

## Using the SSA-DataSum Spreadsheet

1. This spreadsheet records both landscape organisation data and SSA data and calculates a number of indices summarising patch/inter-patch hillslope structure, as well as indices reflecting soil stability, infiltration and nutrient cycling. Where data fields have a white background, you are free to type in appropriate data. Any field with a coloured background is for the spreadsheet to insert computed values. Be careful not to type in coloured columns.
2. Commence on the “Start” page. Click on the button at the bottom left-hand side of the screen. Key in the information about the site, the observers and the date first. Two data boxes appear below the site identification section.
  - In the left-hand box type in the **full list of patch and inter-patch types** identified in the Landscape Organisation assessment. This may be as simple as a single entity, or a number, depending on the complexity of the site. Space is provided for the full name and an abbreviation that will be used in the LFA page.
  - In the right-hand box, type in the name of the **only the patch types** (no inter-patches). This sets up the spreadsheet for all the remaining actions.
3. Proceed to the LFA page. This page is a replica of the field data sheet. Key in the data obtained in the field. It would be possible to download the spreadsheet onto a PDA and record field data directly into the spreadsheet. However, we have found that in practice, the need to refer quickly back to other sites and data sheets is easier with paper in the field. When the landscape organisation data is fully keyed in, you could click on the Summary button to view the computed landscape organisation data. (See example Summary sheet on p 2). Over time, landscape organisation data may change, due to stress/disturbance or restoration activities, and it is important to discuss these changes when reporting and LFA.
4. After the completion of the LFA data entry, click on the “SSA 1” button, which will take you to the first patch or inter-patch type you identified in the left-hand box on the Start page. The name of the patch or inter-patch will already be on the upper left-hand part of the page. Proceed to key in the SSA data for the replicates for the relevant patch or inter-patch. **Critical:** you will see that you are overtyping zeros already in the spreadsheet. **If you make a keying error, do not press the backspace or delete key.** Instead, move the cursor to another cell, before returning to the cell where the error is and **overtyping with the correct value.** As the SSA data is being keyed in, the spreadsheet will be calculating the three soil surface indices. These appear in tables below the key-in table, so that computed indices from each replicate of each patch or inter-patch can be immediately inspected for typing and field errors.
5. Proceed on to key in data into SSA 2 and SSA 3, etc, pages until all the field data has been completed. We strongly recommend checking for keying errors at this stage. When satisfied, return to the Summary Page, where the bottom half of the page will now be completed, by adding two more tables to the Landscape Organisation data already computed. The second bottom table presents the mean values for each patch and inter-patch type, together with the standard error of the mean (see example on p2). The last table on the Summary page combines the computed Landscape organisation and SSC data to present “whole gradsect” values for the three soil condition indices, using individual patch and inter-patch values in the table above, weighted by the relative proportions of each patch or inter-patch on the gradsect. New standard errors for the full transect are also computed and presented.

