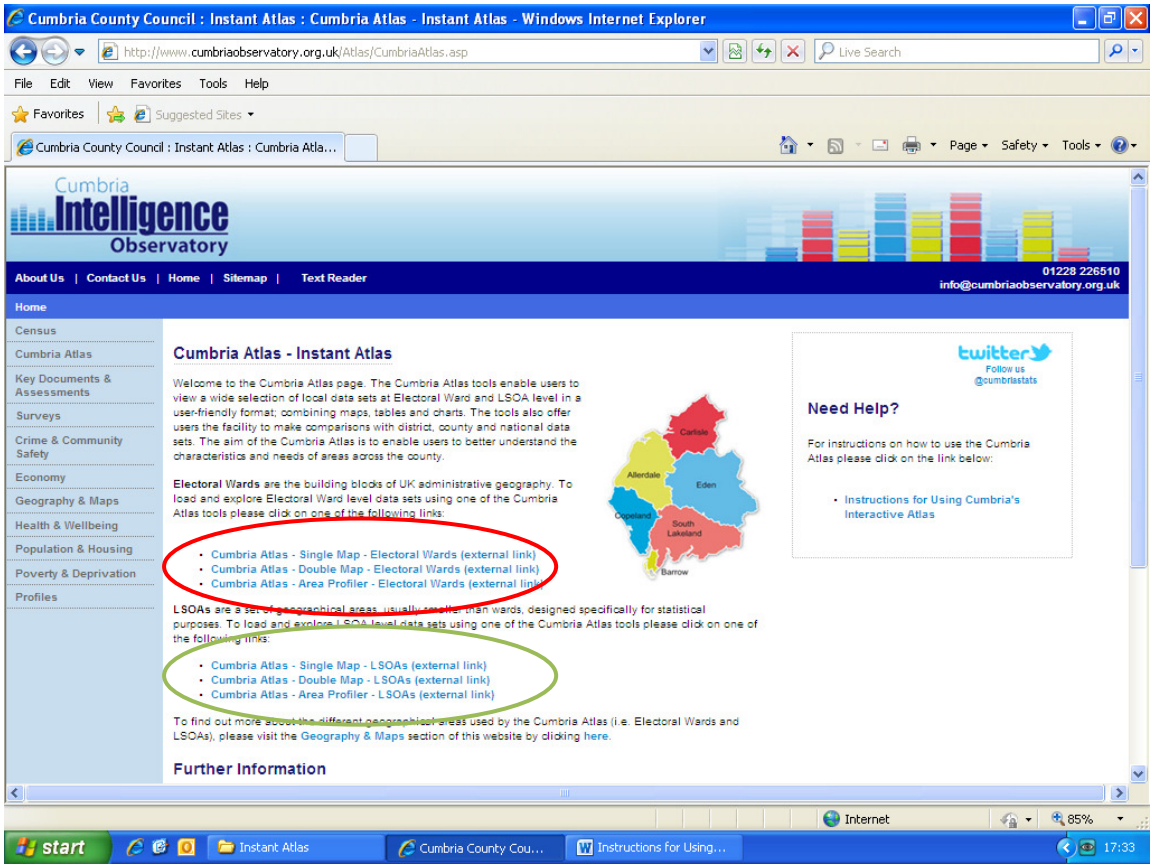
Every effort has been made to ensure data is accurate and up to date. However, since it has been gathered from a number of sources, occasionally errors can be made or data may not reflect the most up to date available. Furthermore, some data may be misleading due to small numbers. As a result of all these factors, caution should be used in interpretation of the available data.

1) Getting Started – Loading an Atlas

The Cumbria Atlas is a web-based tool. To access the Cumbria Atlas, you first need to visit the Cumbria Atlas homepage, which is hosted on the Cumbria Intelligence Observatory website: http://www.cumbriaobservatory.org.uk/Atlas/CumbriaAtlas.asp

On loading the Cumbria Atlas homepage you will be presented with the page shown below in Figure 1.

Figure 1- The Cumbria Atlas Homepage



The above page gives you the option to explore either Electoral Ward or LSOA level data using the atlas. Electoral Wards are the building blocks of UK administrative geography. LSOAs are a set of geographical areas that are usually smaller than wards, designed specifically for statistical purposes. Cumbria has 166 Electoral Wards and 321 LSOAs. To find out more about the differences between Electoral Wards and LSOAs, please visit the Geography & Maps section of our website:

http://www.cumbriaobservatory.org.uk/geography/geographyhome.asp

To load and explore Electoral Ward level data sets using the Cumbria Atlas you will need to scroll down the atlas homepage and double click on one of the three blue links that are circled in red in Figure 1.

To load and explore LSOA level data sets using the Cumbria Atlas you will need to scroll down the atlas homepage and double click on one of the three blue links that are circled in green in Figure 1.

The reason that you are presented with sets of three blue links is that the Atlas can be viewed in three different formats; the 'Single Map' format, the 'Double Map' format and the 'Area Profiler' format.

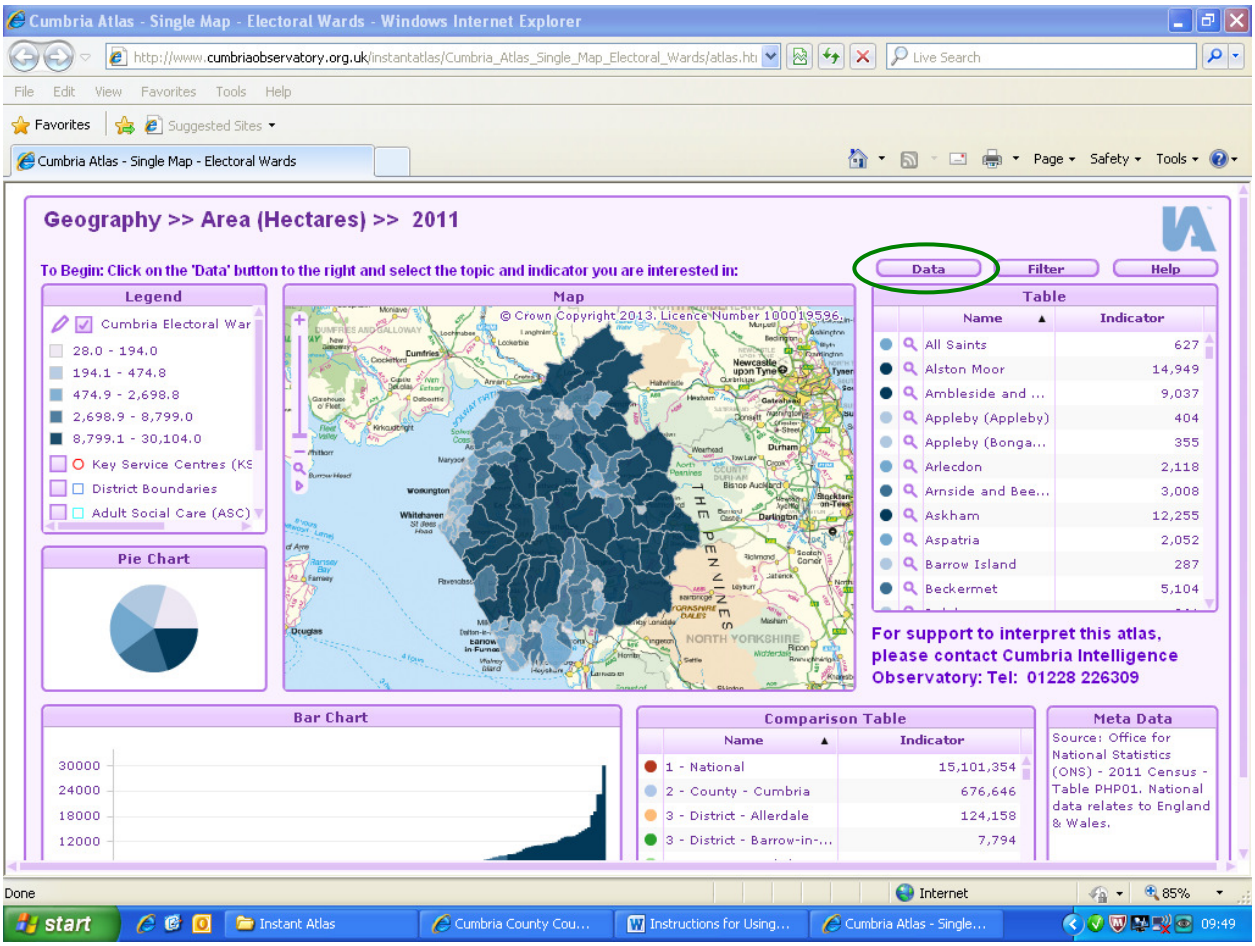
All three formats contain the same data sets. However, each format lays out data slightly differently; in order to suit different purposes. The following sections will work through how to explore datasets using each format in turn.

The sections will use the links to Electoral Ward level data as an example (the three blue links that are circled in red in Figure 1). However, the instructions can also be applied to the links to LSOA level data (circled in green in Figure 1).

2) Single Map Atlas

Let's start with the Single Map Atlas. Figure 2 shows the main screen you will be greeted with when you double click on the link to 'Cumbria Atlas – Single Map – Electoral Wards' from the atlas homepage.

Figure 2 – The Main Screen (Single Map Atlas)



This is the main interactive screen. You can click and explore here as much as you like. Because it is an interactive tool just presenting data you really can't go wrong. Whatever you click won't change anything, and after a few minutes you will find it really easy to access the data you want.

Data Button (circled in green in Figure 2)

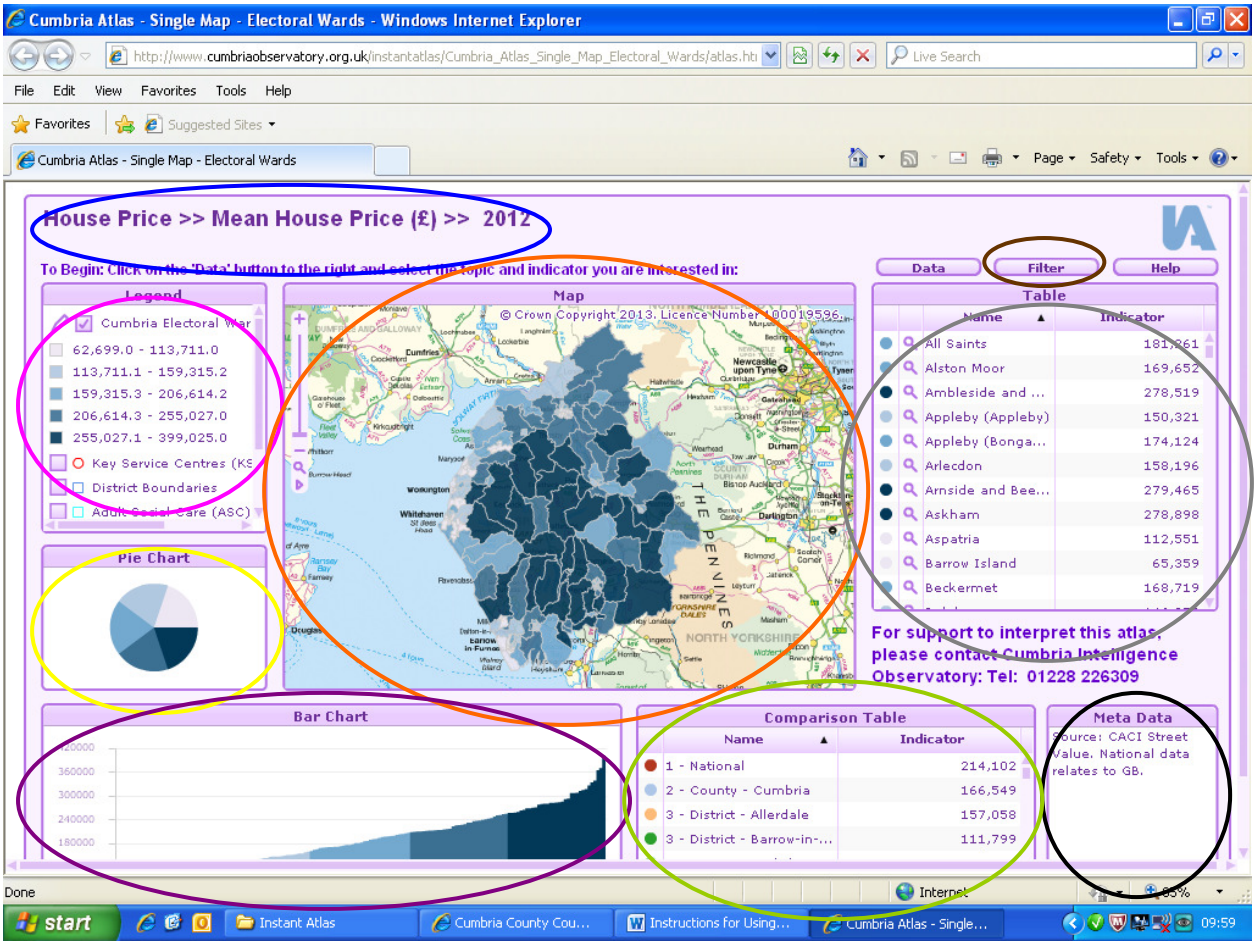
A good place to start is to have a look at the different data sets that are included in the atlas. Do this by clicking on the button that says 'Data' towards the top right of the screen (circled in green in Figure 2).

When you click on the data button you will be presented with a drop down menu that will give you a list of topic areas (i.e. population, religion, house price etc). If you move your mouse pointer over one of these topic areas and click with your left mouse button, you will be presented with a list of indicators relating to your chosen topic. To choose one of these indicators, move the mouse pointer over the indicator and left click. The final step is to click on the date you are interested in. Some indicators only have one date to choose from, but some have a series of historical dates.

When you select your indicator you will see some of the component windows on the screen change. That's because every table, graph and map component is now reflecting the indicator you have chosen. If, at any stage, you want to check what indictor you have set the components in the atlas to show, look at the title bar running across the top of the atlas

(circled in blue in Figure 3). The title bar states what the components are displaying. In figure 3 the indicator that has been selected via the data button is 'house price - mean house price - 2012'; so this is what the table, graph and map components are plotting.

Figure 3 – Component Windows (Single Map Atlas)



Now all you need to do is have a look at what the different components are telling you.

The following paragraphs will work through each of the component windows in the Single Map Atlas, beginning with the map component and then moving anti-clockwise.

Map Component (circled in orange in Figure 3)

You will see that the central window component is a map of Cumbria's 166 electoral wards. This allows us to see, at a glance, the individual values for each ward in relation to our chosen indicator, and also – more importantly – how Cumbria's wards compare to each other for that indicator. You can hover over any of the wards on the map and the name of the ward and the indicator value will be displayed as text. Using the slider at the left of the map window allows you to zoom in and out. If you wish to return to the full view, simply click the magnifying glass icon. Clicking on a ward will highlight it in orange and will also highlight the relevant information in the other components on the page.

Legend Component (circled in pink in Figure 3)

All maps need a legend to tell you what the map shading represents. The component window at the top left of the screen shows the legend for the particular indicator you are

viewing at the time. An upper and lower limit is shown for each colour of shading. In Figure 3 darker shading represents wards with higher mean house prices. Hover your mouse over any shaded band to see which wards fall into that band.

You are also able to switch on and off other geographical information by clicking in the check boxes lower down in the legend window. The geographical information you can switch on and off includes: Key Service Centres (Cumbria has 28 urban settlements that are defined as 'Key Service Centres'; district boundaries; Adult Social Care district boundaries; LSOA boundaries; and administrative parish boundaries.

Pie Chart Component (circled in yellow in Figure 3)

The pie chart component is similar to the legend component as it shows the proportion of Cumbria's wards that fall into each shaded banding (as per the legend component). Hovering the mouse over a section of the pie will reveal the wards that fall into that banding.

Bar Chart component (circled in purple in Figure 3)

This component is really useful because it displays the range of values for the indicator you have chosen on the vertical axis and then plots a bar for each of Cumbria's wards to show their value for the indicator you have selected against the vertical axis. This allows us to see how a ward is performing compared to other wards for the same indicator. Furthermore, the sizes of the bars indicate the extent of the difference between wards for your chosen indicator. By hovering over each bar, you can see which ward the bar represents and what the value is for that ward in relation to your chosen indicator.

Comparison Component (circled in lime green in Figure 3)

Being able to compare local level information to comparator areas is a real strength of this tool. Here you can look at what the value is for your chosen indicator at a national, county, district and Adult Social Care district level. You can also see the value for your chosen indicator in relation to Cumbria's rural areas, urban areas, and each of the county's Key Service Centres. By clicking on a comparator area name on the comparison table, you add a horizontal value bar on to your bar chart that enables you to see which wards have values that fall above or below the comparator area. This works best with indicators that are rates rather than numeric. To reset the bar, simply click the reset option at the end of the comparator list. Holding the Ctrl key while you click will enable you to select more than one comparator area at a time.

Meta Data Component (circled in black in Figure 3)

The metadata component will update every time you change the indicator. It displays useful information about indicator you are viewing (i.e. the source of the data).

Single Data Table Component (circled in grey in Figure 3)

Situated at the top right of the screen, the single data table component lists each of Cumbria's 166 electoral wards alphabetically alongside their value for the indicator you have selected. You are able to sort the wards by their values (from lowest to highest and visa versa) by clicking on the indicator column title. Clicking on the ward name column title will sort the wards alphabetically again.

Filter Button (circled in brown in Figure 3)

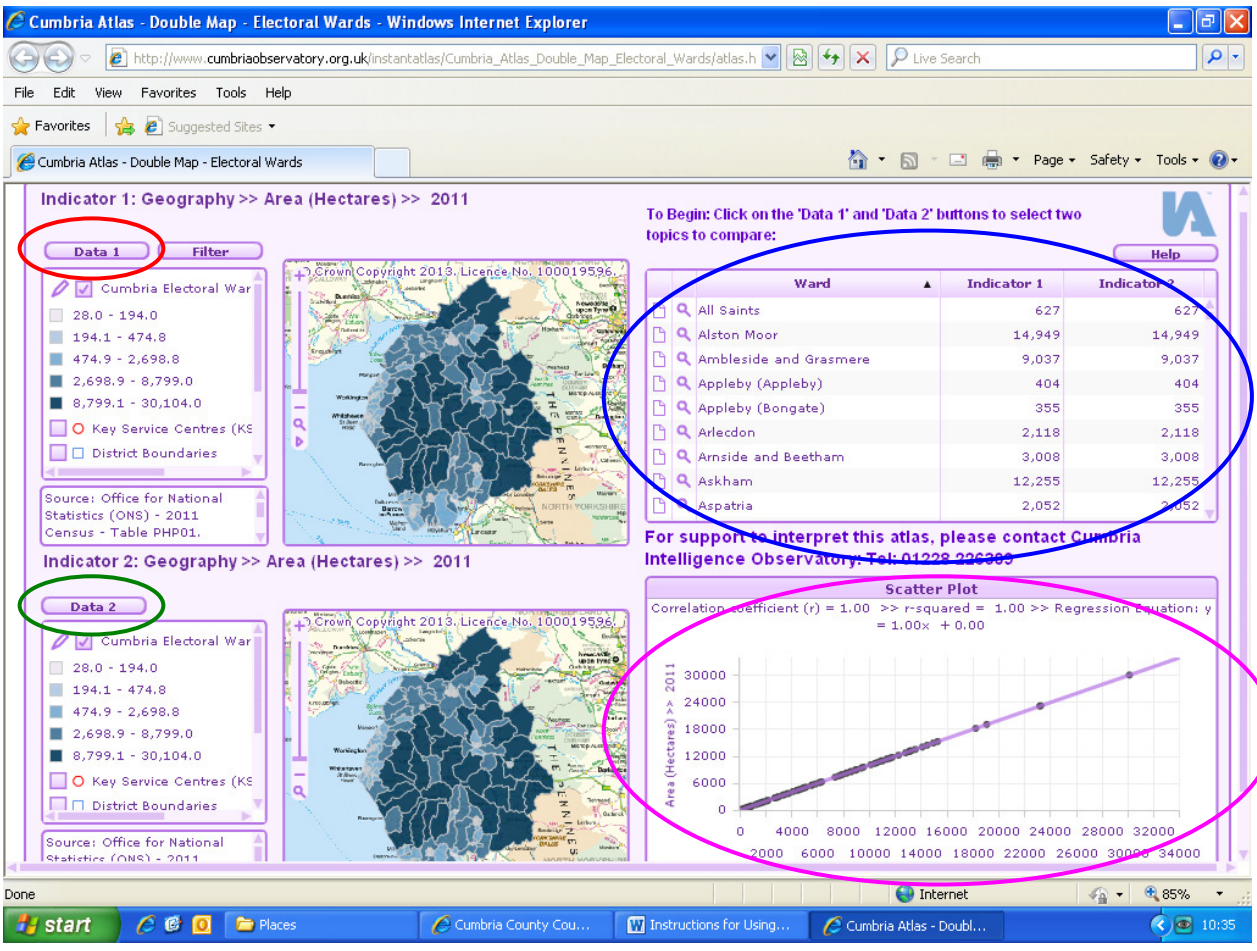
You may also wish to filter the data to narrow down which wards you view. If you click the 'filter' button you can filter to the wards in one particular district. To go back to the original view, click the filter button again and choose the option 'remove filter' at the bottom of the drop down menu. To take your map view back to the whole of Cumbria, click on the magnifying glass icon in the map window.

3) The Double Map Atlas

The second atlas to explore is the Double Map Atlas. The Double Map Atlas is loaded by visiting the Cumbria Atlas homepage and clicking on the blue link to 'Cumbria Atlas – Double Map – Electoral Wards'.

Figure 4 shows the main screen you will be greeted with when you double click on the link to the Double Map Atlas.

Figure 4 – The Main Screen (Double Map Atlas)



Most of the components in the Double Map Atlas are the same as those in the Single Map Atlas. However, the difference between the two formats is that the Double Map Atlas gives you the option to select two indictors at the same time (as opposed to one indicator at a time with the Single Map Atlas).

In the Double Map Atlas your first indicator can be selected by clicking on the 'Data 1' button (circled in red in Figure 4) and your second indicator can be selected by clicking on the 'Data 2' button circled in green). On making your indicator selections, the corresponding map, legend and metadata component windows will change to display your indicators.

You will notice that, in addition to the component windows mentioned above, there are two new component windows in the Double Map Atlas:

Double Data Table Component (circled in blue in Figure 4)

Situated at the top right of the screen, like the single data table component in the Single Map Atlas, the double data table component lists each of Cumbria's 166 electoral wards alphabetically, but this time, the double data table provides the ward value for both of your chosen indicators under the column headings 'Indicator 1' and 'Indicator 2' respectively. You are able to sort the wards by their values for either indicator (from lowest to highest and visa versa) by clicking on the relevant indicator column title. Clicking on the ward name column title will sort the wards alphabetically again.

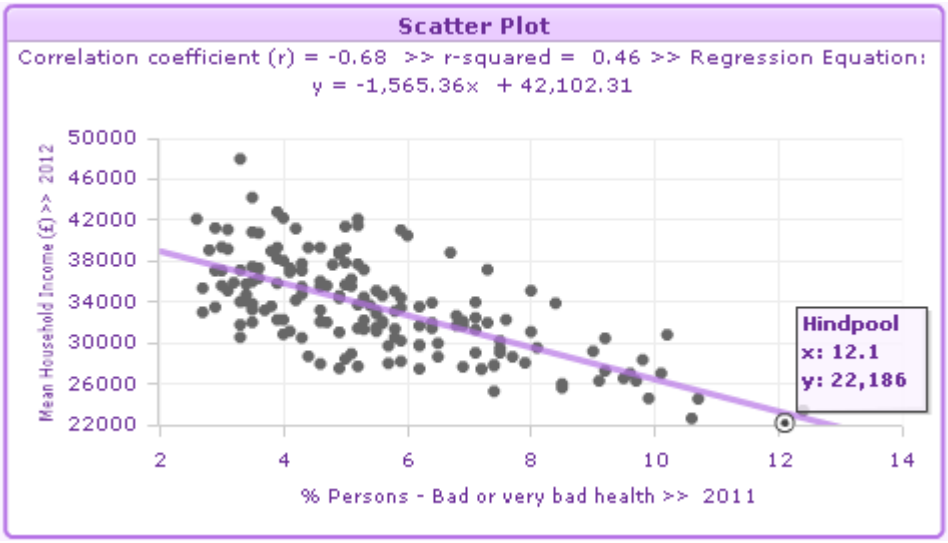
Scatter Plot Component (circled in pink in Figure 4)

The scatter plot component enables you to look at the relationship between the two indicators that you have selected. In the example below (Figure 5) '% of persons with bad or very bad health' has been selected as Indicator 1 and 'mean household income' has been selected as Indicator 2. The scatter plot component displays the range for Indicator 1 (% of persons with bad or very bad health) across the horizontal 'x-axis' and the range for Indicator 2 (mean household income) along the vertical 'y-axis'. Each dot on the scatter plot represents one of Cumbria's 166 electoral wards.

The dots furthest towards the top of the scatter plot represent the wards with higher mean household income, while the dots furthest towards the right of the scatter plot represent the wards with higher proportions of people with bad or very bad health. If you click on one of the dots some text will appear to tell you which ward the dot represents and what the ward's values for are for the two indicators.

In the example below you can see that the ward with the lowest mean household income and the second highest proportion of people with bad or very bad health is Hindpool. It is also clear that there is a 'negative' relationship between the two indicators; the wards with higher mean household income tend to have lower proportions of people with bad or very bad health. Inversely, the wards with lower mean household income tend to have higher proportions of people with bad or very bad health. This negative relationship is reflected by the purple 'line of best fit' that runs from the top left of the scatter plot to the bottom right right.

Figure 5 – The Scatter Plot (Double Map Atlas)

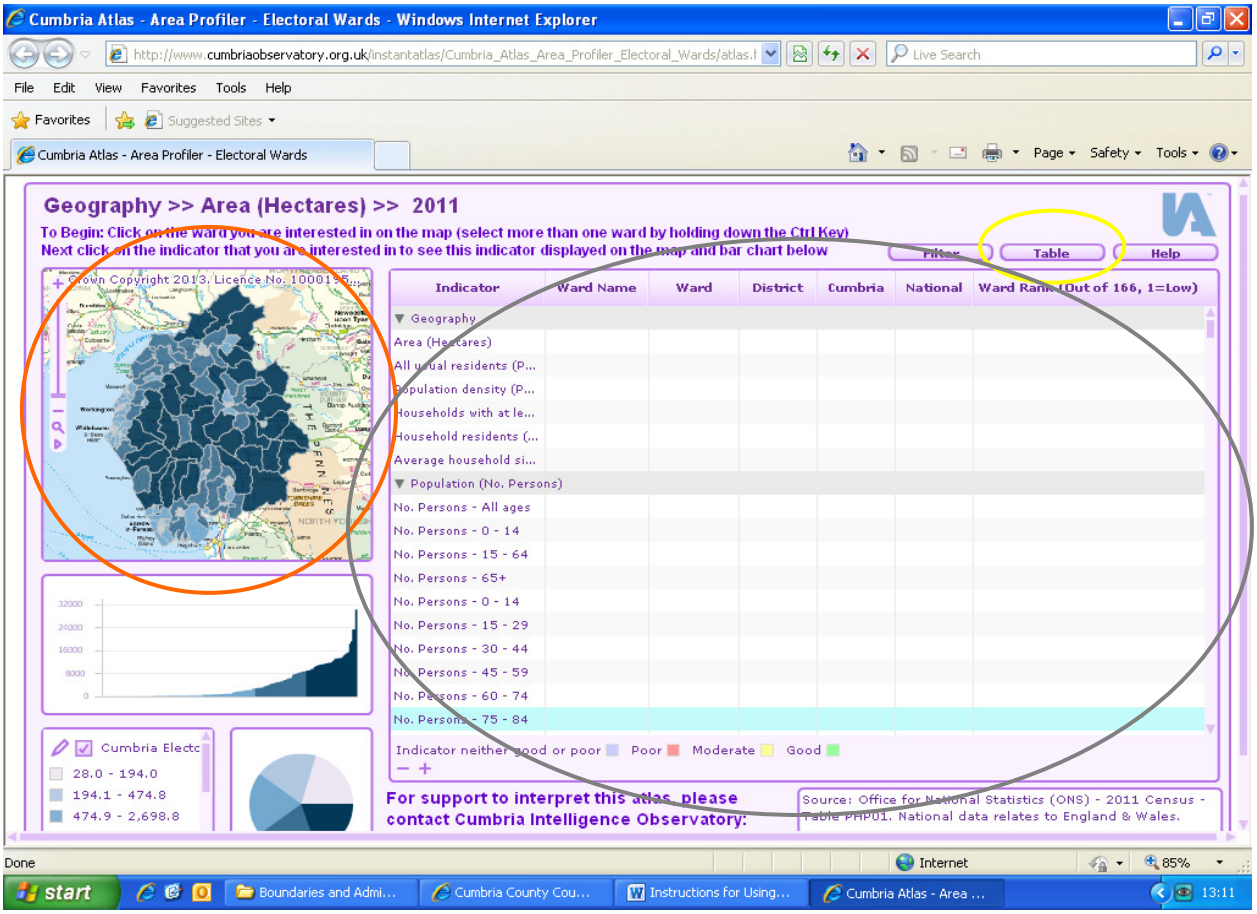


4) The Area Profiler

The third and final atlas to explore is the Area Profiler. The Area Profiler is loaded by visiting the Cumbria Atlas homepage and clicking on the blue link 'Cumbria Atlas – Area Profiler – Electoral Wards' (circled in red in Figure 1).

Figure 6 shows the main screen you will be greeted with when you double click on the link to the Area Profiler.

Figure 6 – The Main Screen (Area Profiler)



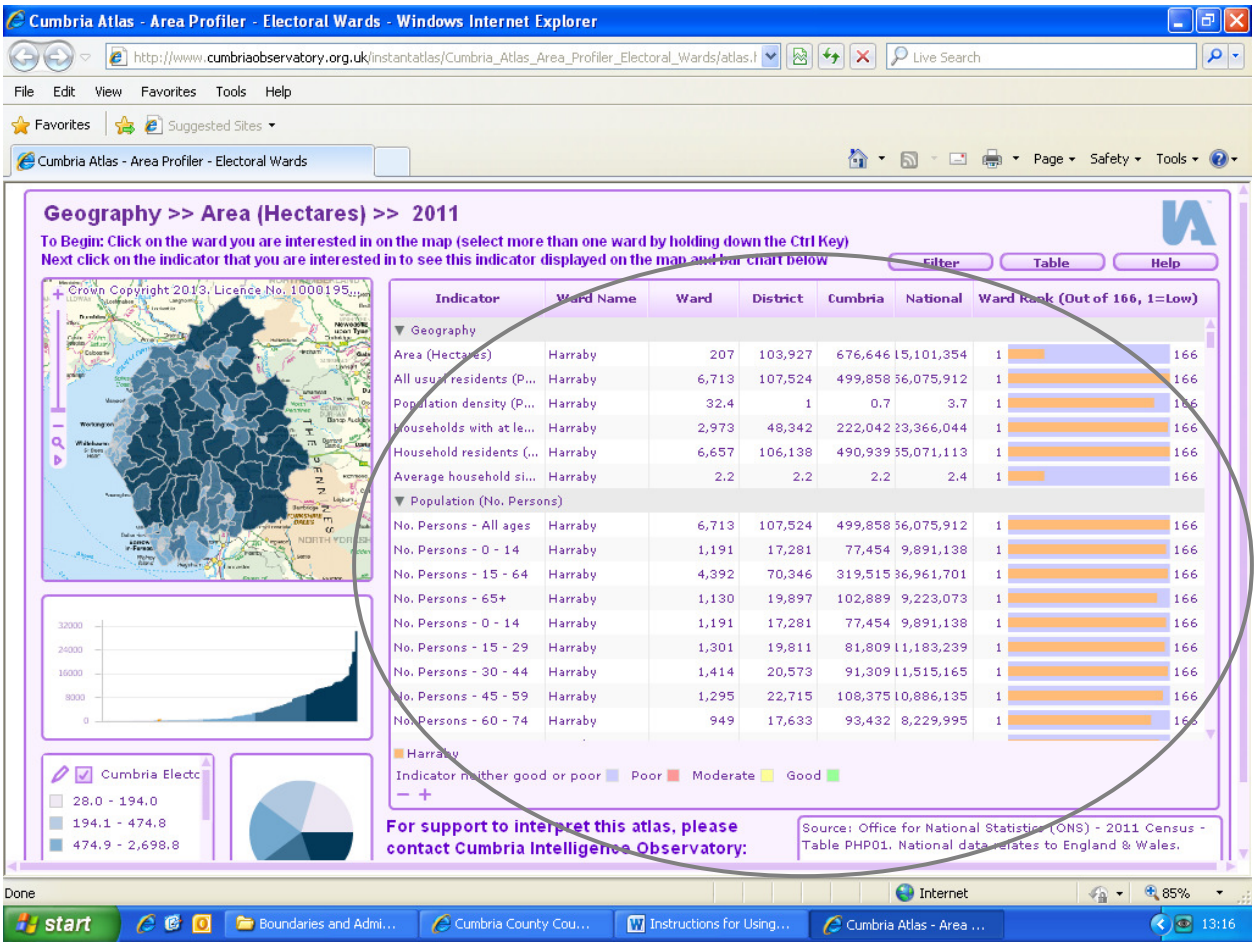
The Area Profiler works in the opposite way to the Single and Double Map Atlases. While the Single and Double Map Atlases allow you to select one or two indicators and compare all wards across the county, the Area Profiler allows you to select one ward, or a small number of wards, and view all indicators relating to the ward(s). Looking at data in this way enables you gain a better understanding of the profile and issues facing particular areas.

Selecting an Area

To start exploring using the Area Profiler you first need to select a ward to view. You can do this by either clicking on the relevant ward in the map component (circled in orange in Figure 6). Alternatively, if you click the 'table' button (circled in yellow in Figure 6) you will see that the map component changes to a table component which lists Cumbria's 166 electoral wards in alphabetical order. Simply scroll through this list and click on the ward you are interested in. If you click on the table button again the table will switch back to the map component.

Once you have selected a ward you will see that the 'Spine Chart' component (circled in grey in Figure 6) will change to present data relating to your chosen ward; so that your screen resembles the Figure 7 (see how the Spine Chart Component, also circled in grey in Figure 7, now contains data).

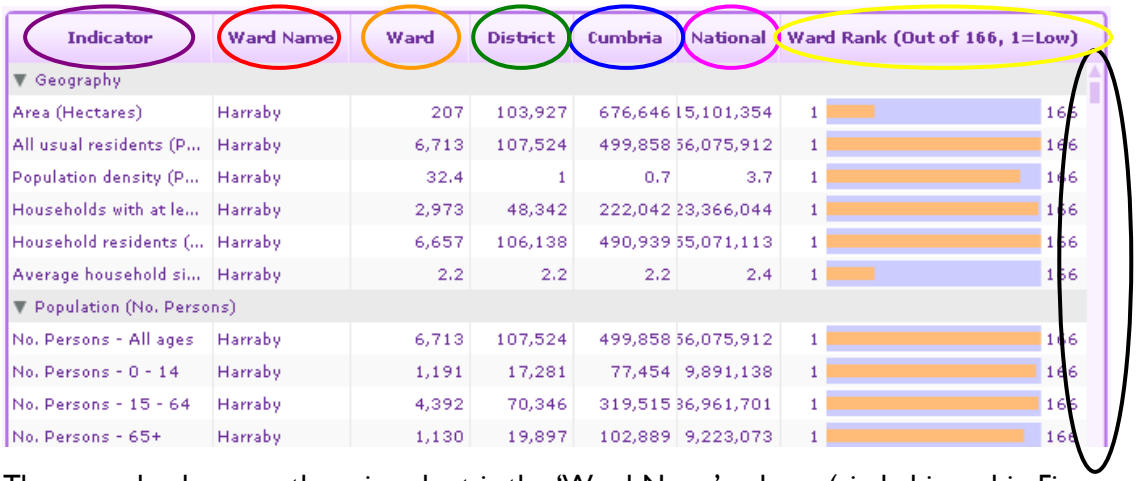
Figure 7 – Populating the Spine Chart (Area Profiler)



The Spine Chart Component

The Spine Chart component (circled in grey in Figure 7) contains a number of columns. Figure 8 gives a close up of the top of the spine chart component. Working from left to right, the first column is the 'Indicator' column (circled in purple in Figure 8). The Indicator column lists all the indicators that are loaded into the Cumbria Atlas. There are more indicators than the spine chart can shown on the screen in one go, so you can scroll down the spine chart, using the scroll bar to the right of the chart (circled in black in Figure 8) to view the indicators not initially shown. Some indicator names are long and do not fully appear in the indicator column. To view these indicator names in full, either hover your mouse over the indicator name or click on and keep hold of the column title and drag it to the right.

Figure 8 – The Spine Chart Columns (Area Profiler)



Indicator	Ward Name	Ward	District	Cumbria	National	Ward Rank (Out of 166, 1=Low)
▼ Geography						
Area (Hectares)	Harraby	207	103,927	676,646	15,101,354	1 166
All usual residents (P...	Harraby	6,713	107,524	499,858	56,075,912	1 166
Population density (P...	Harraby	32.4	1	0.7	3.7	1 166
Households with at le...	Harraby	2,973	48,342	222,042	23,366,044	1 166
Household residents (...	Harraby	6,657	106,138	490,939	55,071,113	1 166
Average household si...	Harraby	2.2	2.2	2.2	2.4	1 166
▼ Population (No. Persons)						
No. Persons - All ages	Harraby	6,713	107,524	499,858	56,075,912	1 166
No. Persons - 0 - 14	Harraby	1,191	17,281	77,454	9,891,138	1 166
No. Persons - 15 - 64	Harraby	4,392	70,346	319,515	36,961,701	1 166
No. Persons - 65+	Harraby	1,130	19,897	102,889	9,223,073	1 166

The second column on the spine chart is the 'Ward Name' column (circled in red in Figure 8). This column shows the name of the ward that you have selected; in Figure 8 you can see that Harraby ward in Carlisle has been selected.

The following four columns to the right of the Ward Name column give the value for each indicator going down the spine chart in relation to:

a) Your chosen ward (provided in the 'ward' column, circled in orange);

b) The district that your chosen ward is in (provided in the 'district' column, circled in dark green);

c) Cumbria (provided in the 'Cumbria' column, circled in blue); and,

d) Nationally (provided in the 'national' column, circled in pink).

Using the example provided by Figure 8 in relation to the indicator 'No. Persons 65+', we can see that:

a) The ward of Harraby has 1,130 persons age 65+;
b) The district that Harraby ward sits in (Carlisle) has 19,897 persons age 65+;
c) The county has 102,889 persons age 65+;
d) Nationally there are 9,223,073 persons age 65+.

The final column in the spine chart is the 'Ward Rank' column (circled in yellow in Figure 8). The orange bars running from left to right in the Ward Rank column show, for each indicator going down the spine chart, how your chosen ward ranks in relation to Cumbria's 166 electoral wards. A rank of 1 is assigned to the ward with the lowest value for an indicator and a rank of 166 is assigned to the ward with the highest rank for the indicator.

The further to the left and closer to number '1' an orange bar is, the lower your chosen ward ranks in relation to the county's 166 wards. The further to the right and closer to the number '166' an orange bar is, the higher your selected ward ranks in relation to Cumbria's 166 wards. If you hover over any of the orange bars a text box will appear to tell you exactly where your ward ranks.

If you scroll down the spine chart you will see that some of the orange bars in the Ward Rank column have different coloured shades behind them; an example of this is given in Figure 9. The coloured shading is used when a high or low rank for an indicator can be said to be 'good' or 'poor'. For these indicators, if the orange rank bar falls into the green shaded area, this means that your chosen ward is amongst the 'best' 25% of Cumbria's 166 wards. Inversely, if the orange rank bar falls into the red shaded area, this means that your chosen ward is amongst the 'worst' 25% of Cumbria's 166 wards.

Figure 9 – The Ward Rank Column (Area Profiler)

Indicator	Ward Name	Ward	District	Cumb...	Natio...	Ward Rank (Out of 166, 1=Low)
▼ Household Income						
Mean Household Income (£)	Wetheral	42,796	33,384	32,641	35,992	1 166
Median Household Income (£)	Wetheral	35,445	26,357	25,524	28,413	1 166
Lower Quartile Household Income...	Wetheral	19,092	13,560	13,254	14,312	1 166
% Households - 0-10k	Wetheral	8	16	16	15	1 166

In figure 9, Wetheral ward has been selected and we can see that the orange bars for mean, median and lower quartile household income fall into the green shaded area, as does the bar for % households with annual income less than £10k. This shows that Wetheral ward is amongst the best 25% of Cumbria's wards for these indicators.

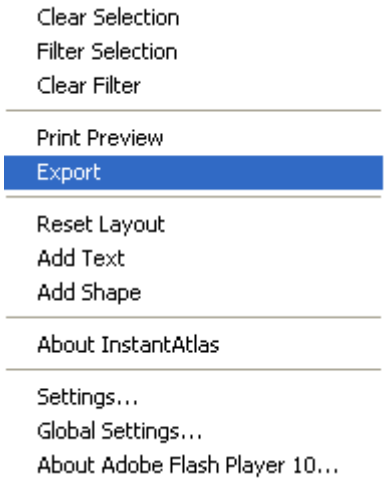
The Map, Bar Chart and Pie Chart Components

It is very important to note that the map, bar chart and pie chart components within the Area Profiler will default to showing the first indicator in the spine chart (Area - Hectares). **If you want these components to plot another indicator, you must click on the name of the indicator in the Indicator Column**. As with the Single and Double Map Atlases, the title bar in the top right hand corner of your screen will show you what indicator the map and chart components are plotting.

5) Printing / Exporting Components

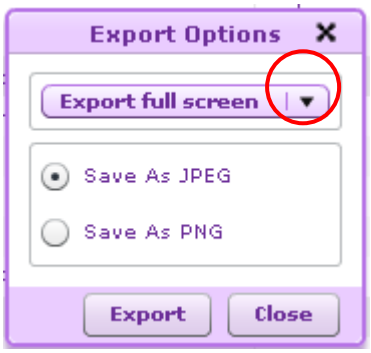
The Instant Atlas tool is designed to be a live interactive tool, however, if you want to print or export any components to a document, simply right click with your mouse and the menu options shown in Figure 10 will appear. You will then need to click on the 'Export' option (highlighted in blue).

Figure 10- Menu Options (All Atlases)



On selecting the 'Export' option you will then be presented with the 'Export Options' menu (as shown in Figure 11). By clicking on the drop-down list provided in the menu (circled in red) you will be given a list of the components within your atlas. You can then select a component and export it as a jpeg image file; which can then be saved, printed and pasted into documents or presentations as necessary.

Figure 11 – The Export Options Menu (All Atlases)



6) Master Spreadsheet

All the data that drives the Cumbria Atlas is stored in a master spreadsheet which is updated by the Cumbria Intelligence Observatory team. For the most recent copy of this spreadsheet, please contact the team (contact details below).

8) Further Help

For further help using this or any other data source, please contact:

info@cumbriaobservatory.org.uk or 01228 226309