

VIRGINIA NRCS RUSLE2 QUICK GUIDE

**RUSLE2 Installation and Basic  
Moses Database Setup for ANY Virginia  
Computer (USDA or non-USDA)**  
**NEW FOR 2019**

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**DOCUMENT PURPOSE & DISCLAIMER**

**1. Document purpose:**

These instructions are designed to help both USDA and non-USDA users of RUSLE2 in VA do the following:

- a. Load the latest RUSLE2 software on your PC;
- b. Load and customize a new RUSLE2 moses database on your PC – what we are calling “basic moses database setup” (if you are interested in advanced moses database setup, see below);
- c. Set up RUSLE2 so you are ready to start running calculations.

**2. Interested in advanced database setup?**

If you are interested in sharing a moses database within an office or other advanced database setup issues, go to our [Erosion Resources Index](#) to find the 2019 Quick Guide on that topic. Note that, even if advanced moses setup is desired, at least one person in each office will need to follow some steps below to prep the initial database to be shared. Therefore, start with the instructions below in all cases.

**3. Disclaimer for non-USDA users:**

These instructions are offered as a starting point for installing RUSLE2. If these instructions don't work with your non-USDA device or operating system, you will need to do your own research to solve the problem.

**BACKGROUND CONCEPTS FOR VIRGINIA RUSLE2 SETUP IN 2019**

**1. VA NRCS no longer uses the “R2goF” moses database checkout script**

For years, VA NRCS staff used a custom script to check in/check out (i.e., move) a single RUSLE2 moses database file customized for each field office back and forth between its designated “home” in a protected network location to each user's individual computer. The advantages of the strategy were:

- a. VA NRCS field staff in the same office could share a single moses database.
- b. Calculation speeds were optimized.
- c. The database was almost continually backed up.

The R2goF check-in/check-out script no longer works with the operating system on today's NRCS computers. Since the NRCS-only R2goF script is no longer an issue, we can now provide in this document the same basic RUSLE2 set-up options for both USDA and non-USDA users in VA.

## 2. Basic moses database setup has a big disadvantage: No automatic backups

The most important drawback to basic moses database setup is that, in general, there is no automatic mechanism for backing up your RUSLE2 data. Even if you are not interested in sharing your database with other users in your office, remember to give some thought to backing up your work. This is another reason to read the 2019 VA NRCS Quick Guide on advanced moses database setup.

## 3. Switching to SSURGO soils makes it logical for everyone to start fresh with a new moses database

NRCS offices in VA will now begin using soils data that can be downloaded directly from the national NRCS SSURGO database by individual RUSLE2 users into their local moses databases. Due to settings that we can't control, these new soils data will now be in a new directory in your moses database. Previously, RUSLE2 soils data were found under "Soils". Now soils data will be found under "Soils\SSURGO". This gives us the following two good reasons for switching to a new database file when we transition to SSURGO soils:

- a. If you simply load new SSURGO soils data to your old database, you will have a mix of old and new soils info – and the old soils info will be much easier to find. To minimize confusion, the only soils data in your database should now be in the Soils\SSURGO folder (i.e., old soils data should be deleted, which must be done one county at a time, which can be very time-consuming). For many VA RUSLE2 users, it will be simplest to just start fresh with new database pre-populated with updated SSURGO soils data.
- b. Eliminating old soils data will break links in all previous computation files, thereby rendering those computation files useless (unless each computation is painstakingly linked to the corresponding new SSURGO soils data). Thus, for most users, there is not much reason to keep old computations in your new database. Again, this further justifies the strategy of starting fresh with a new database.

There might also be some advantages to switching to the latest core national RUSLE2 database content (operations, vegetations, etc.). The bottom line is that, if our goal is for all VA RUSLE2 users to utilize the same data, then it makes sense for everyone to switch to a new 2019 moses database.

## STEP A. PROTECT / ARCHIVE OLD RUSLE2 WORK

***If you do not currently have RUSLE2 on your machine, skip to Step B below!***

### 1. Do you have old work worth protecting in RUSLE2 format?

If you have been using RUSLE2 and want to save your existing work in RUSLE2 format (see three reasons for doing so below), your first task is to find and save a copy of the existing or "old" moses database you have been using. Think carefully: Do you really have past work worth saving? If you don't, skip to Step B. Otherwise, proceed to Step A.2., below. (Note: if you have customized your own print or user templates, etc., you will also need to save those. We do not address that topic here.)

### 2. Reasons for saving your old RUSLE2 moses database

Here are three different reasons/options for saving your existing RUSLE2 database:

- a. You want to **ARCHIVE** your old database. In this case, you don't necessarily intend to use your old RUSLE2 data. You simply want to store it away in case you ever want to access it again. Instructions for doing this are found in the Step A.4. below.
- b. You want to **TRANSFER** some work from your old database to your new database. You can find instructions for doing this in Step G at the end of this document.
- c. You want to **KEEP USING** your old database and don't intend to upgrade to a new database. This can make sense for some users, but we are not recommending it in general, for the reasons explained previously. Therefore, we are not providing specific instructions on how to do this.

### 3. Find your current RUSLE2 moses database

- a. Open RUSLE2 the way you normally do. Investigate content (calculations, managements, etc.) in the active database to make sure this database is the one you want to save.
- b. Now look at the bottom right-hand corner of the gray RUSLE2 screen to find the name of the active (i.e., your old) moses database file. Right-click on the name of the database file and select “Properties”. This should tell you the location of the old moses file on your computer. Make a note of the location.
- c. Now close RUSLE2.

### 4. Save a copy of your existing RUSLE2 moses database

- a. Navigate with Windows Explorer to the location of your old moses database noted above. If your old moses database is not on your C drive, but instead is in a networked folder (e.g., F drive), then creating a copy is less crucial. That’s because uninstalling/installing RUSLE2 will not impact that networked drive.
- b. If your old moses database is in C:\ProgramData\USDA\RUSLE2\NRCS, then moving it or saving a backup copy to another location is important. However, the C:\ProgramData\USDA\RUSLE2\NRCS folder may be hidden. See tips on viewing and accessing hidden folders in Step C.1., below.
- c. If needed, save a copy of your old moses file to a safe location where you can easily find it. Rename the copy so you can identify it and can recognize that it was associated with your previous RUSLE2 work.
- d. If you want to archive the existing database, then change the name of the existing file accordingly. For VA NRCS field office personnel, the appropriate place for long-term storage of old moses files is your F drive RUSLE2 moses folder (F:\RUSLE2data\R2.MOSES). Remember to rename the file appropriately.

## STEP B. UNINSTALL / INSTALL RUSLE2

***If you already have latest RUSLE2 on your machine, skip to Step C below!***

**USDA field personnel can’t add or remove software from USDA computers.**

**If you are on a USDA machine, contact IT for RUSLE2 install, then skip to Step B.4.**

### 1. Uninstall RUSLE2 software

Use your operating system’s standard software uninstall procedures to remove the old RUSLE2 program. Remove all existing shortcuts to RUSLE2 from your desktop, etc. to minimize confusion.

### 2. Find the RUSLE2 program installer on the official NRCS RUSLE2 website at Purdue University.

Go to [http://fargo.nserl.purdue.edu/rusle2\\_dataweb/RUSLE2\\_Index.htm](http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm). On left-hand menu under “RUSLE2 Program File,” click “Download File” link. Find the latest installer file, which currently is named “Rusle2InstallerNRCS(2.6.11.1).zip” and dated May 9, 2019.

### 3. Run the RUSLE2 installer, making note of installation directories.

- a. Open (or save, then open) the installer zip file. Then run the installer.
- b. Accept default installation settings, including default installation location on your computer. I recommend accepting the options to put a RUSLE2 icon on your desktop and/or Start menu.
- c. Make sure you fully explore and understand where the RUSLE2 software and data has been installed on your machine. For example, on my PC:
  - The new RUSLE2 software is installed to a directory called: “C:\Program Files (x86)\USDA\Rusle2\NRCS”. This is what I call my “RUSLE2 Hard Drive Software Folder”. You will likely never need to find this folder.

- The associated RUSLE2 database, templates, and other files that the software will utilize to run calculations are installed to a directory called: “C:\ProgramData\USDA\Rusle2\NRCS”. This is what I call my “RUSLE2 Hard Drive Data Folder.” You will need to navigate to this folder in the next step.

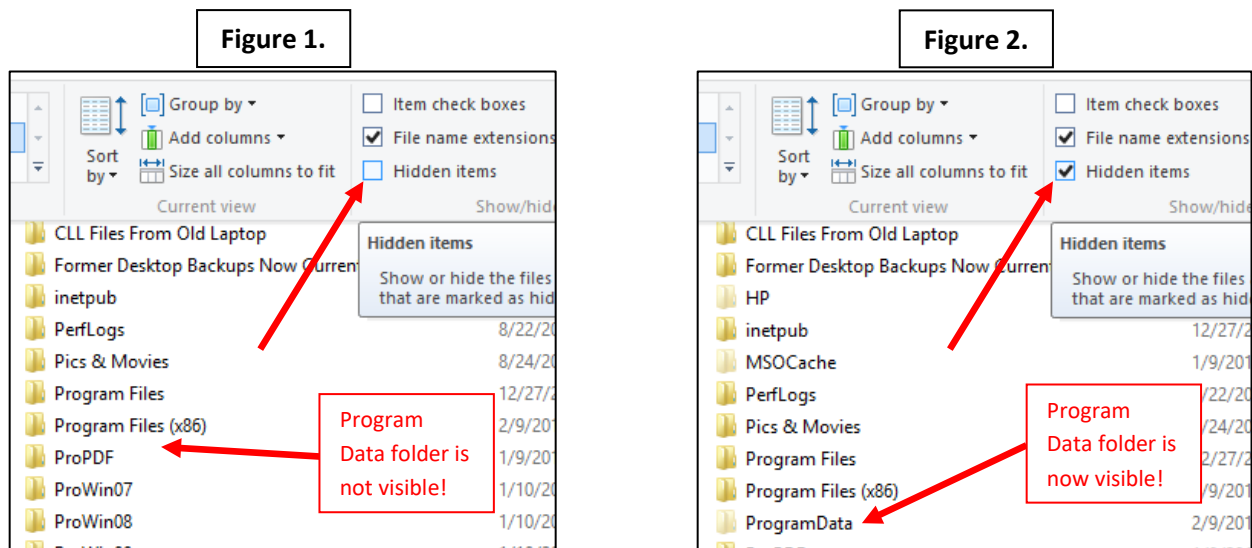
#### 4. Make sure RUSLE2 will start

- If RUSLE2 did not start automatically after the install, use your desktop or start menu icon to start RUSLE2. Cancel or say “no” to any dialog boxes that might pop up.
- Once the gray RUSLE2 screen opens, look for the name of the active moses database in the bottom righthand corner of your RUSLE2 screen. This will probably say “moses” or “moses2016”.
- Close RUSLE2.

### STEP C. CREATE DESKTOP SHORTCUT TO RUSLE2 HARD DRIVE DATA FOLDER

#### 1. Navigate to your RUSLE2 Hard Drive Data Folder

The default location for your RUSLE2 moses database, templates, and other files that the software will utilize to run and print calculations is: “C:\ProgramData\USDA\Rusle2\NRCS”. This is what we call your “RUSLE2 Hard Drive Data Folder.” Navigate to this location. Be aware that on some machines, the ProgramData folder will be hidden! If you suspect the folder is hidden, go to the VIEW tab and uncheck or otherwise modify settings as needed. See Figure 1 and 2 below for screenshots that may help.



#### 2. Create a desktop shortcut to RUSLE2 Hard Drive Data Folder

- Place a shortcut to your RUSLE2 Hard Drive Data Folder – i.e., C:\ProgramData\USDA\Rusle2\NRCS – on your desktop. One way to do this: highlight the target folder, then right-click, then choose “Send To... Desktop (create shortcut)”.
- Change the name of the shortcut from “NRCS” to “RUSLE2 Hard Drive Data Folder”.

## STEP D. DOWNLOAD & RENAME RUSLE2 DATABASE CUSTOMIZED FOR VA

### 1. Save latest VA moses database to your RUSLE2 Hard Drive Data Folder

Your desired file is called “moses.AllVA.AllSoils.wR2GZ\_2019B.gdb.” This file is available for download in zipped format. Due to difficulties loading the large file to the VA NRCS FOTG, it is currently posted at the VA Association of Conservation District Employees website (thank you, partners!).

The link below should take you to the target file. Save it into your RUSLE2 Hard Drive Data Folder (use the new shortcut to this folder on your desktop). Do not attempt to open the file at this point!

[https://vaswcd.org/wp-content/uploads/2019/07/moses.AllVA\\_.AllSoils.wR2GZ\\_2019B.zip](https://vaswcd.org/wp-content/uploads/2019/07/moses.AllVA_.AllSoils.wR2GZ_2019B.zip)

### 2. If the above link doesn't work...

Go to the VA NRCS online Field Office Technical Guide (FOTG). Recommended starting point:

<https://efotg.sc.egov.usda.gov/#/>. Go to “Section I” → “Erosion Information” → “2. Water Erosion” → “b. Sheet & Rill Erosion / RUSLE2” → “ii. VA RUSLE2 Data Downloads”.

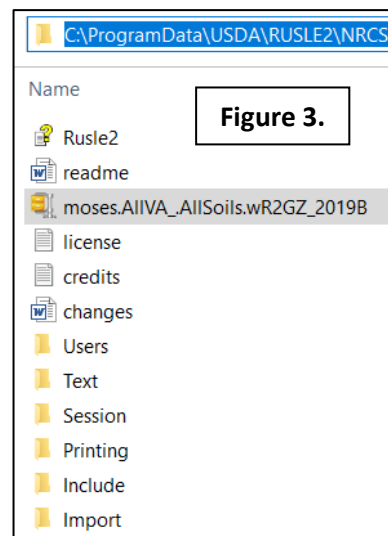
### 3. Open your RUSLE2 Hard Drive Data Folder

Using the desktop shortcut you created in Step C above, open your RUSLE2 Hard Drive Data Folder into which you saved the zipped database file. The folder contents now should look something like Figure 3.

### 4. Unzip “moses.AllVA.AllSoils.wR2GZ\_2019B.gdb”

Recommended method is right-click on the zipped file, then select “WinZip... Unzip to here”. Other methods may be used. When complete, there should be a file in your RUSLE2 hard drive folder called “moses.AllVA.AllSoils.wR2GZ\_2019B.gdb”. Do not double-click on this file to open it! RUSLE2 “.gdb” files can only be opened with RUSLE2 software.

This RUSLE2 database has been customized for VA users with all the climate, soil, and crop management templates needed to run RUSLE2 anywhere in the state (soils data current as of May 7, 2019).



*This database also includes “New Forages” management templates. These files are reserved for possible future use with the RUSLE2 Graze module. Do not use them until you are trained on RUSLE2 Graze.*

### 5. Rename your moses file

As you use the new moses file, you will further customize it as you save data and calculations to it. Therefore, we strongly encourage you to immediately customize the moses file name to reflect how it will be used. For example, insert your field office name and/or your personal name as needed. Possible examples of modified file names: “moses.VeronaFO.AllVA.AllSoils.wR2GZ\_2019B.gdb” or “moses.Lawrence.AllVA.AllSoils.wR2GZ\_2019B.gdb.”

### 6. Delete zipped file from RUSLE2 Hard Drive Data Folder

To minimize clutter and potential confusion, delete the zipped moses file once above steps are complete.

### 7. Close folders and return to your desktop

## STEP E. START RUSLE2, OPEN YOUR DATABASE, SET USER TEMPLATE

### 1. Start new version of RUSLE2.

### 2. Select your new moses database as your active database.

- From the Database menu (top left), choose “Open Alternate”.
- Select your new moses database (called whatever you named it in Step D.5. above.)
- Check that the name of the new database now shows in bottom right-hand corner of RUSLE2 screen.

### 3. Make your new moses database your Startup database.

Go back to the Database menu (top left) and select “Startup Database”. From this point forward, RUSLE2 should automatically look for the new database whenever you start the program.

### 4. Verify that User Template selection is VA Basic User Template 2012 Nov.

The RUSLE2 User Template controls the appearance of your screen (how simple or complex it is). The name of the active User Template is shown just to the left of the active moses database name in the bottom right-hand corner of the RUSLE2 screen. If it does not say “VA Basic User Template 2012 Nov,” follow these steps:

- Right-click on the active User Template name, then select “Load”.
- Choose “VA Basic User Template 2012 Nov”.
- Verify that User Template selection at bottom of RUSLE2 screen is now correct.

For some analyses, you might benefit from selecting a newer user template. For more on this, go to our [Erosion Resources Index](#) to link to the 2019 VA NRCS Quick Guide on RUSLE2 user template selection.

## STEP F. IF NEEDED, UPDATE SSURGO SOILS DATA

### 1. Do you need to update your SSURGO soils data?

As the name of the new database file indicates, the soils data it contains were current as of early May 2019. Depending on how long ago May 2019 was, you might want to update soils data for the counties you’re working in. To learn more about whether you should do that and how to do it, go to our [Erosion Resources Index](#) to link to the 2019 VA NRCS Quick Guide on updating SSURGO soils data.

## STEP G. TRANSFER FILES FROM YOUR OLD DATABASE TO NEW DATABASE

***Do this only if you saved a copy of your old RUSLE2 database in Steps A.2. & 3. above!***

### 1. Move a copy of your old RUSLE2 database to your new RUSLE2 Hard Drive Data Folder

If you saved a copy of your old RUSLE2 moses database (Step A.3.), find it and move it to your new RUSLE2 Hard Drive Data Folder using the desktop shortcut. Make sure your old and new databases have different file names so you can tell them apart.

### 2. Open your old RUSLE2 database

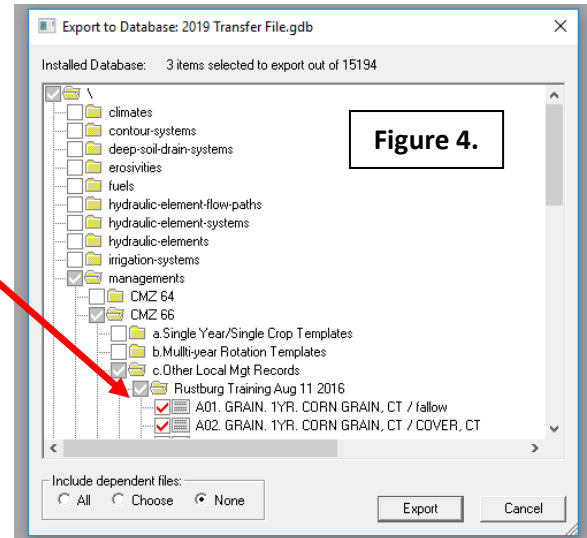
From within RUSLE2, go to “Database” menu, select “Open Alternate”. Now open your old database. Make sure the old database is listed as the active moses database in the bottom right corner of RUSLE2 screen.

### 3. Export old work from your old database.

- Think about the files you wish to transfer. The main files you should consider are high-quality, customized “Other Local Mgmt Records”. Don’t forget to look in “c.” subfolders for all CMZs in which you’ve been working. We discourage you from transferring your saved calculations (more on that

below). Remember, all of your old files (including plans and other calculations) will be archived in the old database, not discarded. So if you really need them in the future, you will be able to do so.

- b. From the “Database” menu, select “Export with templates, access...”
- c. When “Begin Export” window appears, put a check in the box for “Database records,” then hit “Next”.
- d. In the next window, type in the name “2019 Transfer File”, then hit “Next”.
- e. Then hit “Finish” (although you are not really finished).
- f. In the next window, carefully select files that you want to transfer by putting a red check in the associated boxes (see Figure 4). I strongly recommend that you only select management files from the “c. Other Local Mgmt Records” folder(s). DO NOT select management files starting with the word “default”, regardless of their location.
- g. Although we discourage it, you can also select old calculations (plans, worksheets, or profiles). Just remember that calculation files will likely have broken links due to the change in location of soils data from the old “Soils” folder to the new “Soils\SSURGO” folder. Broken links can be repaired, just be aware that you will need to do that using RUSLE2’s database consistency check function before you can use begin using those old calculation files.
- h. Do NOT select any files to transfer other than managements from “Other Local Mgmt Records” folders and/or plans, worksheets, or profiles.
- i. When you have selected all files to be transferred, be sure to choose option “None” under “Include dependent files” in the bottom left-hand corner (see screenshot above).
- j. Hit “OK” if a warning dialog box comes up.
- k. You have now created a RUSLE2 file that contains the items you wish to transfer into your new database. You will use that file in a later step.



#### 4. Importing old data into your new database.

- a. You will now transfer (or “import”) into your new moses database the contents of the “2019 Transfer File” that you created above.
- b. Make sure you are reading your new database – this is crucial! If needed, go to “Database” menu, select “Open Alternate”. Now open your old database. Make sure the old database is listed as the active moses database in the bottom right corner of RUSLE2 screen. Since your new database should be your startup database at this point, another option is to shut down and restart RUSLE2.
- c. From the “Database” menu, select “Import RUSLE2 Database...”

d. When the “Select Import Database” window appears, you will be in the following default location:

C:\ProgramData\USDA\RUSLE2\NRCS\Import.

e. You want to navigate to the following location to select your database to import:

C:\ProgramData\USDA\RUSLE2\NRCS\Export. This folder is where you will find the “2019 Transfer File” that you created in Step A.3., above. See Figure 5.

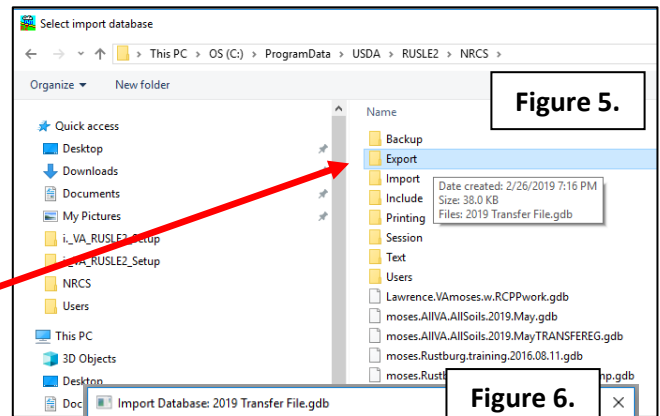


Figure 5.

f. Select the “2019 Transfer File” as the file to import into your new shared moles database. After the next window appears, use the left-hand area to select exactly which items you want to transfer. Put a red check in the little boxes adjacent to each item you want to transfer (see Figure 6). This is basically a “second chance” to check that you did Step 2 properly and to screen out any unwanted items before you import them. **NO MATTER WHAT, do not select any items to transfer other than plans, worksheets, or profiles and/or customized managements found in “Other Local Mgmt Records”.** When you have selected all items to be transferred, make sure you choose option “None” under “Include dependent files” in the bottom left-hand corner.

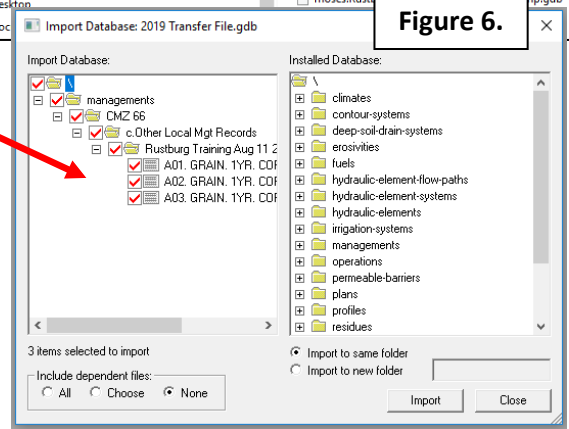


Figure 6.

g. Hit “OK” if a warning dialog box comes up about unresolved links. Various other warnings may come up. Read each box carefully and respond as needed.

h. After the import is complete, run a database consistency check (see Figure 7). To do this, go to the Database menu and choose the first command. Carefully read and respond as needed to any inconsistencies or broken links that RUSLE2 finds (see Figure 8). If inconsistencies or broken links exist, you can ignore them by choosing “ignore”, “ignore all like this”, or “Stop checking”.

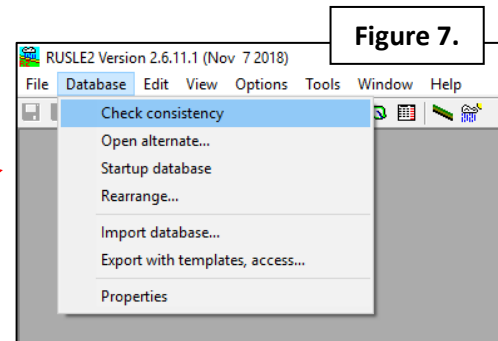


Figure 7.

The best option, of course, is to take the time to understand and resolve any inconsistencies.

i. You have now transferred key items from your old moles database into your new moles database. Explore your new database to make sure the transferred items are where you would expect them to be.

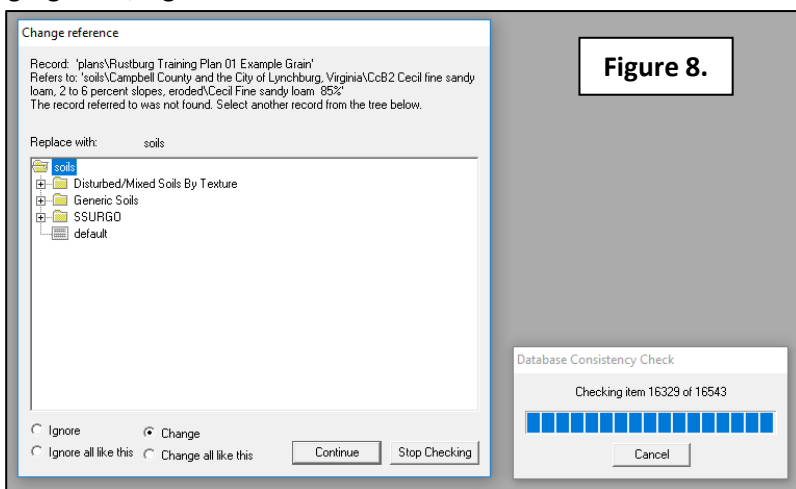


Figure 8.