General instructions for using the Region 1 SDM form (electronic version)
We* hope you find this tool useful and user-friendly; but before you start, here is some information about the form that may make it more so:

1) This protocol was established in Region 1. The attributes listed on the field form and in the Technical Guide were tested in that Region and may not be applicable to your geographic area. Work with your Regional Soils Program Manager to ensure a consistent set of attributes for your Region.

2) The research that developed this form and protocol is not site-specific, but provides a general protocol that can be used Region 1-wide. You will have to determine how your specific forest soils respond to various management practices and use the information in the Soil Quality Standards and Guidelines for R1 to evaluate where your particular soils fit.

3) This form prompts you for visual attributes to assess both pre- and post-harvest condition classes. You can evaluate changes in those condition classes to determine management effects. You and your line officer can choose a specified level of statistical confidence for the data; the required number of data points for a statistically defensible survey are calculated.

4) The form has 5 tabs, or worksheets. The first tab is called "SoLo_Info." It lists site-specific descriptors that are required in order to correlate soil condition information across each National Forest and across the Region. This information will populate the SoLo database and, as part of your monitoring planning, will enable detailed accounting of soil survey activities and reporting of management activities and their effects, by soil type, habitat type, climate and other parameters of interest. These summary reports will inform efforts to establish or improve best management practices (BMPs).

  4a) The SoLo_Info worksheet incorporates several dropdown lists and macros that are designed to make your reporting task easier. These aids only work in the desktop version, which means that it will be easier *only* if you fill out and save the worksheet before you go into the field. When the form is transferred to a PDR, the macros and lists are disabled because of the limited instruction set of the mobile version of Excel. The good news is that the selections you have made from the dropdown lists - assuming you have saved the form before transferring it - will be transferred along with the form to your PDR. The lists for Harvest System and Site Prep in the Site History section, and other lists, may be incomplete; more exhaustive lists can be developed. You may enter an unlisted option in the "Other(Comment)" cell.

4b) The Variable_Selection worksheet lists all the variables examined and recorded during the monitoring activity. Variables that are used in the calculation of the minimum number (*n*) of sample points needed are marked with a "1" in column B. If the situation on a site indicates that a particular variable is not relevant or would cause erroneous calculations, it may be removed from the calculations by changing the "1" to a "0." Likewise, variables may be <u>added</u> to the calculations by changing the "0" to a "1."

  4c) The Data_Entry worksheet is unchanged from the previous version, with these exceptions: The Project Name, Management Unit, Observer and Treatment fields in the Data Entry form header are automatically filled from information in the SoLo_Info worksheet. Similarly, the Starting Point GPS data (latitude and longitude *or* UTM coordinates, plus

Datum), the Date (date monitored), confidence level, number of points in the survey and the proportion positive for each parameter are automatically written to the SoLo_Info worksheet when entered or calculated in the Data_Entry worksheet. The range of confidence levels from which the user may choose has been increased, and the option of using a 20% confidence interval (rather than the default of 10%) has been added.

Also, the "mixed topsoil/subsoil" parameter has been removed and "Puddling," which is listed in the current Region 1 Soil Quality Standards, has been added to the "Platy/Massive" category (now "Platy/Massive/Puddled Structure").

Lastly, the question of "Detrimental?" on line 32 of the form must be answered with a "1" if the point shows disturbance judged detrimental to land productivity; otherwise, enter "0."

  4d) The fourth worksheet, called "Results," shows the summary statistics, including the calculated "n needed" and the upper and lower limits of the confidence interval for each indicator variable selected in the Variable_Selection worksheet. Computations are based on the number of points in the transect and the proportion positive. These are "read-only" fields.

  4e) The fifth worksheet, called "Attachments," is intended as a place for you to attach photos, documents or other objects to your report. Naturally, such attachments can produce very large files which cannot be emailed easily. For that reason a folder called Soil Disturbance Monitoring (SDM) will be created on the R1 server. You can add a subfolder for your forest as you begin uploading information. These folders are "public" within the FS, so the reports can be viewed or downloaded by other FS users.

5) This protocol, the accompanying Protocol Technical Guide, and the Regional Soil Quality Standards are dynamic documents. As ongoing research reveals better monitoring information or as other best management practices are developed, each of these documents is subject to change. Whenever such changes occur, an effort will be made to maintain compatibility between old and new versions of this form, in order to insure consistency in the data and in the functionality of the database.

6) Any questions concerning the design or function of the form may be directed to the authors or their successors.

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