River Macrophytes Database

Data Capture Spreadsheet Guidance

Data Capture Spreadsheet Guidance

Version 2.0.0

April 2011

Produced by Conwy Valley Consultants Ltd, December 2004

Updated by Joint Nature Conservation Committee, April 2011

Contents

1 Introduction

This document is intended to help the surveyors to enter macrophyte data into the spreadsheet, in order to provide data in a standard format for automatic loading into the master version of the River Macrophytes database. The surveyors should create a spreadsheet for each survey that they do, and enter the data into the appropriate fields on the spreadsheet. This will enable the database administrator to automatically load the information into the database thus saving time and minimising the chance of introducing errors when retyping values.

The data capture spreadsheet can only be used for surveys using the standard JNCC methodology with cover scales of 0-3 (Holmes *et al.* 1999). It is not compatible with other survey types, including the 0-5 variant sometimes used. Future variants may however include this function.

2 System requirements

Processor: Pentium P400 or better
Memory: 64MB
Disk space: 0.5MB for each file
Operating system: Windows NT4, 2000, or XP
Screen resolution: Minimum of 1024 x 768   (Optimised for 1280 x 1024)
Software: Microsoft Excel 2000

NB These are the minimum specifications that the spreadsheet has been tested against. It should run on a computer with lower specifications, but it has not been tested for this.

3 Installation

There is no specific installation for data capture spreadsheets. They are ordinary Excel 2000 .xls files that can be copied to wherever they are required and then opened with Excel 2000. Please note that if more recent versions of Excel are used to edit and save the spreadsheet then they cannot be loaded into the database.

You should either have been provided with a pre-named .xls file for each survey, or a template file to copy. If you have a template file, you need to make an appropriately named write enabled copy for each survey that you intend to do, as there should be a separate .xls file for each survey.
Make sure the template file is set to read only to avoid overwriting it.
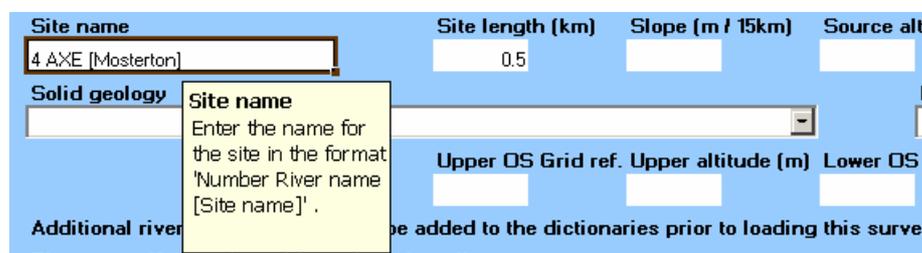
4 Layout of the workbook

The workbook is arranged into seven individual worksheets, five of which are data input sheets reflecting the functional grouping of the information collected and the other two are read only information sheets.

The worksheets are:

'Read me'	The leftmost sheet, contains notes on using the workbook.
'Site'	For entering information about the site, and any macrophytes not on the macrophyte data sheet.
'Survey'	For entering information about the survey.
'Physical data'	For entering information about the physical features of the site.
'Macrophyte data'	For entering the cover codes for the macrophytes found.
'Additional macrophyte data'	An 'overflow' sheet for entering extra macrophytes that cannot be fitted onto the site sheet.
'Dictionaries'	The rightmost sheet showing the lists of valid entries for the various fields.

5 Getting help

There are 2 main sources of help on the workbook. The read me sheet contains general notes on using the workbook. However, more specific contextual help is also available. If you move the cursor into a data field, a hint box will display as a pop up box describing what that field is for.


If you want to move the position of this help box you can click and drag it to where you want it. Once you have done this the help from all fields will appear at that position until you restart Excel.

If you click on a drop down combo box (a field with a permanent down arrow on the right), you have clicked on the drop down combo box, not moved the cursor into the underlying data field so will not get the hint. To move the cursor into the underlying data field, click on the cell to the left of the drop down combo box and then use the right arrow or TAB key to move into the data field.

If you need more detailed help, the left most worksheet tab is for the 'Read me' worksheet. This is a very simple description and user guide for the spreadsheet, which covers most points.
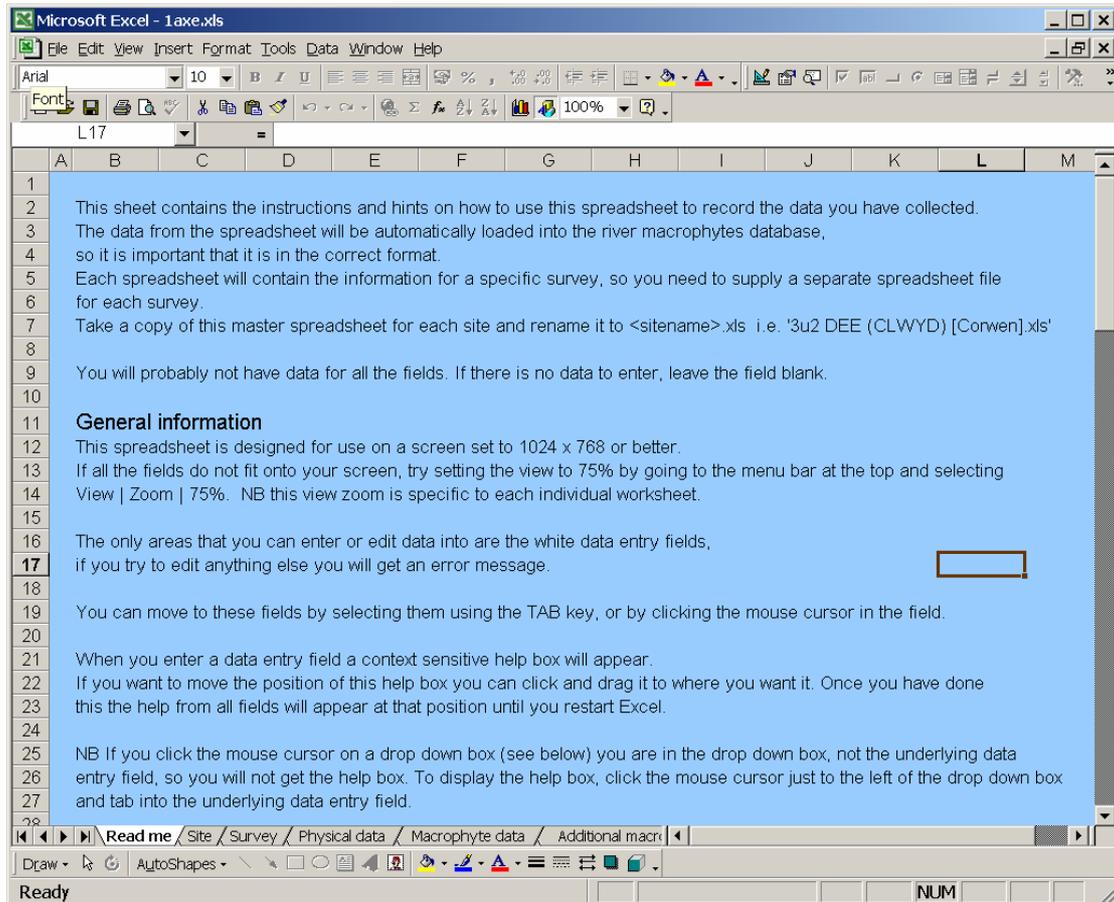
6 Using the data capture spreadsheet

6.1 General notes

The worksheets are protected so that you can only edit the data fields (in white). All the rest of the sheet is write protected (shaded blue).

You can move through the data input fields by selecting them using the TAB key, or by clicking the mouse cursor in the field.

There are 3 different types of data entry field.
1. Free format data entry fields that you can type anything into. These may be limited to specific types of data i.e. numeric entries, dates etc.

2. List box data entry fields that are restricted to a list of values. These have a drop down arrow at the right hand edge that only appears when you enter the field. You should select a value from the drop down list, although you can type the data directly into the field. The entry is validated against the list, so if you enter a value that is not in the list, you will get an error message and you will need to delete the invalid entry and enter a valid value.

3. Drop down combo box controls that overlay the data entry field. These have a permanent drop down arrow on their right hand edge. It is possible to tab into the underlying data entry field and type data into it, or to

DO NOT DO THIS, as it is not possible to validate the data entered in drop down combo boxes. This is the only way of entering invalid values that will cause the data load to fail.
If you enter a wrong value into a drop down combo box, either select the correct value to overwrite it, or select the blank from the top of the list to delete it. **Do not type directly into the box.**

NB Excel does not validate or save data entered until you move the cursor into another cell.

If you click on a drop down combo box this does not move the cursor into a new cell, so does not validate or save the entry. To move the cursor into a new cell, click in any other cell or use the TAB key to move to the new cell.

All physical data is entered from drop down combo boxes. This means that it is validated as long as it is selected from the list and is not typed into the box.

All macrophyte cover data is entered from list boxes so is validated.

Where possible data is validated as it is entered into the spreadsheet to minimise the chances of a data load failing due to an invalid entry.

If there is no value leave the field blank. Do not enter zero.

Some fields are numeric. Fields that are expecting a numeric value will give an error if any non-numeric value is entered. Just enter the number, not units (e.g. enter 5, not 5km or 5%).

Date fields will be displayed in the format 05-Jan-2002. If you enter the date in a roughly similar format i.e. 05-01-02 or 05,jan,02 Excel will generally accept it and reformat it.
NB If you use . or : as separators Excel will try to reformat it as a time i.e. 05:01:02 (hh:mm:ss).

If all the fields do not fit onto your screen, try setting the view to 75% by going to the menu bar at the top and selecting View | Zoom | 75%. NB this view zoom is specific to each individual worksheet.

6.2 Technical Notes:

There are some hidden values to the right of the rest of the data in some of the worksheets. These show up if the background colour changes i.e. when an area is selected. Data is copied from the visible data entry fields into these hidden fields to ensure that the data is in the correct format to load into the database.

There is a line of 1s near the top. This tells the spreadsheet to treat the column as a numeric column. There are default values of 0 in the macrophytes worksheet and –1 on the other worksheets. These tell the data loading program to enter a NULL.

There are also some other hidden fields in the worksheets holding other data such as macrophyte IDs etc.

All these hidden values are write protected and can be ignored.

6.3 Sheet 2. The Site sheet
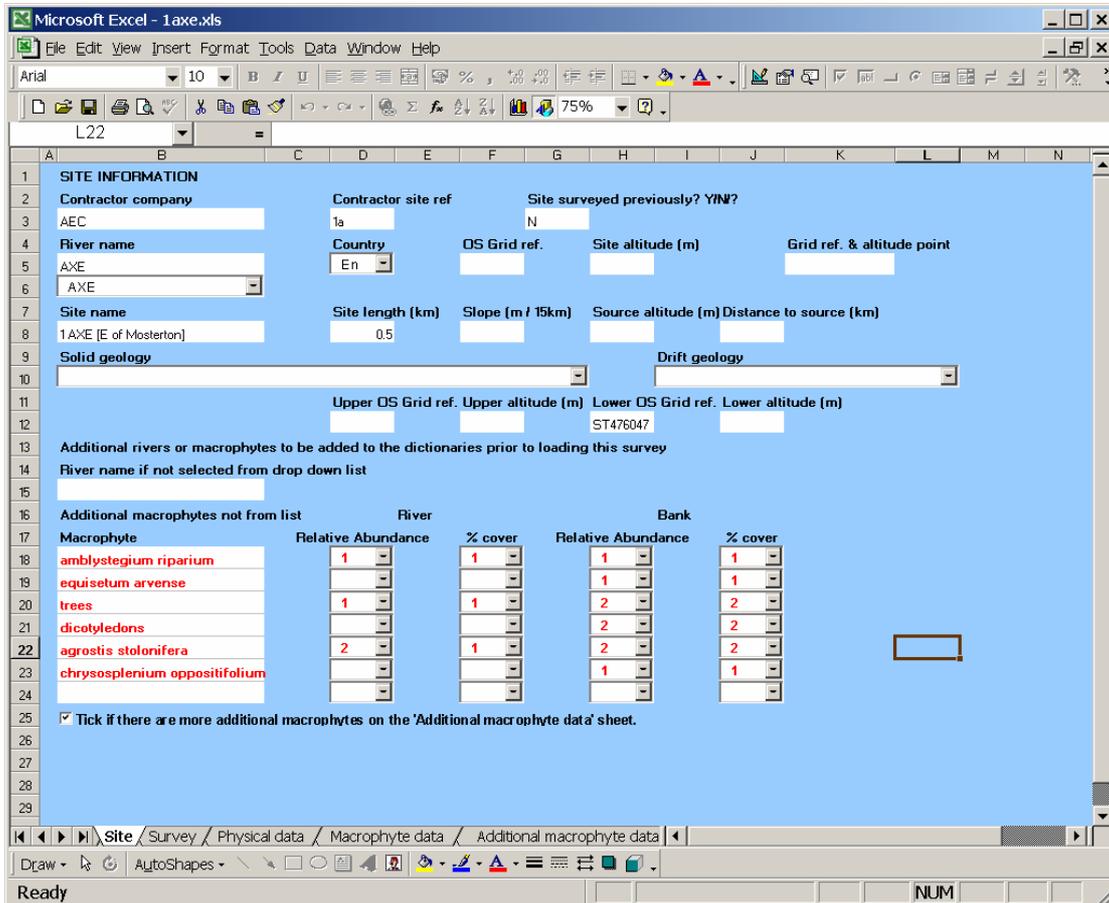
This worksheet contains information about the site.

The fields in the top row i.e. Contractor company, Contractor site ref. etc. are for information only and are not loaded into the database.
The grid ref and altitude point is also for information only.

<u>The River Name field</u>
Select the river name from the drop down combo box below the 'River name' data entry field. You can narrow down the choice by starting to type the name into the drop down combo box. If a river is not in the drop down list then type it into the river name field in upper case.
If you enter a new river ensure that you fill in the 'River name if not selected from list' field below. This field will display in red to remind the data loader to add the new river to the database before loading the survey.

<u>The Site Name field</u>
The database includes a facility for repeat survey of sites. It is important that previously surveyed sites are recorded as such rather than as new sites. Since this

information is not necessarily available to the contractor, the data loader should ensure that this field is correctly entered. The new naming standard (see below) may identify some duplicates at data load time.

The agency letting the contract should assign site names to the new survey, in conjunction with the rivers database manager. It is important that site names follow an appropriate format, in order to ensure that the data stored and extracted is easy to use and manage. With this in mind, the following convention for naming sites has been agreed:-

If the site is a new site, the name should take the following format: -
<Number> <River Name> <[Site Name]>
where <Number> is the relative position of the site along the watercourse, with the site furthest upstream being number 1.
i.e. 4 DEE (CLWYD) [Corwen]

New sites inserted between existing sites should be numbered according to their nearest initial survey site with the suffix 'u' to indicate upstream and 'd' to indicate downstream, followed by another number to give a unique identification. The second number need not be indicative of position.
i.e. 4u1 DEE (CLWYD) [Corwen]

NB River name should exactly match the river name in the database.

Grid references
Grid references must be to six numeric figures. Grid references using the British National Grid will therefore have 8 characters in total (AB123456), whereas those using the Irish National Grid will have seven (A123456). The workbook will not accept grid references provided at different resolutions (e.g. AB12340394).

The workbook checks to see if the string entered has seven or eight characters, but no further checks are made. Thus, addition of an extra character to an Irish grid reference, or removal of one from a British grid reference will not be identified as errors by the workbook.

It is most important that grid references are correctly identified and entered. Failure to do this may result in the data being unusable, as it may not be possible to ascertain where the survey was carried out. Please ensure that these are correctly entered before importing the data to the database.

Additional Macrophyte Species not included on the Standard Checklist
If you have found any macrophytes that are not on the macrophytes worksheet, enter them on this worksheet. They will display in red to remind the data loader that they need to be added manually. If you have more than 7 additional macrophytes to enter, check the 'Tick if there are more additional macrophytes' box and add the extra entries on the 'Additional macrophyte data' worksheet.

6.4 Sheet 3. The Survey sheet

This worksheet contains information about the survey.

All the fields on this worksheet are self-explanatory.

Enter the survey date as dd-mm-yy or dd/mm/yy. It will automatically reformat it to dd-mon-yyyy.

Enter the vegetation cover values as a number. Do not enter the % sign.
NB There is no check that the individual values are between 0 and 100 but the loading routine warns if the sum of the plant type values is >100.

Comments: Enter any additional comments here. A description of survey conditions, notable features of the site etc. always helps in interpreting data. Please note that only two lines of text can be imported into the database (although more can be typed into the comments box here). **If this amount is exceeded then no comments will be imported.**

6.5 Sheet 4. The Physical data sheet

This worksheet contains the physical information about the site. Physical data is important as it assists with interpretation of the plant data.

The various fields are for the % of survey within certain width, depth ranges etc. and are self-explanatory.

All the fields on this worksheet are drop down combo boxes.

Enter the value by selecting from the drop down list. **Do not type directly into the boxes.**

If there is no value leave it blank. If you enter a value by mistake, correct this by selecting the blank from the top of the list.

9

6.6 Sheet 5. The Macrophyte data sheet

This worksheet contains a list of the macrophytes that are expected to be found and list box fields for filling in the JNCC 3 point cover codes recorded. The meanings of the codes are displayed at the top of the page.

The macrophytes are grouped by overall type and are alphabetical within the group.

For each macrophyte found, enter the relative abundance and absolute cover percentage codes from the data entry drop down list boxes. If a macrophyte is not present, leave the entries blank. The data is validated when you move out of the field. **Don't forget to move the cursor out of the field after you enter your last value or it will not be validated and saved.**

If you have found any macrophytes not on this checklist sheet, enter the information in the new macrophyte fields on the bottom of the 'Site' sheet.

Some taxa are listed as aggregates (e.g. *Schistidium* sp(p).). If the survey is able to record these to species level, they should be entered <u>both</u> as additional macrophytes with their individual cover values in the 'Additional Species' sheets <u>and</u> as the overall cover of the aggregated taxon in the 'Macrophyte Data' sheet.

6.7 Sheet 6. The Additional macrophyte data sheet
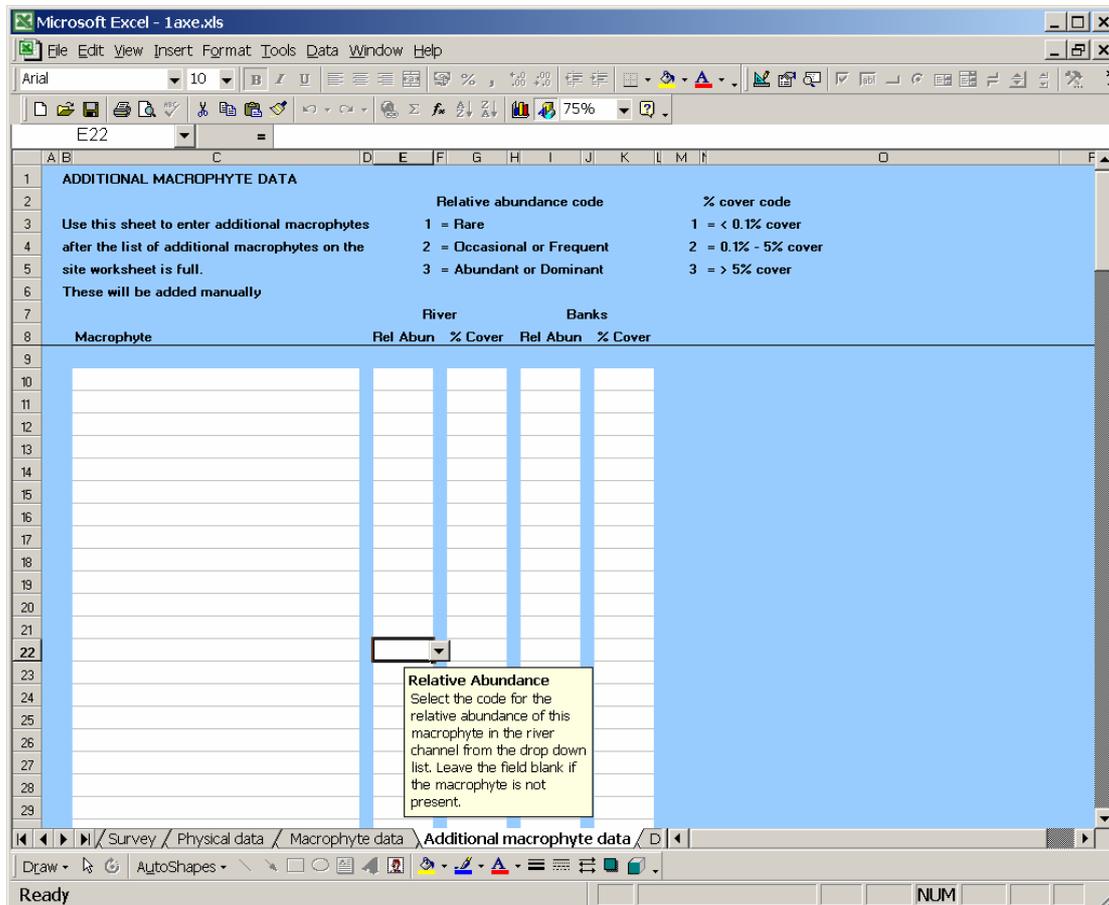
This is simply a continuation of the fields on the 'Site' worksheet for entering additional macrophytes that are not on the macrophytes worksheet.

These will then need to be manually added to the database by the database administrator.

6.8 Sheet 7. The Dictionaries sheet

This is a read only worksheet to list the valid values for data that gets validated.

With the exception of the 'Site surveyed previously?' and 'Grid ref. & altitude point' boxes on the site page which get their values from hidden lists at the top of columns M & N in the site page, this is where the drop down boxes get their lists of values from.

This page has a full list of the macrophytes that the river macrophytes database has in its macrophyte species dictionary.
This list and the rivers list may get updated and a new version of the data capture spreadsheet issued. You should check with the database administrator that you have the latest version of the spreadsheet.

7 Glossary

Cell
A single box in a worksheet at a specific column/row intersection.
This name is often used interchangeably with field.

Column
A vertical row of cells in a worksheet.

Combo box or Drop down combo box
A drop down combo box is similar to a list box except for the fact that they have a drop down arrow at the right hand edge that is permanently displayed. They can display a value that is different from the value in the underlying field. They are used to display the dictionary description while the underlying field contains the associated dictionary code. Unlike a list box, it is possible to type data into a combo box rather than selecting the value from the drop down list. You should never do this when using the data capture system.

Data field
A cell that is not write protected. These have a white background and are where you enter the data.

Database
A collection of information stored in a searchable and easily recoverable format.
In the context of the river macrophytes system this is a Microsoft Access .mdb file.

Field
A single box on a worksheet at a specific column/row intersection.
This name is often used interchangeably with cell.

File
A permanent record of a program or data stored on the hard disk. They have a file extension which defines what data they contain. In the context of the data capture spreadsheet the relevant types of file are:
.xls   A Microsoft Excel spreadsheet file.
.mdb   A Microsoft Access database file.

Hidden values
Cells containing values that have been hidden by setting the text to the same colour as the background.

List box
A list box is a data entry field that is restricted to a set list of values. They have a drop down arrow at the right hand edge that only appears when you enter the field. They display the actual value in the underlying field.

NULL
A computing term for empty or unknown.
NB it is not the same as 0, " " (space), or "" (empty string).

Pop up box
A box containing help information that appears when you click on or pass the cursor over a cell and then goes away when you move the cursor. If it appears when you move the cursor to over a cell it is also sometimes called a hover help box.

Row
A horizontal row of cells in a worksheet.

Spreadsheet
An Excel .xls file containing one or more worksheets.
This name is often used interchangeably with workbook.

Template file
A Microsoft Excel Data capture spreadsheet file that has no data in it. This should not be altered, but should be copied to produce a spreadsheet file for each survey to enter the data into.

Validation
When an entry is made into a validated data field, the entry is compared with a list of values or a certain format etc. If it does not match the list or format etc. the validation fails and the cell refuses to accept the value entered.

Workbook
An Excel .xls file containing one or more worksheets.
This name is often used interchangeably with spreadsheet.

Worksheet
A single sheet within a workbook. You can display different worksheets by clicking on the worksheet tabs at the bottom.

Worksheet tab
The names of the worksheets appear on tabs at the bottom of the workbook window. To move from sheet to sheet, click on the required worksheet tab.