# **Lab Data Mart Talking Points**

## Background:

Several years ago, a group of folks decided to create a set of NCSS Soil Characterization Tables that are easier to use than the current Microsoft ACCESS data base. This was a collaborative effort from many people. Rich Ferguson, Scarlett Murphy, Development Team(s) (NASIS and DS Hub), Dylan Beaudette, Adolfo Diaz, Skye Wills, Cathy Seybold, Drew Kinney. (Lab, Research, Business, Information)

**The concerns that the NRCS tried to address were:**

1. Reduce the numbers of tables and joins users have to make to use the data.
2. Clear up any confusion between “measured data” and results of calculations that may use default values for bulk density 1/3 bar in the calculations.

**Additional objectives of the project are:**

1. To make it easier to reconcile differences in rock fragment measurements and estimates recorded in the Laboratory Database and NASIS.
2. To make the tables available as a Web Feature Service as well as a Microsoft Access Database

**Accomplishments:**

The goal is to deliver the same data that is in the current Microsoft ACCESS database. The difference is that we wish to provide better metadata to the user to include:

* Less cryptic column headers
* Better attribute definitions
* A clear indication as to which results of calculations are from measured values and which are from estimates or default
* Automate and streamline the process
  + making the original 6-8 queries much more efficient (1 week and crashing to a few minutes)
* Refresh data more frequently
* Modernized KSSL lab data website to make the NCSS lab data mart web page more intuitive for the user, making it easier to navigate and find information.
* Retained historical method for querying lab data and accessing query results.
* Implemented process for updating lab data on a regular basis.
* Updated deliverable databases to include open-source databases and companion morphological data. Nearly all data in the Kellogg Soil Survey Laboratory and the associated pedon data are available for download. Customers can download SQLite, Access, GeoPackage, and ESRI File Geodatabases.
* Updated deliverable database so they utilize new simplified database model schema.
* New lab data model tables and columns available.
* Interactive metadata documentation available for new lab tables.
* Replaced ESRI Web map with open-source leaflet map and automated the data.
* Enhanced map interface to allow users to create custom AOIs and download data in the database format of their choice.
* Lab tables also assessable through Soil Data Access API. Developers and data scientist can access NCSS Characterization Data through the Soil Data Access (SDA) application and SDA webservices. Use the SDA query page to submit custom SQL queries through the SDA application and receive instant or e-mailed tabular results in xlm, html, or text format. A suite of SDA webservices are available to meet a variety of customer needs. The pedon data associated with the NCSS Characterization data are not available through SDA.
* MIR data displayed on the map and available for download.