

## Chapter 7: Examining Area, Legend, Mapunit, and Data Mapunit Objects

NASIS separates the soil survey area into two parts: the *area* and the *legend*. The area includes the soil survey area symbol, name, and total acres. The legend includes the legend name (i.e., detailed soil map legend), geographical applicability, and survey map units and their publication map unit symbol. Legends are linked to survey areas, allowing several legends to be recorded for each soil survey area.

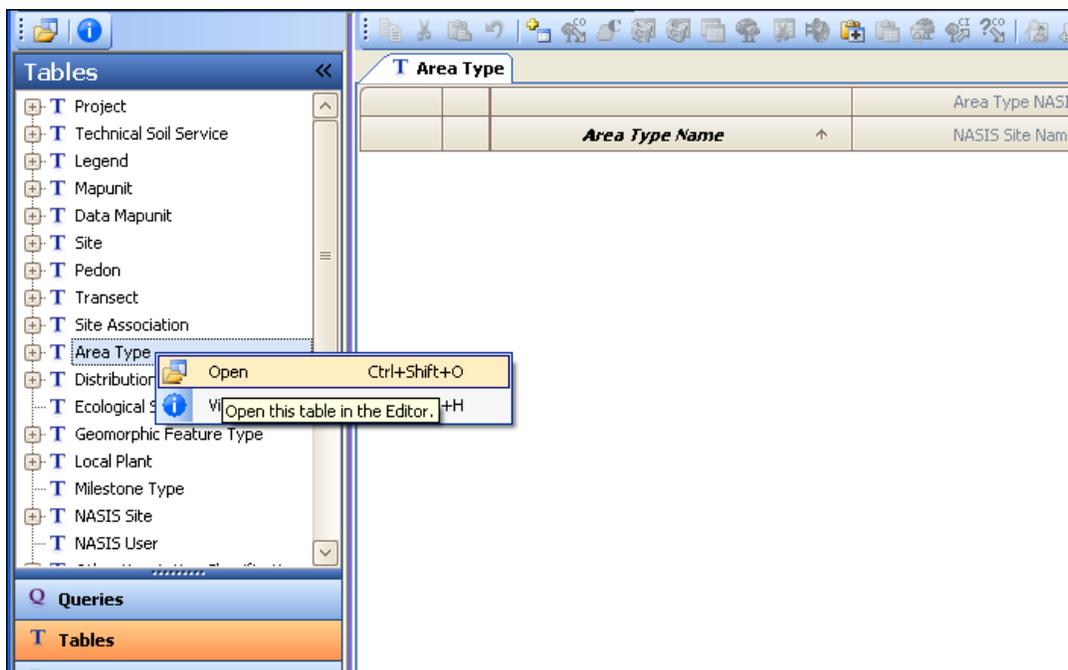
NASIS also separates the map unit into two parts: the *map unit* and the *data mapunit*. The map unit includes the national map unit symbol, map unit name, and correlation history. The data mapunit includes the map unit composition, physical and chemical properties, and stored interpretative values and groupings.

For a graphical view of these concepts, refer to Figure 1-4, NASIS Table Organization, in Chapter 1.

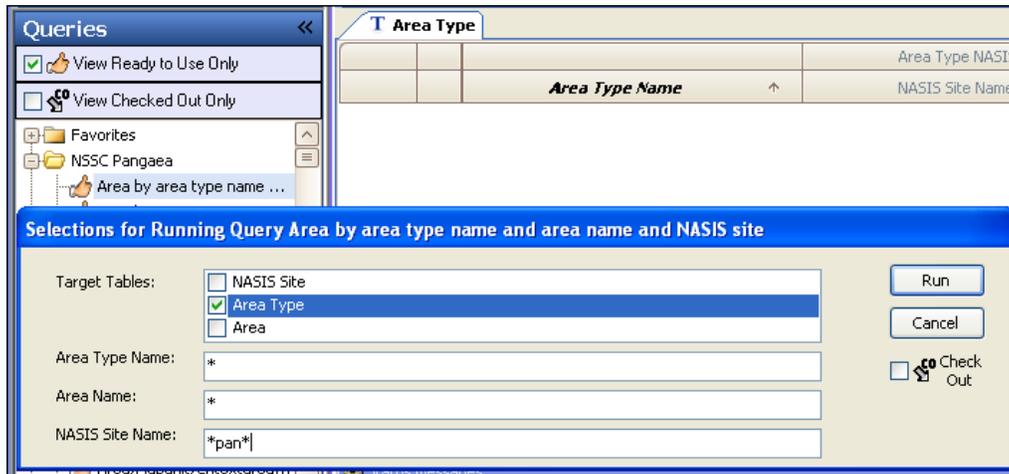
### Examining the Area Tables

NASIS stores more than just traditional soil survey areas. Because there are several kinds of areas, they are organized by area type. Chapter 3 discusses the practice of moving within and across object boundaries. In this lesson, the Area Type and Legend Objects are visited again; however, this lesson focuses more on the content of the tables and how they are used to manage the map unit attributes.

1. Open the Tables Explorer, scroll down, and open the Area Type table.

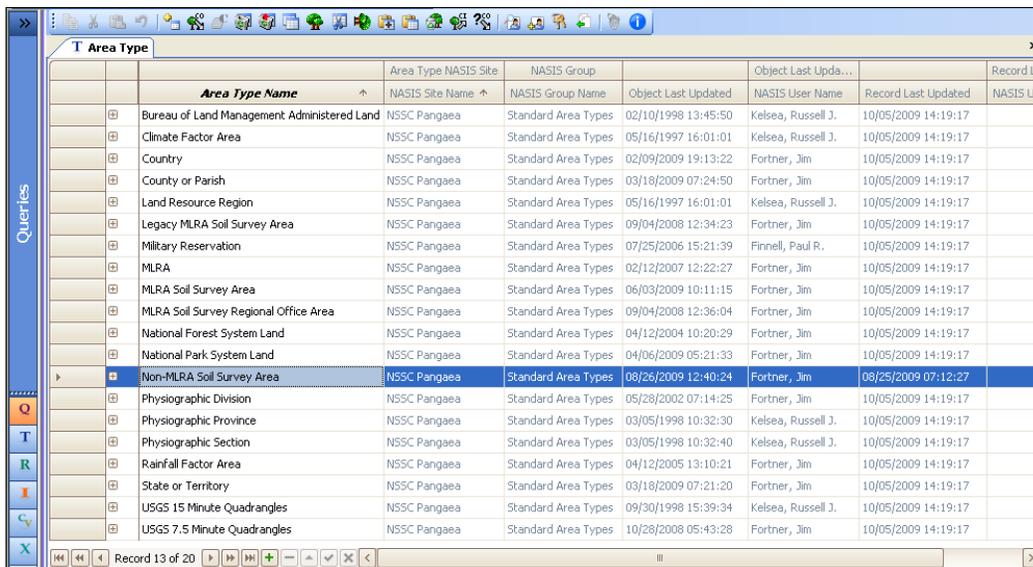


- Open the Queries Explorer, open the NSSC Pangaea queries, and choose the query “Area by area type name and area name and NASIS site.”



Set target table to “Area Type,” enter an asterisk for the area type name and the area name, and enter “\*pan\*” for the NSSC Pangaea NASIS site. Accept the 20 records.

- Hide the Explorer Panel by clicking on the double arrows in its upper right-hand corner. Right click on the Area Type Name column and choose “Best Fit (all columns).”



These are the 20 national area types used to organize the areas used in soil survey. A sample of area types stored in NASIS appears. NASIS also stores National Park System Land, National Forest System Land, Military Reservations, and Land Resource Regions area types and many more. Notice that in NASIS the climate and rainfall factor areas and political and physiographic areas can be recorded in addition to soil survey areas. Legends are stored only for MLRA and non-MLRA soil survey area types. This is also discussed in Chapter 3.

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- Use the horizontal slider bar to scroll to the right to see all the columns. Notice that the Area Type Objects are all protected. These area types (Area Type Name column) are owned by the standard area types (NASIS Group Name column) in the NASIS Pangaea database (NASIS Site Name column) at the National Soil Survey Center in Lincoln, Nebraska.

NOTE: The name Pangaea, or Pangea (pronounced pan-je´-ah), is the name used by geographers for the supercontinent from which current-day continents were derived.

- Additional help on a particular data element or table name can be found under the “View Information” option or in the “Tables and Columns Description” report on the NASIS metadata webpage (<http://soils.usda.gov/technical/nasis/documents/index.html>).
- After examining the various columns in the Area Type table, click the Non-MLRA Soil Survey Area row and then click the plus sign button on the left side.

NOTE: The displayed Area table lists all the soil survey areas categorized as non-MLRA soil survey areas. It contains the soil survey area name, symbol, and acres.

| Area Type Name            | Area Type NASIS Site | NASIS Group         | Object Last Updated |
|---------------------------|----------------------|---------------------|---------------------|
| Area Type Name            | NASIS Site Name      | NASIS Group Name    | Object Last Updated |
| Non-MLRA Soil Survey Area | NSSC Pangaea         | Standard Area Types | 08/26/2009 12:40:24 |

| Area Sy... | Area Name                                  | Area Acres | Obsolete?                | Record Last Updated | NASIS User Name | Rec ID |
|------------|--|------------|--------------------------|---------------------|-----------------|--------|
| AK220      | Alexander Archipelago-Gulf of Alaska Coast | 17501676   | <input type="checkbox"/> | 10/05/2009 14:19:13 |                 | 7648   |
| AK221      | Kodiak Archipelago                         | 3184307    | <input type="checkbox"/> | 10/05/2009 14:19:13 |                 | 7648   |
| AK222      | Southern Alaska Coastal Mountains          | 16867258   | <input type="checkbox"/> | 10/05/2009 14:19:13 |                 | 7648   |
| AK223      | Cook Inlet Mountains                       | 12641046   | <input type="checkbox"/> | 10/05/2009 14:19:13 |                 | 7648   |
| AK224      | Cook Inlet Lowlands                        | 6803781    | <input type="checkbox"/> | 10/05/2009 14:19:13 |                 | 7648   |
| AK225      | Southern Alaska Peninsula Mountains        | 3925794    | <input type="checkbox"/> | 10/05/2009 14:19:13 |                 | 7648   |
| AK226      | Aleutian Islands-Western Alaska Peninsula  | 6830128    | <input type="checkbox"/> | 10/05/2009 14:19:13 |                 | 7648   |
| AK227      | Copper River Basin                         | 2942531    | <input type="checkbox"/> | 10/05/2009 14:19:13 |                 | 7648   |
| AK228      | Interior Alaska Mountains                  | 28437150   | <input type="checkbox"/> | 10/05/2009 14:19:13 |                 | 7648   |
| AK229      | Interior Alaska Lowlands                   | 23272367   | <input type="checkbox"/> | 10/05/2009 14:19:13 |                 | 7648   |
| AK230      | Yukon-Kuskokwim Highlands                  | 38355008   | <input type="checkbox"/> | 10/05/2009 14:19:13 |                 | 7649   |
| AK231      | Interior Alaska Highlands                  | 44343481   | <input type="checkbox"/> | 10/05/2009 14:19:13 |                 | 7649   |

- Use the slider bar to view columns further to the right. Find a survey area of interest and click on the plus sign button to the left to open the Area Text table.

| Area Sy... | Area Name             | Area Acres | Obsolete?                | Record Last Updated | NASIS User Name | Rec ID |
|------------|-----------------------|------------|--------------------------|---------------------|-----------------|--------|
| KS169      | Saline County, Kansas | 461645     | <input type="checkbox"/> | 10/05/2009 14:19:13 |                 | 22     |

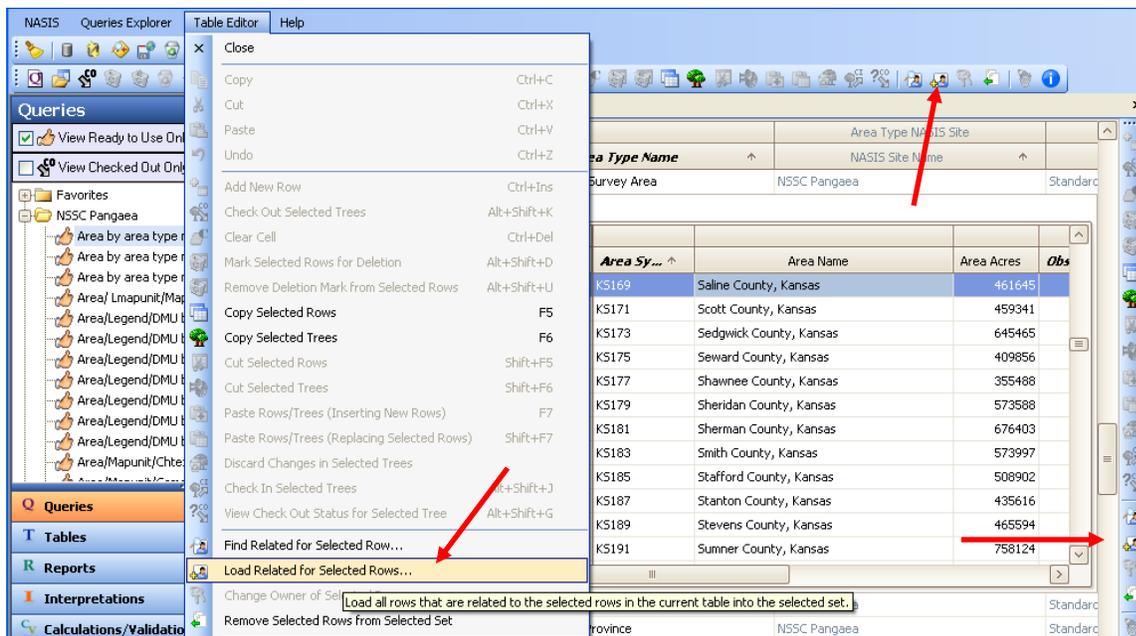
| Seq | Date       | Author      | Kind       | Category | Subcategory | Text Entry    | Record Last Updated | NASIS User Nam |
|-----|------------|-------------|------------|----------|-------------|---------------|---------------------|----------------|
|     | 09/08/1999 | Russ Kelsea | edit notes |          |             | Area name ... | 10/05/2009 14:19:17 |                |

## Examining the Legend Tables

The Legend Object and its tables are next in this review. Presently, no legends are in the selected set, only the area types and areas that were loaded.

Because the Area Type Object and the Legend Object are independent, navigating to the legend for a particular survey area requires a leap across object boundaries, as discussed in Chapter 3. To load the legend, either run a query with a different target table (Legend table) or use the “Load Related” command.

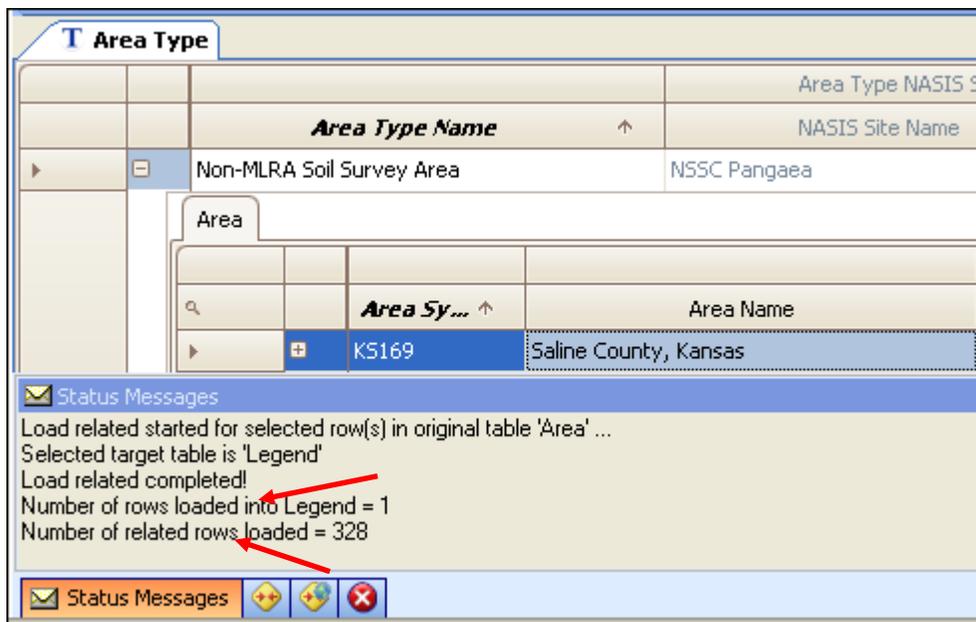
1. Identify and highlight the non-MLRA soil survey area of interest in the Area table.
2. Choose “Load Related for Selected Rows” from the Table Editor Menu or use the Editor Toolbar or the Table Toolbar.



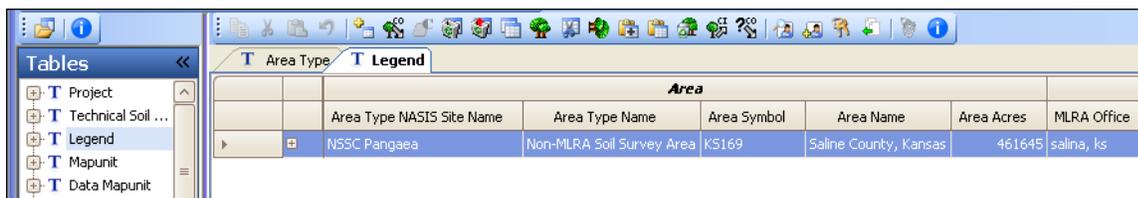
3. A parameter box appears. Choose "Legend" as the target table and click "OK."



4. The Status Messages Panel displays the number of records loaded.



5. Open the Explorer Panel and double click on the Legend table, opening the table into the panel. Examine each column in the Legend table (resized and shown below), scrolling to the right to view all columns.



6. The Legend table begins with an Area lineage band used to identify the Area columns for the specific legend. The remaining columns are used to store the MLRA office location, legend description, survey status, correlation date (which is no longer editable), MOU information, project scale, and geographic applicability. Other soil survey schedule data has been moved to the Project Object.

- The Legend Mapunit table is a child table of the Legend Object. Open the child tables by clicking on the plus sign on the left-hand side of the table. The child tables open to the Legend Mapunit table.

| Mapunit Symbol | Total Acres | National Mapunit Symbol | Mapunit Name  | Mapunit Status | Record Last Updated |
|----------------|-------------|-------------------------|---|----------------|---------------------|
| 113LO          | 12          | 1zlt                    | LONGFORD SILTY CLAY LOAM, 2 TO 6 PERCENT SLOPES, ERODED | additional     |                     |
| 1135M          | 194         | 1z1q                    | SMOLAN SILTY CLAY LOAM, 1 TO 3 PERCENT SLOPES           | additional     |                     |
| 115LM          | 12          | 1zin                    | LADYSMITH SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES        | additional     |                     |
| 143MD          | 11          | 1ziv                    | MCCOOK SOILS, OCCASIONALLY FLOODED                      | additional     |                     |
| 2177           | 3604        | tmhx                    | McCook silt loam, occasionally flooded                  | correlated     |                     |
| 2179           | 12          | tmhz                    | McCook soils, occasionally flooded                      | correlated     |                     |
| 2266           | 3786        | tmia                    | Tobin silt loam, occasionally flooded                   | correlated     |                     |
| 2310           | 241         | tmh7                    | Bridgeport silt loam, rarely flooded                    | correlated     |                     |
| 2347           | 13810       | tmhy                    | McCook silt loam, rarely flooded                        | correlated     |                     |
| 2366           | 6684        | tml2                    | New Cambria silty clay, rarely flooded                  | correlated     |                     |
| 2375           | 12491       | tml5                    | Roxbury silt loam, rarely flooded                       | correlated     |                     |
| 3250           | 4045        | tmh6                    | Bavaria-Detroit complex, rarely flooded                 | correlated     |                     |

The Legend Mapunit table links the map units to the legend. The two fields entered in this table are Mapunit Symbol and Total Acres. The map unit symbol is the field symbol assigned by the soil survey leader and/or the publication symbol assigned by the state soil scientist. The correlation process of changing the field symbol to the publication symbol is discussed in Chapter 13. The remaining columns in this table are actually in the Mapunit table and are provided in the Legend Mapunit table for viewing.

- The Legend Area Overlap child table is used to identify the spatial areas that overlap the survey area. Notice the use of area types and area names, which are explained earlier in this chapter.

| Overlap Area Type | NASIS Site Name (Overlap Area) | Overlap Area Type Name | Overlap Area Symbol | Overlap Area Name              | Overlap Acres | Record Last Updated |
|-------------------|--------------------------------|------------------------|---------------------|--------------------------------|---------------|---------------------|
| NSSC Pangaea      |                                | County or Parish       | KS169               | Saline                         | 461645        |                     |
| NSSC Pangaea      |                                | MLRA                   | 74                  | Central Kansas Sandstone Hills | 461645        |                     |
| NSSC Pangaea      |                                | State or Territory     | K5                  | Kansas                         |               |                     |
| NSSC Pangaea      |                                | Climate Factor Area    | 30                  | Climate Factor                 |               |                     |
| NSSC Pangaea      |                                | Rainfall Factor Area   | 175                 | Rainfall Factor                |               |                     |

- Clicking on the plus sign opens the Legend Mapunit Area Overlap table that is used to populate those map units found within those specific spatial areas. In this example, the Legend Mapunit Area Overlap table is opened for the Central Kansas Sandstone Hills MLRA, which is a spatial overlap area within the Saline County, Kansas Legend. Those map units that are mapped within MLRA 74 inside Saline County, Kansas appear in the Legend Mapunit Area Overlap table.

The screenshot shows the 'Legend' child table for 'Area Type'. The main table lists 'Area' records with columns: Area Type NASIS Site Name, Area Type Name, Area Symbol, Area Name, Area Acres, MLRA Office, Legend Description, Survey Status, and MOU Signed. A record for 'NSSC Pangaea' is selected. Below it, the 'Legend Mapunit Area Overlap' table is visible, listing 'Mapunit' records with columns: National Mapunit Symbol, Mapunit Name, Mapunit Status, Mapunit Symbol, Overlap Acres, and Record Last Updated. Records include 'tmh6' through 'tmha' with various soil descriptions and correlation statuses.

10. The Legend Certification History child table is populated by those individuals from the soil survey office and the MLRA regional office who have certified the quality control review and the quality assurance review for the work completed in this survey area.

The screenshot shows the 'Legend Export Certification History' child table. The main table lists 'Legend' records with columns: MOU Signed, MOU Agency Responsible, MOU Projected Completion, Project Scale, Correlation Date, Geographic Applicability, Legend NASIS Site, NASIS Group, and Object ID. A record for '01/15/1964' is selected. Below it, the 'Legend Export Certification History' table is visible, listing 'Reviewer' records with columns: NASIS User Name, Certification Date, Certification Kind, Legend Certification Status, Certification Text, Record Last Updated, NASIS User Name, and Rec ID. Records include 'Wehmuller, Bill' and 'Anderson, Joe' with certification dates and statuses.

11. The Legend Export Certification History table is populated each time the legend is exported to the Staging Server. This table is used to document the person exporting the data, the certification status of the data, and pertinent text information about the export.

The screenshot shows the 'Legend Text' child table. The main table lists 'Legend' records with columns: MOU Signed, MOU Agency Responsible, MOU Projected Completion, Project Scale, Correlation Date, Geographic Applicability, Legend NASIS Site, NASIS Group, and Object ID. A record for '01/15/1964' is selected. Below it, the 'Legend Text' table is visible, listing 'Reviewer' records with columns: Seq, NASIS User Name, Export Certification Date, Export Certification Status, Export Metadata, Record Last Updated, NASIS User Name, and Rec ID. A record for 'Warner, John' is shown with an export date of 02/12/2002 and status 'fully certified'.

12. The Legend Text child table is used to store any text notes pertinent to the legend.



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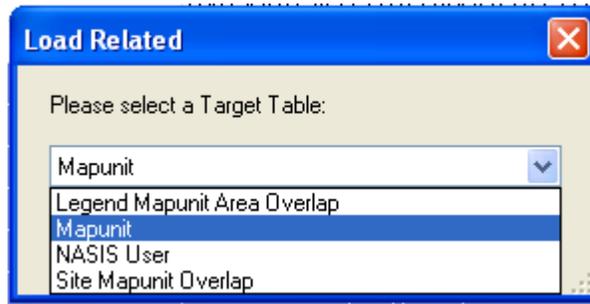
Scrolling to the right in this table shows the legend map unit columns identifying the map unit symbol and total acres. These columns are followed by a Mapunit band that shows the columns found in the Mapunit table.

| Area Type                       |             | Legend                  |   | Legend Mapunit |                    |  |
|---------------------------------|-------------|-------------------------|---|----------------|--------------------|--|
|                                 |             | Mapunit                 |   |                |                    |  |
| Mapunit Symbol                  | Total Acres | National Mapunit Symbol | Mapunit Name  | Mapunit Status | Record Last Update |  |
| 041LA                           | 4           | 1zim                    | LANCASTER-HEDVILLE LOAMS, 3 TO 15 PERCENT SLOPES        | additional     |                    |  |
| 041MA                           | 3607        | 1ziy                    | MCCOOK SILT LOAM, OCCASIONALLY FLOODED                  | additional     |                    |  |
| Row checked out by another user |             |                         |   |                |                    |  |
|                                 | 60          | 1zix                    | MUIR SILT LOAM, RARELY FLOODED                          | additional     |                    |  |
| 113BR                           | 241         | 1zip                    | BRIDGEPORT SILT LOAM, RARELY FLOODED                    | additional     |                    |  |
| 113CM                           | 48          | 1ziu                    | CLIME SILTY CLAY, 3 TO 6 PERCENT SLOPES                 | additional     |                    |  |
| 113CS                           | 266         | 1zir                    | CRETE SILT LOAM, 1 TO 3 PERCENT SLOPES                  | additional     |                    |  |
| 113LN                           | 126         | 1zis                    | LONGFORD SILTY CLAY LOAM, 3 TO 6 PERCENT SLOPES         | additional     |                    |  |
| 113LO                           | 12          | 1zit                    | LONGFORD SILTY CLAY LOAM, 2 TO 6 PERCENT SLOPES, ERODED | additional     |                    |  |
| 113SM                           | 194         | 1ziq                    | SMOLAN SILTY CLAY LOAM, 1 TO 3 PERCENT SLOPES           | additional     |                    |  |
| 115LM                           | 12          | 1zin                    | LADYSMITH SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES        | additional     |                    |  |
| 143MD                           | 11          | 1ziv                    | MCCOOK SOILS, OCCASIONALLY FLOODED                      | additional     |                    |  |
| 2177                            | 3604        | tmhx                    | McCook silt loam, occasionally flooded                  | correlated     |                    |  |
| 2179                            | 12          | tmhz                    | McCook soils, occasionally flooded                      | correlated     |                    |  |
| 2266                            | 37886       | tmia                    | Tobin silt loam, occasionally flooded                   | correlated     |                    |  |
| 2310                            | 241         | tmh7                    | Bridgeport silt loam, rarely flooded                    | correlated     |                    |  |
| 2347                            | 13810       | tmhy                    | McCook silt loam, rarely flooded                        | correlated     |                    |  |
| 2366                            | 6684        | tmi2                    | New Cambria silty clay, rarely flooded                  | correlated     |                    |  |
| 2375                            | 12491       | tmi5                    | Roxbury silt loam, rarely flooded                       | correlated     |                    |  |
| 3250                            | 4045        | tmh6                    | Bavaria-Detroit complex, rarely flooded                 | correlated     |                    |  |
| 3350                            | 11315       | tmhj                    | Edalgo clay loam, 3 to 7 percent slopes                 | correlated     |                    |  |

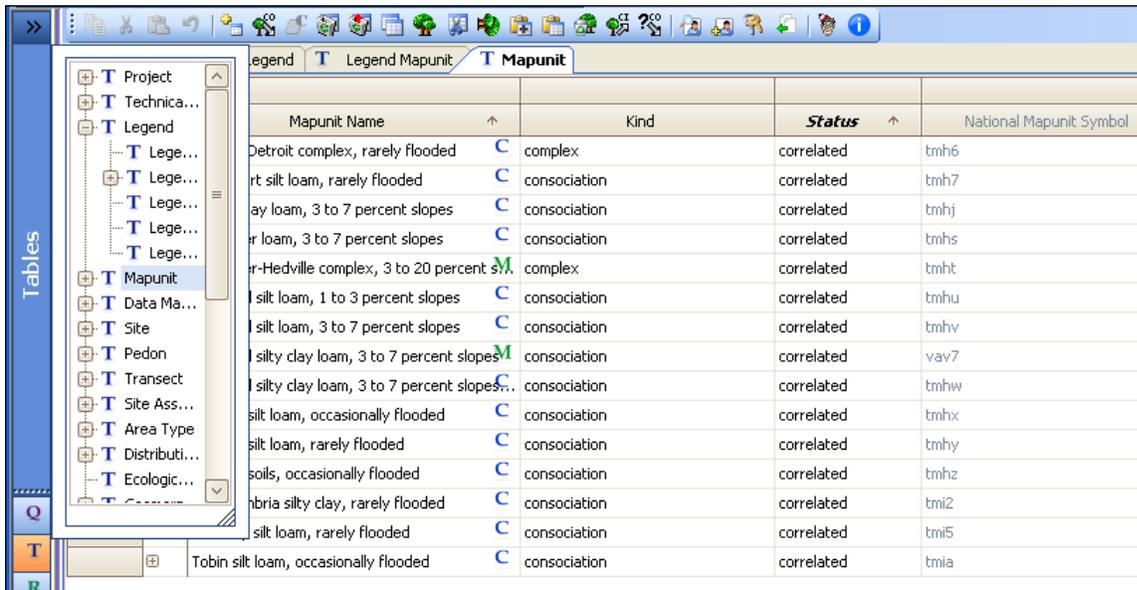
1. After viewing the Legend Mapunit table, highlight all the records that appear in the table (use "Ctrl + A" to select all rows).
2. Choose "Load Related for Selected Rows" from the Table Editor Menu or use the Editor Toolbar or the Table Toolbar.

| Area Type      |             | Legend                  |   | Legend Mapunit |                    |  |
|----------------|-------------|-------------------------|---|----------------|--------------------|--|
|                |             | Mapunit                 |   |                |                    |  |
| Mapunit Symbol | Total Acres | National Mapunit Symbol | Mapunit Name  | Mapunit Status | Record Last Update |  |
| 113LN          | 126         | 1zis                    | LONGFORD SILTY CLAY LOAM, 3 TO 6 PERCENT SLOPES         | additional     |                    |  |
| 113LO          | 12          | 1zit                    | LONGFORD SILTY CLAY LOAM, 2 TO 6 PERCENT SLOPES, ERODED | additional     |                    |  |
| 113SM          | 194         | 1ziq                    | SMOLAN SILTY CLAY LOAM, 1 TO 3 PERCENT SLOPES           | additional     |                    |  |
| 115LM          | 12          | 1zin                    | LADYSMITH SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES        | additional     |                    |  |
| 143MD          | 11          | 1ziv                    | MCCOOK SOILS, OCCASIONALLY FLOODED                      | additional     |                    |  |
| 2177           | 3604        | tmhx                    | McCook silt loam, occasionally flooded                  | correlated     |                    |  |
| 2179           | 12          | tmhz                    | McCook soils, occasionally flooded                      | correlated     |                    |  |
| 2266           | 37886       | tmia                    | Tobin silt loam, occasionally flooded                   | correlated     |                    |  |
| 2310           | 241         | tmh7                    | Bridgeport silt loam, rarely flooded                    | correlated     |                    |  |
| 2347           | 13810       | tmhy                    | McCook silt loam, rarely flooded                        | correlated     |                    |  |
| 2366           | 6684        | tmi2                    | New Cambria silty clay, rarely flooded                  | correlated     |                    |  |
| 2375           | 12491       | tmi5                    | Roxbury silt loam, rarely flooded                       | correlated     |                    |  |
| 3250           | 4045        | tmh6                    | Bavaria-Detroit complex, rarely flooded                 | correlated     |                    |  |
| 3350           | 11315       | tmhj                    | Edalgo clay loam, 3 to 7 percent slopes                 | correlated     |                    |  |
| 3391           | 8263        | tmhs                    | Lancaster loam, 3 to 7 percent slopes                   | correlated     |                    |  |
| 3396           | 92370       | tmht                    | Lancaster-Hedville complex, 3 to 20 percent slopes      | correlated     |                    |  |
| 3401           | 10584       | tmhu                    | Longford silt loam, 1 to 3 percent slopes               | correlated     |                    |  |
| 3402           | 26979       | tmhv                    | Longford silt loam, 3 to 7 percent slopes               | correlated     |                    |  |
| 3403           | 125         | vav7                    | Longford silty clay loam, 3 to 7 percent slopes         | correlated     |                    |  |
| 3404           | 12          | tmhw                    | Longford silty clay loam, 3 to 7 percent slopes, eroded | correlated     |                    |  |

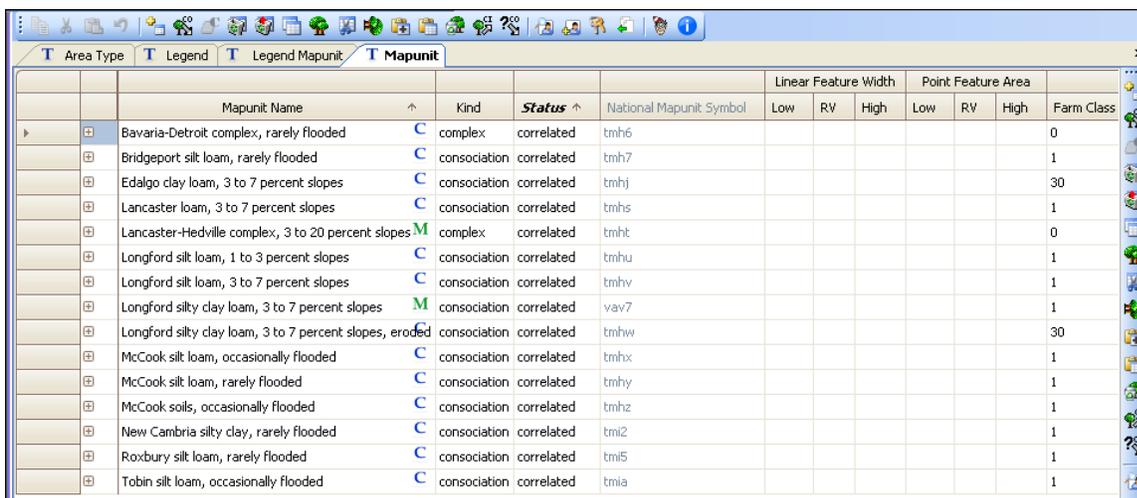
- The parameter box appears. Choose “Mapunit” from the list.



- On the Explorer Panel, open the Mapunit table.



- Adjust the table columns by choosing the “Best Fit (all columns)” from the right-click menu.



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6. The Mapunit table is where the map units are created and managed. Note the graphics “C” and “M” in the Mapunit Name column in the previous image. These graphics indicate the source of the specific column. Previous NASIS versions included a Source column to identify entries as “calculated,” “prior” converted, or “manual.” The graphic replaces the Source column and appears in other tables.
7. The map unit status is assigned to the specific map unit. That status then appears in all legends in which the map unit is linked. Specific correlation procedures, discussed in later chapters, must be followed when modifying the status of a map unit.
8. The “National Mapunit Symbol” is a new addition in NASIS version 6.0. The “Rec ID” (record ID) is an internal computer-generated number for that specific row of data in the Mapunit table. This number is found by scrolling to the far right of the table. The Rec ID number is converted to Base31 and used as the nationally unique national map unit symbol for that specific map unit record, wherever it may be linked. This field cannot be edited.
9. The Linear Feature Width and Point Feature Area columns identify non-polygonal map units that can be used in surveys. They can be hidden if these features are not used in the survey area. NOTE: If any legend is referencing a particular map unit record, and the associated spatial data includes line and/or point features of that map unit, the respective Linear Feature Width and Point Feature Area columns MUST be populated.

| Mapunit Name  | Kind         | Status     | National Mapunit Symbol | Farm Class | USFS Map Unit Concept | Mapunit NASIS Site Name |
|---|--------------|------------|-------------------------|------------|-----------------------|-------------------------|
| Bavaria-Detroit complex, rarely flooded                 | complex      | correlated | tmh6                    | 0          |                       | MLRA05_Office           |
| Bridgeport silt loam, rarely flooded                    | consociation | correlated | tmh7                    | 1          |                       | MLRA05_Office           |
| Edalgo clay loam, 3 to 7 percent slopes                 | consociation | correlated | tmhj                    | 30         |                       | MLRA05_Office           |
| Lancaster loam, 3 to 7 percent slopes                   | consociation | correlated | tmhs                    | 1          |                       | MLRA05_Office           |
| Lancaster-Hedville complex, 3 to 20 percent slopes      | complex      | correl     |                         |            |                       | MLRA05_Office           |
| Longford silt loam, 1 to 3 percent slopes               | consociation | correl     |                         |            |                       | MLRA05_Office           |
| Longford silt loam, 3 to 7 percent slopes               | consociation | correl     |                         |            |                       | MLRA05_Office           |
| Longford silty clay loam, 3 to 7 percent slopes         | consociation | correl     |                         |            |                       | MLRA05_Office           |
| Longford silty clay loam, 3 to 7 percent slopes, eroded | consociation | correl     |                         |            |                       | MLRA05_Office           |
| McCook silt loam, occasionally flooded                  | consociation | correl     |                         |            |                       | MLRA05_Office           |
| McCook silt loam, rarely flooded                        | consociation | correl     |                         |            |                       | MLRA05_Office           |
| McCook soils, occasionally flooded                      | consociation | correl     |                         |            |                       | MLRA05_Office           |
| New Cambria silty clay, rarely flooded                  | consociation | correl     |                         |            |                       | MLRA05_Office           |
| Roxbury silt loam, rarely flooded                       | consociation | correl     |                         |            |                       | MLRA05_Office           |
| Tobin silt loam, occasionally flooded                   | consociation | correl     |                         |            |                       | MLRA05_Office           |

10. The Farm Class column identifies the farmland classification of the specific map unit. That classification stays with that specific mapunit regardless of the legend to which it is linked.
11. The first of several USFS columns appear in various database tables. These tables are included for the purpose of future integration of the soil data from the USFS TERRA database with NASIS.

12. Scrolling to the right presents the remaining columns in the Mapunit table. The remaining columns identify the ownership of the Mapunit Object (including “NASIS Site Name,” “NASIS Group Name,” and “Object Last Updated”). Additional columns are used to identify the person who last updated the object and the person who last updated the specific row of data in the Mapunit table. The last column gives the Rec ID, which is discussed earlier in this section.

|        |            | Mapunit NASIS Site | NASIS Group        | Object Last Upda... | Record Last Upda... | Rec ID              |                 |         |
|--------|------------|--------------------|--------------------|---------------------|---------------------|---------------------|-----------------|---------|
| Symbol | Farm Class | NASIS Site Name    | NASIS Group Name   | Object Last Updated | NASIS User Name     | Record Last Updated | NASIS User Name | Rec ID  |
| ▶      | 0          | MLRA05_Office      | 5-8 Salina, Kansas | 11/13/2008 12:37:12 | Wehmueller, Bill    |                     |                 | 1382154 |
| ⊕      | 1          | MLRA05_Office      | 5-8 Salina, Kansas | 11/13/2008 12:37:12 | Wehmueller, Bill    |                     |                 | 1382155 |
| ⊕      | 30         | MLRA05_Office      | 5-8 Salina, Kansas | 11/13/2008 12:37:12 | Wehmueller, Bill    |                     |                 | 1382167 |
| ⊕      | 1          | MLRA05_Office      | 5-8 Salina, Kansas | 11/13/2008 12:37:12 | Wehmueller, Bill    |                     |                 | 1382176 |
| ⊕      | 0          | MLRA05_Office      | 5-8 Salina, Kansas | 11/13/2008 12:37:12 | Wehmueller, Bill    |                     |                 | 1382177 |
| ⊕      | 1          | MLRA05_Office      | 5-8 Salina, Kansas | 11/13/2008 12:37:12 | Wehmueller, Bill    |                     |                 | 1382178 |
| ⊕      | 1          | MLRA05_Office      | 5-8 Salina, Kansas | 11/13/2008 12:37:12 | Wehmueller, Bill    |                     |                 | 1382179 |
| ⊕      | 1          | MLRA05_Office      | 5-8 Salina, Kansas | 11/13/2008 12:37:12 | Wehmueller, Bill    |                     |                 | 1460419 |
| ⊕      | 30         | MLRA05_Office      | 5-8 Salina, Kansas | 11/13/2008 12:37:12 | Wehmueller, Bill    |                     |                 | 1382180 |
| ⊕      | 1          | MLRA05_Office      | 5-8 Salina, Kansas | 11/13/2008 12:37:12 | Wehmueller, Bill    |                     |                 | 1382181 |
| ⊕      | 1          | MLRA05_Office      | 5-8 Salina, Kansas | 11/13/2008 12:37:12 | Wehmueller, Bill    |                     |                 | 1382182 |
| ⊕      | 1          | MLRA05_Office      | 5-8 Salina, Kansas | 11/13/2008 12:37:12 | Wehmueller, Bill    |                     |                 | 1382183 |
| ⊕      | 1          | MLRA05_Office      | 5-8 Salina, Kansas | 11/13/2008 12:37:12 | Wehmueller, Bill    |                     |                 | 1382186 |
| ⊕      | 1          | MLRA05_Office      | 5-8 Salina, Kansas | 11/13/2008 12:37:12 | Wehmueller, Bill    |                     |                 | 1382189 |
| ⊕      | 1          | MLRA05_Office      | 5-8 Salina, Kansas | 11/13/2008 12:37:12 | Wehmueller, Bill    |                     |                 | 1382194 |

13. Click on the plus sign (+) on the left side of the table to open the child tables. The Correlation, Mapunit History, Mapunit Text, and two Mapunit USFS tables are child tables.

|  |                     | Mapunit NASIS Site | NASIS Group                         | Object Last Upda... | Record Last Upda... | Rec ID              |                 |         |  |  |              |                     |        |                 |                     |         |                   |                     |                 |        |   |       |       |                                     |      |  |         |
|--|---------------------|--------------------|-------------------------------------|---------------------|---------------------|---------------------|-----------------|---------|--|--|--------------|---------------------|--------|-----------------|---------------------|---------|-------------------|---------------------|-----------------|--------|---|-------|-------|-------------------------------------|------|--|---------|
| Symbol   | Farm Class          | NASIS Site Name    | NASIS Group Name                    | Object Last Updated | NASIS User Name     | Record Last Updated | NASIS User Name | Rec ID  |  |  |              |                     |        |                 |                     |         |                   |                     |                 |        |   |       |       |                                     |      |  |         |
| ▶  | 0                   | MLRA05_Office      | 5-8 Salina, Kansas                  | 11/13/2008 12:37:12 | Wehmueller, Bill    |                     |                 | 1382154 |  |  |              |                     |        |                 |                     |         |                   |                     |                 |        |   |       |       |                                     |      |  |         |
| <table border="1"> <thead> <tr> <th colspan="2"></th> <th>Data Mapunit</th> <th>Record Last Upda...</th> <th>Rec ID</th> </tr> <tr> <th>DMU Description</th> <th>Data Mapunit Rec ID</th> <th>Rep DMU</th> <th>Constituent Acres</th> <th>Record Last Updated</th> <th>NASIS User Name</th> <th>Rec ID</th> </tr> </thead> <tbody> <tr><td>▶</td><td>169BA</td><td>66128</td><td><input checked="" type="checkbox"/></td><td>3750</td><td></td><td>1547462</td></tr> </tbody> </table> |                     |                    |                                     |                     |                     |                     |                 |         |  |  | Data Mapunit | Record Last Upda... | Rec ID | DMU Description | Data Mapunit Rec ID | Rep DMU | Constituent Acres | Record Last Updated | NASIS User Name | Rec ID | ▶ | 169BA | 66128 | <input checked="" type="checkbox"/> | 3750 |  | 1547462 |
|  |                     | Data Mapunit       | Record Last Upda...                 | Rec ID              |                     |                     |                 |         |  |  |              |                     |        |                 |                     |         |                   |                     |                 |        |   |       |       |                                     |      |  |         |
| DMU Description  | Data Mapunit Rec ID | Rep DMU            | Constituent Acres                   | Record Last Updated | NASIS User Name     | Rec ID              |                 |         |  |  |              |                     |        |                 |                     |         |                   |                     |                 |        |   |       |       |                                     |      |  |         |
| ▶  | 169BA               | 66128              | <input checked="" type="checkbox"/> | 3750                |                     | 1547462             |                 |         |  |  |              |                     |        |                 |                     |         |                   |                     |                 |        |   |       |       |                                     |      |  |         |

14. The Correlation table is used to link the map unit to its data mapunit (including “DMU Description” and “Data Mapunit Rec ID”). This table is also used to identify correlation records in combining or splitting map units. The Rep DMU column is used to identify that one specific data mapunit record that provides the soil properties and interpretations for the specific map unit. Additional information on correlation of map units is provided in later chapters.

| Date | Author     | Correlation Kind | Correlation Event | Historical Name         | Status                                  | Text Entry    | Record Last Upd |
|------|------------|------------------|-------------------|-------------------------|---|---------------|-----------------|
| ▶    | 10/18/2004 | JCR              | name change       | correlation amendment   |   | The Kansas... |                 |
|      | 10/18/2004 | JCR              | name change       | correlation amendment   |   | The Kansas... |                 |
|      | 02/01/2004 | Paul R. Finnell  | symbol change     | correlation amendment   | Bavaria-Detroit complex, rarely flooded | correlated    | In conjunct...  |
|      | 10/02/1997 |                  |                   | BAVARIA-DETROIT COMPLEX |   | This map u... |                 |

15. The Mapunit History table is populated for any correlation event.

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| Correlation | Mapunit History  | Mapunit Text             | Mapunit USFS Ecological Classification | Mapunit USFS Interpretation |                |                     |                 | Record Last Upda... |  |
|-------------|------------------|--------------------------|--|-----------------------------|----------------|---------------------|-----------------|---------------------|--|
| Date        | Author           | Kind                     | Category                               | Subcategory                 | Text Entry     | Record Last Updated | NASIS User Name | Rec                 |  |
| 05/08/2006  | state range con. | nontechnical description | RANGE                                  | loamy terrace (74)          | Deep terra...  |                     |                 | 27                  |  |
| 05/08/2006  | state range con. | nontechnical description | RANGE                                  | saline lowland (74)         | Deep saline... |                     |                 | 27                  |  |
|             |                  | miscellaneous notes      | SOIL                                   | 1531                        | Deep, near...  |                     |                 | 21                  |  |

16. The Mapunit Text table is used to capture any notes pertinent to the map unit.

17. The Mapunit USFS tables will be a future concern for soil scientists.

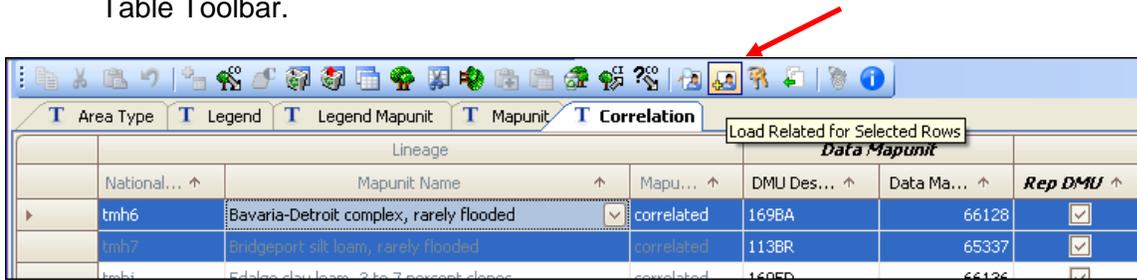
In preparation for the review of the Data Mapunit Object, open the Mapunit tree on the Explorer Panel by clicking on the plus sign (+) next to “Mapunit” and open the Correlation table.

The screenshot shows the 'Tables' panel on the left side of the interface. The 'Mapunit' folder is expanded, and the 'Correlation' table is selected. A context menu is open over 'Correlation', showing options: 'Open' (Ctrl+Shift+O) and 'View' (F5). The main window displays a preview of the 'Correlation' table with columns: Kind, Category, Subcategory, and Record Last Updated. The table contains several rows of data, including entries for 'nontechnical description' with categories 'RANGE' and 'SOIL'.

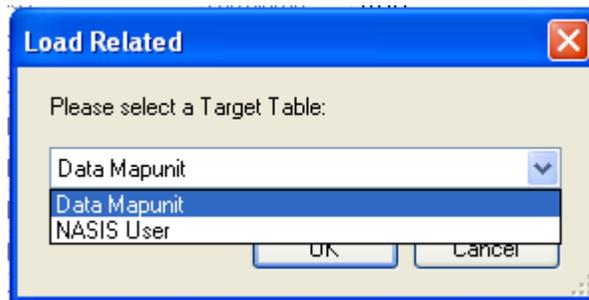
18. Lineage columns are also available in the Correlation table when opened independent of the Mapunit table.

| Area Type   | Legend   | Legend Mapunit | Mapunit    | Correlation | Data Mapunit                        |               |  |  |
|-------------|--|----------------|------------|-------------|-------------------------------------|---------------|--|--|
| National... | Mapunit Name                                       | Mapu...        | DMU Des... | Data Ma...  | Rep DMU                             | Constituen... |  |  |
| tmh6        | Bavaria-Detroit complex, rarely flooded            | correlated     | 169BA      | 66128       | <input checked="" type="checkbox"/> | 3750          |  |  |
| tmh7        | Bridgeport silt loam, rarely flooded               | correlated     | 113BR      | 65337       | <input checked="" type="checkbox"/> | 9230          |  |  |
| tmhj        | Edalgo clay loam, 3 to 7 percent slopes            | correlated     | 169ED      | 66136       | <input checked="" type="checkbox"/> | 11700         |  |  |
| tmhs        | Lancaster loam, 3 to 7 percent slopes              | correlated     | 169LF      | 66143       | <input checked="" type="checkbox"/> | 8400          |  |  |
| tmht        | Lancaster-Hedville complex, 3 to 20 percent slopes | correlated     | 169LH      | 66144       | <input type="checkbox"/>            | 93400         |  |  |
| tmht        | Lancaster-Hedville complex, 3 to 20 percent slopes | correlated     | 041LA      | 64179       | <input checked="" type="checkbox"/> | 6030          |  |  |
| tmhu        | Longford silt loam, 1 to 3 percent slopes          | correlated     | 169LM      | 66145       | <input checked="" type="checkbox"/> | 10750         |  |  |
| tmhv        | Longford silt loam, 3 to 7 percent slopes          | correlated     | 113LN      | 65358       | <input type="checkbox"/>            | 23160         |  |  |
| tmhv        | Longford silt loam, 3 to 7 percent slopes          | correlated     | 201LO      | 66558       | <input type="checkbox"/>            | 27000         |  |  |
| tmhv        | Longford silt loam, 3 to 7 percent slopes          | correlated     | 169LO      | 66146       | <input checked="" type="checkbox"/> | 27000         |  |  |

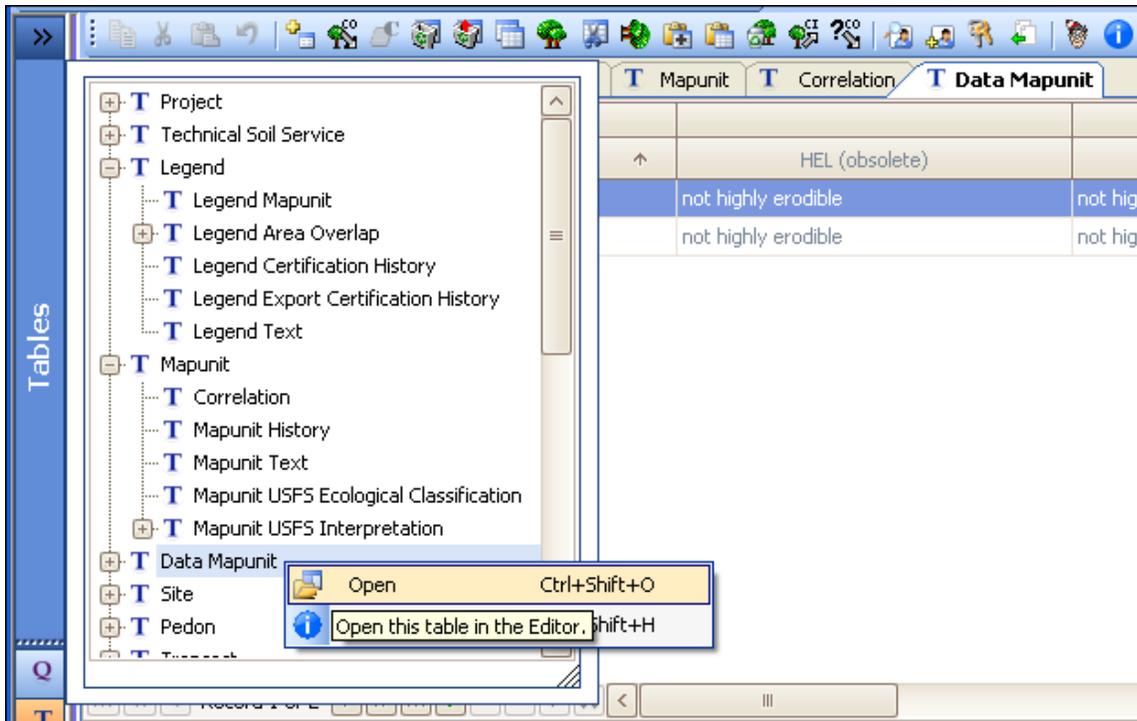
- Highlight any of the data mapunit records within the Correlation table and choose “Load Related for Selected Rows” from the Table Editor Menu or use the Editor Toolbar or the Table Toolbar.



- Choose “Data Mapunit” from the Load Related parameter box, then click “OK.”



- On the Explorer Panel, open the Data Mapunit table.



## Examining the Data Mapunit Object

The Data Mapunit Object contains the components and the properties, qualities, and interpretations expressing the map unit concept for the given map unit to which they are linked. The majority of a user's time in the database is spent populating and editing the Data Mapunit Object.

| DMU Description | HEL (obsolete)      | HEL Water (obsolete) | HEL Wind (obsolete) | Interpretive Focus | Order of Mapping | Prod Index | CT Septic Potential |
|-----------------|---------------------|----------------------|---------------------|--------------------|------------------|------------|---------------------|
| 113BR           | not highly erodible | not highly erodible  | not highly erodible |                    |                  |            |                     |
| 169BA           | not highly erodible | not highly erodible  | not highly erodible |                    |                  |            |                     |

NOTE: The HEL columns are now legacy and cannot be edited.

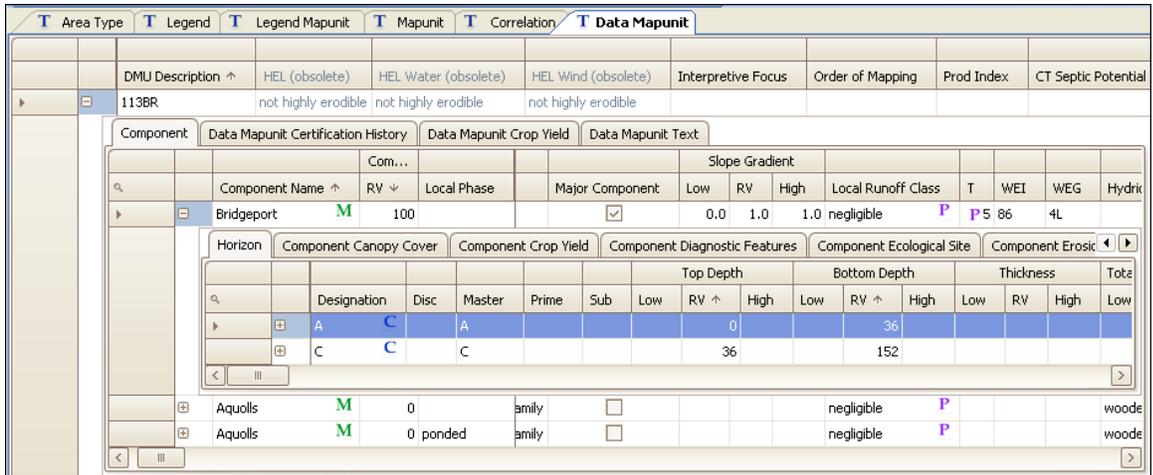
The Data Mapunit table contains columns for the description name, interpretive focus, order of mapping, and productivity index. The remaining columns are pertinent to State-specific interpretations. To examine the Component table, click the plus sign (+) on the left side of the record.

| Component Name | Local Phase | Taxon Kind         | Major Component                     | SIR phase - obsolete | Slope Gradient |     |      |
|----------------|-------------|--------------------|-------------------------------------|----------------------|----------------|-----|------|
| Low            | RV          | High               |                                     |                      | Low            | RV  | High |
| Bridgeport     | M           | series             | <input checked="" type="checkbox"/> | ELEV<4000, PE>36     | 0.0            | 1.0 |      |
| Aquolls        | M           | taxon above family | <input type="checkbox"/>            |                      |                |     |      |
| Aquolls        | M           | ponded             | <input type="checkbox"/>            |                      |                |     |      |

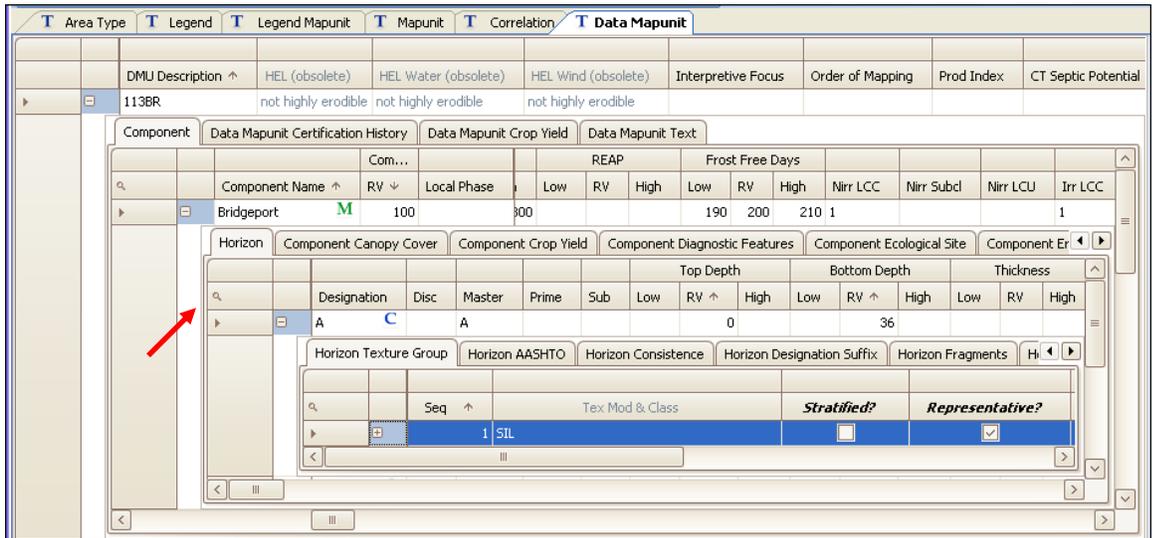
1. Examine the Component table (resized and displayed here). Scroll to the right and become familiar with the columns in this table. For information specific to the column, right click on the column header and choose "View Information" from the menu.
2. Columns can be resized, hidden, sorted, and moved based on the user's preference. Notice the changes in column location in the image below.

| Component Name | RV | Local Phase | Major Component                     | Slope Gradient | Local Runoff Class | T    | WEI        | WEG | Hydric  |
|----------------|----|-------------|-------------------------------------|----------------|--------------------|------|------------|-----|---------|
| Low            | RV | High        |                                     | Low            | RV                 | High |            |     |         |
| Bridgeport     | M  | 100         | <input checked="" type="checkbox"/> | 0.0            | 1.0                | 1.0  | negligible | P   | 5 86 4L |
| Aquolls        | M  | 0           | <input type="checkbox"/>            |                |                    |      | negligible | P   | woode   |
| Aquolls        | M  | 0           | ponded                              |                |                    |      | negligible | P   | woode   |

3. Examine the Component child tables by clicking on the plus sign. The Horizon table appears (resized and shown here).



4. Explore the various Component child tables by selecting each tab. Scroll through the tables to become familiar with the columns in each child table.
5. Remember that the columns in the Horizon table can be resized, hidden, sorted, or moved based on the user's preference.
6. Open the Horizon child tables by clicking on the plus sign (+) on the left side of the row. Explore the various Horizon child tables by selecting each tab.



7. In the previous image, notice the depth of the child table and the restriction of screen territory. Maintaining the parent-child relationship has advantages; however, the disadvantage is the amount of screen required to identify the table and column names. This problem can be overcome by clicking on the magnifying glass (red arrow in image above), which promotes the selected table.

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| T Area Type T Legend T Legend Mapunit T Mapunit T Correlation T Data Mapunit |  |                        |      |        |                      |     |     |                               |      |     |                           |      |     |                             |      |            |   |
|--|--|------------------------|------|--------|----------------------|-----|-----|-------------------------------|------|-----|---------------------------|------|-----|-----------------------------|------|------------|---|
| Horizon  |  | Component Canopy Cover |      |        | Component Crop Yield |     |     | Component Diagnostic Features |      |     | Component Ecological Site |      |     | Component Erosion Accelerat |      |            |   |
|  |  |                        |      |        |                      |     |     | Top Depth                     |      |     | Bottom Depth              |      |     | Thickness                   |      | Total Frag |   |
| x  |  | Designation            | Disc | Master | Prime                | Sub | Low | RV ↑                          | High | Low | RV ↑                      | High | Low | RV                          | High | Low        | R |
| ▶  |  | A                      | C    | A      |                      |     |     | 0                             |      |     | 36                        |      |     |                             |      |            |   |
| ▶  |  | C                      | C    | C      |                      |     |     | 36                            |      |     | 152                       |      |     |                             |      |            |   |

- To cancel the magnification, click on the “x” that appears in the same location as the magnifying glass.
- As with all NASIS 6 tables, each child table can be opened independently of the parent table. Choose the Explorer Panel and open the Component table to see all the components within the selected set.

| T Mapunit T Correlation T Data Mapunit T Component  |              |        |     |      |                  |            |  |   |  |  |  |  |  |  |  |
|---|--------------|--------|-----|------|------------------|------------|--|---|--|--|--|--|--|--|--|
| Tables  |              |        |     |      |                  |            |  |   |  |  |  |  |  |  |  |
| T Mapunit History<br>T Mapunit Text<br>T Mapunit USFS Ecological Classification<br>T Mapunit USFS Interpretation<br>T Data Mapunit<br>T Component<br>T Horizon<br>T Component Canopy Cover<br>T Component Crop Yield<br>T Component Diagnostic Features |              |        |     |      |                  |            |  |   |  |  |  |  |  |  |  |
|   |              | Comp % |     |      | Component Name ↑ |            |  |   |  |  |  |  |  |  |  |
| ↑   | DMU Rec ID ↑ | Seq ↑  | Low | RV ↓ | High             |            |  |   |  |  |  |  |  |  |  |
|   | 65337        |        |     | 100  |                  | Bridgeport |  | M |  |  |  |  |  |  |  |
|   | 65337        |        | 0   | 0    | 1                | Aquolls    |  | M |  |  |  |  |  |  |  |
|   | 65337        |        | 0   | 0    | 1                | Aquolls    |  | M |  |  |  |  |  |  |  |
|   | 66128        |        |     | 60   |                  | Bavaria    |  | C |  |  |  |  |  |  |  |
|   | 66128        |        |     | 40   |                  | Detroit    |  | C |  |  |  |  |  |  |  |

- As with all child tables, the Lineage band, which identifies the parent relationship, is visible.

| T Area Type T Legend T Legend Mapunit T Mapunit T Correlation T Data Mapunit T Component |                   |              |       |     |        |      |            |                  |   |             |                    |            |                                     |                 |          |           |
|--|-------------------|--------------|-------|-----|--------|------|------------|------------------|---|-------------|--------------------|------------|-------------------------------------|-----------------|----------|-----------|
|  |                   | Lineage      |       |     | Comp % |      |            | Component Name ↑ |   | Local Phase |                    | Taxon Kind |                                     | Major Component |          | SIR phase |
| ▶  | DMU Description ↑ | DMU Rec ID ↑ | Seq ↑ | Low | RV ↓   | High |            |                  |   |             |                    |            |                                     |                 |          |           |
| ▶  | 113BR             | 65337        |       |     | 100    |      | Bridgeport |                  | M |             | series             |            | <input checked="" type="checkbox"/> |                 | ELEV<400 |           |
| ▶  | 113BR             | 65337        |       | 0   | 0      | 1    | Aquolls    |                  | M |             | taxon above family |            | <input type="checkbox"/>            |                 |          |           |
| ▶  | 113BR             | 65337        |       | 0   | 0      | 1    | Aquolls    |                  | M |             | ponded             |            | <input type="checkbox"/>            |                 |          |           |
| ▶  | 169BA             | 66128        |       |     | 60     |      | Bavaria    |                  | C |             | series             |            | <input checked="" type="checkbox"/> |                 |          |           |
| ▶  | 169BA             | 66128        |       |     | 40     |      | Detroit    |                  | C |             | series             |            | <input checked="" type="checkbox"/> |                 | PE>36    |           |

- As with all tables, columns can be resized, hidden, sorted, frozen, and moved based on the user's preference.
- Lastly, choose the Explorer Panel and open the Horizon table to see all the horizons for all the components within the selected set.

| T Area Type T Legend T Legend Mapunit T Mapunit T Correlation T Data Mapunit T Component T Horizon |                   |              |               |                  |               |                    |             |      |        |       |     |  |  |  |  |
|--|-------------------|--------------|---------------|------------------|---------------|--------------------|-------------|------|--------|-------|-----|--|--|--|--|
| Lineage  |                   |              |               |                  |               |                    |             |      |        |       |     |  |  |  |  |
| ▶  | DMU Description ↑ | DMU Rec ID ↑ | Comp % (RV) ↓ | Component Name ↑ | Local Phase ↑ | Component Rec ID ↑ | Designation | Disc | Master | Prime | Sub |  |  |  |  |
| ▶  | 113BR             | 65337        | 100           | Bridgeport       |               | 137235             | A           | C    | A      |       |     |  |  |  |  |
| ▶  | 113BR             | 65337        | 100           | Bridgeport       |               | 137235             | C           | C    | C      |       |     |  |  |  |  |
| ▶  | 113BR             | 65337        | 0             | Aquolls          |               | 1485953            | H1          | C    | H      |       |     |  |  |  |  |
| ▶  | 113BR             | 65337        | 0             | Aquolls          | ponded        | 1485986            | H1          |      | H      |       | 1   |  |  |  |  |
| ▶  | 169BA             | 66128        | 60            | Bavaria          |               | 138660             | Ap          | C    | A      |       |     |  |  |  |  |
| ▶  | 169BA             | 66128        | 60            | Bavaria          |               | 138660             | An          | C    | A      |       |     |  |  |  |  |

- The Lineage band is visible and the columns can be modified.

## **Summary**

This chapter provides an overview of the objects, tables, and columns associated with the map unit data (or aggregated data).

Simple navigation procedures were used. They include:

1. Querying for national area types,
2. Using the “Load Related” command to select related data,
3. Opening parent tables,
4. Opening child tables within the parent table,
5. Opening child tables independent of the parent table,
6. Understanding Lineage bands, and
7. Using “Hide Columns,” “Best Fit (all columns),” “Sort,” “Freeze,” and “Move.”