Land Condition Trend Analysis (LCTA) Program Data Dictionary: Version 1.0

by
William L. Sprouse and Alan B. Anderson

This data dictionary is a logically organized repository of information describing all relevant land condition trend analysis (LCTA) data, including data characteristics, relationships, and usage. The data dictionary contains detailed information required to interface effectively and use LCTA databases.

This document provides a complete description of each LCTA database entity and relationship, structured query language (SQL) commands to construct a new LCTA database, a database scheme diagram to help visualize the information structure, and SQL commands to migrate early versions of the database into the current structure.
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<td>7701 Telegraph Road</td>
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Foreword

This work was performed for the Office of the Directorate of Environmental Programs (DAIM), Assistant Chief of Staff (Installation Management) (ACS(IM)), under Military Interdepartmental Purchase Request E87930242, "Land Condition Trend Analysis Database Management." The technical monitor was Dr. Victor E. Diersing, DAIM-ED-N.

The work was performed by the Natural Resources Division (EN), of the Environmental Sustainment Laboratory (EL), U.S. Army Construction Engineering Research Laboratories (USACERL). The USACERL principal investigator was William L. Sprouse. Dr. William D. Severinghaus is Chief, CECER-EN. William D. Goran is Chief, CECER-EL. The USACERL technical editor was Agnes E. Dillon, Information Management Office.

LTC David J. Rehbein is Commander and Acting Director, USACERL. Dr. Michael J. O'Connor is Technical Director.
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Distribution
1 Introduction

Background

The U.S. Army Construction Engineering Research Laboratories (USACERL) developed the Land Condition Trend Analysis (LCTA) Program to provide standardized data for natural resources management and land stewardship on military installations. The LCTA program is a standardized method of natural resources data collection, analysis, and reporting designed to meet multiple goals and objectives. LCTA uses information on topographic features, soil characteristics, climatic variables, vegetation, and wildlife resources to characterize an installation's natural resources in a cost- and time-effective manner. The information will (1) assist installation managers with making decisions on best use of land, scheduling of military activities, protection of threatened and endangered species, and long-term environmental planning; (2) provide officials at all levels with standardized natural resources inventory information for installations across the continental United States and overseas.

LCTA is an Information Management System (IMS). LCTA IMS is a series of Army-developed executable programs, data storage schemes, and commercial off-the-shelf (COTS) products that span two operating systems (MS-DOS/Windows and UNIX). This is the system for Army Conservation Pillar natural resources information and processing capabilities. The object of the LCTA IMS is to provide user friendly automated programs to collect, analyze, interpret, and report natural resources data and land use impacts for decision making.

Components of the LCTA IMS include:

- automated data collection techniques
- imagery processing for remotely sensed images and spatial data
- multimedia and hypermedia applications
- global electronic networking between installations headquarters and a natural resources support center
- relational database management system
- LCTA users interface.
Automated data collection techniques provide improved data accuracy. Imagery processing is beneficial to data extrapolation. Multimedia and hypermedia applications provide textural and graphics information. Global electronic networking simplifies update distribution, lessons learned, and data standards. The LCTA users interface program documentation enables land managers to automate data analysis tasks and provide easy integration with other COTS programs currently in use at government installations.

An information system is “A system that consists of people, machines, and methods for organizations to accomplish specified operations on data that represent information. An information system may include data devices, office machines, communications equipment, peripheral equipment, and associated data media and accessories” (Newton and Wahl 1993). The LCTA IMS is designed to give installation environmental personnel the equipment, resources, and methods to meet the natural resources management and land stewardship issues on the installation. LCTA IMS utilizes commercially available software to reduce program development costs. Army developed software is used where specific needs are not met from other COTS software.

Objective

The objective of this manual is to provide the necessary information for users of the LCTA database to initiate, understand, and interpret the data contained in the database.

Mode of Technology Transfer

The LCTA database is provided to installations that have initiated or plan to initiate LCTA field sampling methodology. In addition to the database, the LCTA users interface program documentation, which facilitates use of the data, and the standard commercial database management software also are provided. The Office of the Directorate of Environmental Programs (DAIM), Assistant Chief of Staff (Installation Management) (ACS(IM)), sponsors annual LCTA training workshops conducted by USACERL staff, for military resource management personnel. The LCTA database is supported by newsletters, documentation, training programs, user support center, and hands-on experience.
2 Database Description

The main text of this document provides a general overview of the database structure for each of the major field sampling data groupings. Each portion of the database structure is described in terms of the field sampling methodology associated with the data and the relationships of the data with other data. Quality assurance quality control (QAQC) features incorporated into the database also are discussed.

A migration strategy to convert earlier versions of the database into the current structure also are described in the main text of this document. The migration strategy is a series of SQL commands that convert existing LCTA databases to the current structure. These commands implement the QAQC features discussed in this document.

Appendix A contains an entity relationship (ER) diagram showing the LCTA database schema. This diagram helps the reader visualize the database structure described elsewhere in the document.

Appendix B contains a detailed description of each database entity (table). Entity descriptions are in alphabetical order for easy access. Appendix C contains an alphabetical list of each LCTA database data element. Detailed information on each data element includes a description of the data, the data type, if data is required, if the data is derived from other data, and valid data values. These detailed entity and element descriptions and the ER diagram in Appendix A allow the reader to incorporate detailed database information into the general descriptions in the main text as needed to more fully understand certain aspects of the database.

Appendix D contains a series of SQL commands that completely describe the LCTA database. These statements allow a database manager to construct a new database from only these SQL statements, and they also define the data interface for software developers, systems maintainers, and data managers.

A relational database model, or a Relational Data Base Management System (RDBMS), represents data as tables, with records stored as rows (observations) and data elements (variables) stored as columns of the rows. Tables also may have relationships with other tables. These relationships can have two forms: join
relationship and referential integrity constraints. Tables with join relationships have data elements in common and allow common data to be joined by use of a Structured Query Language (SQL) statement. Tables with referential integrity constraints can be defined as parent and child tables. A parent table controls the entry of data into the child table. Specific data must be present in the parent table before it is allowed in the child table. In relational theory the parent table has a primary key and the child table has a foreign key. An example can help to explain this issue. When point data is collected on an LCTA plot information about the location, type of vegetation and measurement date are recorded. To eliminate the need of repeating this information for every observation of point data for ground vegetation, a relationship is defined between the two tables PLOTSURV and GNDCOVER. The plot number and the recording date are defined as the primary key variables. A well designed RDBMS structure will eliminate redundant data and ensure data integrity. This document discusses the LCTA database and includes enhancements to the current database design to take full advantage of relational database theory and protect the integrity of the data.

The LCTA database can be divided into nine distinct components:

- plot information data
- land use data
- vegetation data
- wildlife data
- climate data
- soils data
- supplementary information
- summary data
- validation tables.

These components reflect information about the natural resources of the installation collected at LCTA plots. To simplify the understanding of the LCTA database data dictionary, the database will be represented first as its distinct components with little mention of the relationships between tables. The database then will be brought together to show the overall structure. The following description of the LCTA database consists of the database schema released with version 1.0 of the LCTA user's interface. In addition, changes to the database to enhance the usability and data integrity have been added. For a list of the changes refer to Chapter 3, Database Schema Updates. The migration strategy for making the changes to the database will be discussed later.

A brief description of the collection methodology will precede each section. This will give the reader a better understanding of the LCTA data. This information has been
taken from *U.S. Army Land Condition-Trend Analysis (LCTA) Plot Inventory Field Methods* (Tazik et al., February 1992), which gives more detailed information about the LCTA data collection techniques. A complete LCTA data dictionary will be presented at the end of the database discussion.

**LCTA Field Methodology**

The structure of the LCTA data dictionary is largely controlled by the types of data collected and the manner in which the data was collected. To make use of LCTA data properly and to understand the structure of the LCTA data dictionary, a thorough understanding of the field methodology is required. It is beyond the scope of this document to describe the LCTA field data collection methodology completely; however, a brief description of the collection methodology precedes each data dictionary section. This condensed description provides the reader with sufficient understanding of the LCTA data for the purposes of this document; the level of description provided is sufficient only to understand and interpret the database structure. Detailed information describing standard field methodology is given in *U.S. Army Land Condition-Trend Analysis (LCTA) Plot Inventory Field Methods* (Tazik et al., February 1992). See this publication for detailed information about LCTA data collection techniques.

**Document Syntax and Terminology**

The following syntax conventions are used:

Entities (tables) names are in uppercase.
Data element names are uppercase.

The following terminology is used throughout this publication:

**Entity:** An entity, or table, stores data within a relational database management system. Data in an entity is represented by rows of data elements. Entities allow like data to be stored separately, for example, ground vegetation data is in GNDCOVER and land use data is in LANDUSE.

**Data Element:** Data elements make up the columns of an entity. Data elements have a name, data type, data length, nullity, and rules. INSTALID is the name of the column that stores the
installation identification code. It is a character field of length 3 and requires data.

**Nullity:** A column constraint that sets the data requirement rule for a data element. Data is required if a data element has a nullity rule of not null.

**Referential Integrity:** Tables with referential integrity constraints can be defined as parent and child tables. A parent table controls the entry of data into the child table. Specific data must be present in the parent table before it is allowed in the child table.

**Join Relationship:** Entities with join relationships have data elements in common, and common data can be joined by use of a SQL statement.

**Primary Key:** Used in referential integrity constraints. The controlling data element of the parent table.

**Foreign Key:** Used in referential integrity constraints. The data element of the child table controlled by the primary key of the parent table.

**Plot Information**

To ensure that the LCTA plots can be relocated, accurate site descriptions and maps must be prepared and photographs taken. Most of the descriptive information and maps are recorded during the initial inventory. The maps and site descriptions provide instructions so someone without prior knowledge of the site can relocate the beginning stake and resurvey the plot. The photographs also document the condition of the plot over time.

Initial inventory plot information is stored in the plot master table (PLOTMAST). Subsequent monitoring dates for each plot and other plot information is stored in the plot survey (PLOTSURV) table. These two tables will contain such information as the installation training area number, UTM coordinates, and USGS 7.5-minute quadrangle map name. Only information that should not change over time is stored in the PLOTMAST table; specific information for each measurement date is found in the PLOTSURV table.
To take full advantage of the current database system, a plot maps (PLOTMAP) table has been created. This table allows for the storage of plot location maps and photographs in digital form. For information on storing these images and the accepted formats, refer to the LCTA users interface program documentation and your vendor’s database system manual.

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<th>Purpose</th>
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<tbody>
<tr>
<td>PLOTMAST</td>
<td>master plot table [one per LCTA plot]</td>
</tr>
<tr>
<td>PLOTSURV</td>
<td>table identifying all inventories on each plot</td>
</tr>
<tr>
<td>PLOTMAP</td>
<td>map images for each plot</td>
</tr>
</tbody>
</table>

**Land Use Data**

The land use data documents recent land uses and maintenance activities, as well as evidence of wind and water erosion that can be observed within the boundaries of the 100 x 6-m plot. These data are used to relate land use and maintenance activities to changes in vegetation and soil erosion rates.

Conditions observed on areas adjacent to, but not within, the plot proper are not checked on the land use form. However, if noteworthy, these conditions may be recorded under the notes column of each table.

The tables storing land use data are LANDUSE, MAINTACT, and EROSEVID. LANDUSE_CODE, MAINT_CODE, and EROS_CODE are validation tables. Codes for each valid type of land use, maintenance activity, and observed erosion are defined in the appropriate validation table. Data is entered into the data tables as codes that are checked by the database against the validation tables. This allows for data integrity and simplified program interfacing. The valid land use, maintenance, and observed erosion categories are:

**Military Land Uses**
- MB BIVOUAC
- MD DEMOLITION
- ME EXCAVATION
- MF FOOT
- MN NO MILITARY USE
- MO OTHER MILITARY USE
- MT TRACKED
- MW WHEELED
Non-Military Land Uses

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<th>Description</th>
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<tr>
<td>NG</td>
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<td>NGO</td>
<td>GRAZING-OTHER</td>
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<td>NGS</td>
<td>GRAZING-SHEEP</td>
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<tr>
<td>NH</td>
<td>HAY</td>
</tr>
<tr>
<td>NN</td>
<td>NO NON-MILITARY USE</td>
</tr>
<tr>
<td>NO</td>
<td>OTHER NON-MILITARY USE</td>
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<tr>
<td>NR</td>
<td>ROW CROP</td>
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Maintenance Activities

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<td>BAL</td>
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<td>C</td>
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<td>P</td>
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<tr>
<td>S</td>
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<tr>
<td>T</td>
<td>TILLAGE</td>
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Observed Water Erosion

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<td>ACTIVE GULLY</td>
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<tr>
<td>WAD</td>
<td>DEBRIS DAM</td>
</tr>
<tr>
<td>WAN</td>
<td>NO WATER EROSION</td>
</tr>
<tr>
<td>WAP</td>
<td>WATER PEDESTAL PLANT</td>
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<tr>
<td>WAS</td>
<td>SHEET/RILL</td>
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Observed Wind Erosion

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<td>DRIFTING</td>
</tr>
<tr>
<td>WIN</td>
<td>NO WIND EROSION</td>
</tr>
<tr>
<td>WIP</td>
<td>WIND PEDESTAL PLANT</td>
</tr>
<tr>
<td>WIS</td>
<td>SCOURING</td>
</tr>
<tr>
<td>Table</td>
<td>Purpose</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------------------------------</td>
</tr>
<tr>
<td>EROSEVID</td>
<td>erosion evidence data from land use data</td>
</tr>
<tr>
<td>LANDUSE</td>
<td>military and non-military land use data</td>
</tr>
<tr>
<td>MAINTACT</td>
<td>maintenance activity data</td>
</tr>
<tr>
<td>EROS_CODE</td>
<td>observed erosion code validation table</td>
</tr>
<tr>
<td>LANDUSE_CODE</td>
<td>land use code validation table</td>
</tr>
<tr>
<td>MAINT_CODE</td>
<td>maintenance activity code validation table</td>
</tr>
</tbody>
</table>

**Vegetation Data**

The line transect documents ground cover, canopy cover, and surface disturbance. Data are recorded using a modified point intercept method. Uses of these data include evaluating soil erosion status, military concealment cover, wildlife habitat, botanical composition, and for ground-truthing remotely sensed imagery.

One hundred points are sampled along the line transect beginning at the 0.5-m point and continuing at 1-m intervals along the measuring tape. The 1-m measuring rod is placed plumb to the ground at each point to determine ground cover, surface disturbance, and vertical distribution of vegetation up to 1 m. Canopy cover above 1 m is measured using the telescoping range pole.

**Surface Disturbance**

If a point has been disturbed, the nature of the disturbance is determined and the appropriate category selected. The categories of disturbance are stored in DISTURB_CODE. A point is considered disturbed if there is physical evidence of disruption of the soil surface or if the vegetation has been obviously crushed at that point. The fact that a site is in poor condition does not constitute evidence of disturbance. With vehicle tracks, the ability to distinguish a general direction of travel is a prerequisite to establishing evidence of disturbance.

**Disturbance**

<table>
<thead>
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<td>N</td>
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</tr>
<tr>
<td>NR</td>
<td>NOT RECORDED</td>
</tr>
<tr>
<td>O</td>
<td>OTHER DISTURBANCE</td>
</tr>
<tr>
<td>P</td>
<td>PASS</td>
</tr>
<tr>
<td>R</td>
<td>ROAD</td>
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<td>TRAIL</td>
</tr>
<tr>
<td>U</td>
<td>UNKNOWN</td>
</tr>
</tbody>
</table>
Disturbance data is entered into the GNDCOVER table under the column DISTURB. To ensure that only defined categories are used, the DISTURB_CODE table contains all valid disturbance categories. This table is a validation table for GNDCOVER, which is enforced through the use of primary and foreign keys.

GNDCOVER       ground data from line transect inventory
DISTURB_CODE   disturbance code validation table

*Initial Inventory and Long-term Monitoring Ground Cover*

The next data recorded for each point on the line is ground cover. Only material in contact with the ground at the tip of the measuring rod is recorded, i.e., the point at the center of the rod. This data is entered into the GNDCOVER table under the column VEGID. In many instances the data entered here will not be a plant code but one of the valid ground cover categories. However, to make this table compatible with other tables containing plant codes, the column has been named VEGID.

<table>
<thead>
<tr>
<th>Table</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>GNDCOVER</td>
<td>ground data from line transect inventory</td>
</tr>
</tbody>
</table>

*Initial Inventory and Long-term Monitoring Canopy Cover*

The vertical distribution and composition of canopy cover is recorded on the line by recording vegetation contacts within each decimeter interval on the 1-m measuring rod as it is held plumb to the ground. For vegetation above 1 m, the rod is replaced by a telescoping range pole.

Canopy cover is recorded in decimeter intervals to a height of 2 m. Above 2 m, it is recorded in 0.5-m intervals up to 8.5 m. Canopy cover contact is recorded only if vegetation appears as though it would be intercepted by the center of the rod or pole. Canopy cover above 8.5 m also is recorded as present if an imaginary extension of the range pole above 8.5 m would contact vegetation.

Only one intercept is recorded per interval. If two or more species or categories contact the rod in the same interval, only the one at the highest point within the interval is recorded. If more than one species is present over 8.5 m, only the topmost species is recorded.
Canopy cover data is stored in the AERCOVER table. Line transect location VEGLOC, height interval VEGHT and cover category VEGID are entered for each observation. Canopy cover above 8.5 m has a VEGHT of 8.6.

<table>
<thead>
<tr>
<th>Table</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>AERCOVER</td>
<td>aerial data from line transect inventory</td>
</tr>
</tbody>
</table>

**Short-term Monitoring Line Transect Data**

During a short-term monitoring season, data are gathered on the line transect using the point-intercept method as in the initial inventory, except in lesser detail. At 1-m intervals, beginning at the 0.5-m point, the tip of the 1-m measuring rod is used to determine the presence and type of disturbance. Ground cover is recorded using the valid codes listed here. Plant species identification is not necessary for short-term monitoring. The presence or absence of canopy cover at any height is determined for each point and recorded as shown in the valid aerial cover categories.

**Short-term Monitoring Ground Cover Categories**
- B  BARE GROUND
- L  LITTER
- M  MICROPHYTE
- NR NOT RECORDED
- P  PLANT
- R  ROCK
- U  UNKNOWN

**Short-term Monitoring Canopy Cover Categories**
- A  ANNUAL
- AP ANNUAL/PERENNIAL
- N  NO AERIAL COVER
- NR NOT RECORDED
- P  PERENNIAL
- U  UNKNOWN AERIAL COVER

Because the short-term monitoring data collection method is an abbreviated version of initial inventory, ground disturbance, ground cover, and canopy cover can be stored in the LINEMON table. Plant species identification is not necessary, so a defined set of categories exists for both ground cover and canopy cover. Ground disturbance uses the same categories defined for the initial inventory. To ensure that only defined categories are used for these data the DISTURB_CODE, GNDCOV_CODE, and AERCOV_CODE tables contain all valid disturbance, ground cover, and canopy cover
categories, respectively. These tables are validation tables for LINEMON and are enforced through the use of primary and foreign keys.

<table>
<thead>
<tr>
<th>Table</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>LINEMON</td>
<td>line transect monitoring data</td>
</tr>
<tr>
<td>AERCOV_CODE</td>
<td>monitoring aerial cover code validation table</td>
</tr>
<tr>
<td>DISTURB_CODE</td>
<td>disturbance code validation table</td>
</tr>
<tr>
<td>GNDCOV_CODE</td>
<td>monitoring ground cover code validation table</td>
</tr>
</tbody>
</table>

**Initial Inventory and Long-term Monitoring Belt Transect Data**

The belt transect is intended to characterize species composition, density, and height distribution of woody and succulent vegetation. The belt transect extends the length of the 100-m line transect. Although the belt has a standard width of 6 m (3 m to either side of the line transect), the width may be reduced for high density species. Any adjustments in the belt transect width are noted in the BELTSURV table. In addition, the default belt width and the minimum height used for each plot is recorded.

The locations of all woody plants above a predetermined minimum height are mapped, and the coordinates, species, and height are entered into the BELTTRAN table.

All rooted shrubs and trees are recorded regardless of whether they are live or dead. All cacti, regardless of height, are recorded. Individual plants with heights greater than 8.5 m are in general entered as 8.6 m.

Some woody plants tend to produce multiple stems from a common root system. Although they may appear to be separate plants, these multistemmed plants are recorded as a single individual. For plants that form dense stands by means of root sprouts, adventitious roots, or rhizomes, the entire clump (motte) is regarded as one individual. The beginning and ending line location of the clump are recorded in the BELTTRAN table as CLUMPBEGIN and CLUMPEND. The area of the clump is recorded as CLUMPAREA. The height of the clump is determined by measuring the tallest stem within the clump.

<table>
<thead>
<tr>
<th>Table</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>BELTSURV</td>
<td>parameters for inventory and monitoring belt transects</td>
</tr>
<tr>
<td>BELTTRAN</td>
<td>belt transect inventory data</td>
</tr>
</tbody>
</table>
Short-term Monitoring Belt Transect Data

Rather than recording the location and height of each woody plant as in the initial inventory, short-term monitoring of the belt transect entails only a tally of each species by 1-m height classes up to 4 m, and a single class for plants higher than 4 m. This data is stored in the BELTMON table.

BELTSURV parameters for inventory and monitoring belt transects
BELTMON belt transect monitoring data

Plant Species Information

All vegetation data stored in the database are checked against the master plant species table (PLANTS) in the SPECIES database for valid information. For each valid unique species found in the database corresponding information is placed in the PLNTLIST table by the LCTA user's interface.

<table>
<thead>
<tr>
<th>Table</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLNTLIST</td>
<td>master list cataloging each plant code</td>
</tr>
</tbody>
</table>

Floristic Inventory

A primary goal of the LCTA program is to assemble a complete collection of all vascular plants that occur on an installation and to produce a comprehensive, annotated list of all taxa present, including threatened and endangered species. Three specimens of each taxon are collected. One specimen is accessioned to a public herbarium to serve as a voucher. The remaining two specimens are laminated in plastic with a label and included in a reference collection to be housed at the installation. The laminated specimens can be taken into the field to aid in species identification by LCTA crew and natural resources personnel. Though the majority of taxa are collected in 1 to 3 years by a plant taxonomist contracted specifically for this task, species not yet included in the collection may be added any time by the field crew leader.

Nomenclature and classification conform to the National List of Scientific Plant Names (USDA 1982).

Floristic inventory data is stored in the HERBRIUM table. In addition to the many elements in this table, the Federal and state threatened, endangered, and sensitive category (FEDSTAT,STATESTAT) is recorded where appropriate. The FED_STATUS
and STATE STATUS tables contain the valid codes for these fields and are enforced through referential integrity constraints.

<table>
<thead>
<tr>
<th>Table</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>HERBRIUM</td>
<td>floristic inventory data</td>
</tr>
<tr>
<td>FED STATUS</td>
<td>Federal status validation table</td>
</tr>
<tr>
<td>STATE STATUS</td>
<td>state T&amp;E status validation table</td>
</tr>
</tbody>
</table>

**Wildlife Inventory**

A variety of wildlife data may be collected on or near LCTA plots. Only song bird and small mammal data are required as a standard. These taxa are useful as bioindicators and are easy to sample at the scale of the LCTA plot.

Standard wildlife inventories are conducted on a subsample of approximately one-third of the core plots, up to a total of about 60. Core wildlife plots are selected in a stratified random fashion from among all the established core plots to represent the major soil and land cover types in proportion to their occurrence on the installation. This constitutes the minimum sampling required. More core plots are added as necessary to represent all soil and land cover types with at least one wildlife plot.

**Birds (Standard)**

Birds are censused at each plot using a modified point-count transect technique. Each plot is censused once in the morning and once in the evening (denoted by a.m. or p.m.) by slowly walking the length of the LCTA plot in 6 minutes, recording all birds seen or heard within 100 m of the plot (Line Out). On reaching the end of the plot, the observer stops for 8 minutes and again records all birds seen or heard within 100 m (End Point). The observer then walks back to the starting point in 6 minutes, again recording any birds detected within 100 m of the plot (Line In). All morning censuses are conducted between 0.5 hour before and 4 hours after sunrise on relatively calm, rainless days. The evening census is conducted during the 4 hours prior to sunset. The time of the survey is entered in the BIRDS table under the PERIOD column. The locations of the line from which the observations were taken are entered in the MEASURE PT column as a code. Valid locations are stored in the POINT CODE table, which is a validation table for BIRDS and is enforced through the use of primary and foreign keys. All plot and survey information is entered in the BIRDSURV table.
All birds detected are recorded using standard common names and species codes. Numbers of each species are recorded for each segment of the survey using the codes for mated status. The MATED_STATUS column uses valid codes from the MATED_STATUS_CODE table. This information is used to infer the number of pairs present on the plot. A singing male, male/female pair, or adult accompanied by young indicates one pair present. Presence of additional pairs can be inferred only if additional singing males, male/female pairs, or same sex adults accompanied by young are observed. An individual nonsinging male, lone female, or individual of unknown sex or age indicates presence of the species but may not indicate a second pair. Flyovers of birds not using the plot and other birds observed outside the plot limits are recorded the same as those observed, plus a “Y” is entered in the FLYOVER column. All flyover data should be entered as a new observation with a “Y” in the FLYOVER column.

The field methods suggest that max pair data be recorded as the maximum number of pairs observed among the three segments of the survey. Max pairs information is not entered into the database because it can be derived from the available data in the table. This would be redundant data.

Bird Mated Status Codes
* Singing male
PR Adult male/female pair
M Nonsinging male
F Female only
U Unknown sex and age
Y Young of the year
FL Flock
C Combined (all statuses were totaled and entered as one observation)
NR Not recorded

Measurement Point Codes
LO Line Out
LI Line In
EP End Point
C Combined (all points were totaled and entered as one observation)
U Unknown
NR Not recorded
Table | Purpose
---|---
BIRDS | bird data from wildlife inventory
BIRDSURV | table identifying all inventories for birds on each plot
MATED_STATUS_CODE | bird mated status validation table
POINT_CODE | bird data collection line location validation table

**Small Mammals (Standard)**

Small mammals are surveyed by setting two rows of 20 museum special traps and five rat traps parallel to the long axis of each LCTA plot. Trap stations are spaced approximately 7.5 m apart; trap lines are spaced 30 m apart. Snap traps are baited with a mixture of rolled oats and peanut butter and run for two nights for a total of 100 trap nights per plot. Traps are set during the late afternoon or evening of the first day, checked early the next morning, reset during the late afternoon or evening of the second day, and checked and collected on the following morning.

The MAMMALS table stores data for the standard 100 trap nights using the date of the first night in the RECDATE column. For each method of observations, listed here, the species (VERTID), sex (SEX), method (METHOD), and number (NUM) are recorded. If any retraps are known, this number is entered in the RETRAP column. NUM represents the total number of species, including the number of retraps. The METHODS_CODE and GENDER_CODE tables are validation tables for the METHOD and SEX columns of the MAMMALS table. Referential integrity for these tables is enforced using primary and foreign keys. All plot and survey information is stored in the MAMSURV table.

**Gender Codes**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>Male</td>
</tr>
<tr>
<td>F</td>
<td>Female</td>
</tr>
<tr>
<td>U</td>
<td>Unknown</td>
</tr>
<tr>
<td>C</td>
<td>Combined (all genders were totaled and entered as one observation)</td>
</tr>
<tr>
<td>NR</td>
<td>Not recorded</td>
</tr>
</tbody>
</table>

**Method Codes**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>Observed</td>
</tr>
<tr>
<td>S</td>
<td>Signs</td>
</tr>
<tr>
<td>T</td>
<td>Trapped</td>
</tr>
<tr>
<td>C</td>
<td>Combined (all methods were totaled and entered as one observation)</td>
</tr>
<tr>
<td>U</td>
<td>Unknown</td>
</tr>
<tr>
<td>NR</td>
<td>Not recorded</td>
</tr>
</tbody>
</table>
Table                               Purpose
MAMMALS    mammal data from wildlife inventory
MAMSURV    table identifying all mammal inventories
METHODS_CODE mammal and herpetologic methods validation table
GENDER_CODE gender code validation table

Reptiles and Amphibians (Optional)

Reptiles and amphibians are censused using a pitfall trapping array with optional box traps in association with the LCTA transects. The central bucket of each pitfall array is located approximately 75 m from the origin of the LCTA line transect, and at a random azimuth within a 180 degree arc opposite the azimuth of the transect. The array must be in the same soil type and landcover category as the LCTA transect. The 100 m point may be used as the point of origin if necessary to keep the array within the correct soil type and landcover category. The four 5-gallon plastic buckets are buried so the lip is flush with the soil surface. A cover is placed above the bucket, supported by rocks or wood blocks, to provide shade to any trapped animals. Aluminum drift fences 8 to 12 in. high, buried 2 to 3 in. in the ground and held in place by wooden or metal stakes, are used to funnel animals into the buckets. The fence should be painted to blend with surroundings to make it less conspicuous and less prone to disturbance. The fence must overlap the lip of the bucket by about 1 in. to force the animals into the bucket and prevent them from moving around the end of the aluminum.

The HERPS table stores data for the standard 100 trap nights using the date of the first night in the RECDATE column. For each method of observations, listed here, the species (VERTID), sex (SEX), method (METHOD), and number (NUM) are recorded. If any retraps are known, this number is entered in the RETRAP column. NUM represents the total number of species, including the number of retraps. The METHODS_CODE and GENDER_CODE tables are validation tables for the METHOD and SEX columns of the HERPS table. Referential integrity for these tables is enforced using primary and foreign keys. All plot and survey information is stored in the HERPSURV table.

Table                               Purpose
HERPS                               herpetologic data from wildlife inventory
HERPSURV                            table identifying all inventories for amphibians and reptiles on each plot
METHODS_CODE mammal and herpetologic methods validation table
GENDER_CODE gender code validation table
Species List

All wildlife data stored in the database are checked against the main wildlife species table (VERTS) in the SPECIES database for valid information. For each valid unique species found in the database, corresponding information is placed in the VERTLIST table by the LCTA user's interface. This information includes order, class, family, species, genus, subspecies, variety, and common name. Refer to the LCTA user's interface manual for details on running this procedure.

<table>
<thead>
<tr>
<th>Table</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>VERTLIST</td>
<td>master list cataloging each vertebrate code</td>
</tr>
</tbody>
</table>

Climate Data

Climate data is collected from Scott Air Force Base for weather stations on and near LCTA installations. This data is collected as daily values for rain, temperature, and pan evaporation. Information about the weather station is stored in the CLIMATESTATIONS table. To ensure that the weather station information data is known, CLIMATESTATIONS table is a parent table to CLIMATEDATA.

<table>
<thead>
<tr>
<th>Table</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLIMATEDATA</td>
<td>climate data</td>
</tr>
<tr>
<td>CLIMATESTATIONS</td>
<td>climate station information</td>
</tr>
</tbody>
</table>

Soil and Topographic Information

Soil Depth Estimation. Soil depth can have a significant effect on plant productivity and botanical composition. Shallow soils are generally less productive, more susceptible to damage, and more difficult to reclaim than deeper soils. An estimate of soil depth is made for each LCTA plot by noting how deep it was possible to drive each of the steel rods into the soil. The average depth is recorded.

Soil Samples. A composite soil sample is taken at each plot. Five small samples are taken approximately 1 m from the line transect at the 0, 25, 50, 75, and 100-m points. All litter is removed from the surface. With a narrow spade or mattock, a small pit approximately 15 cm deep is dug. A vertical slice comprising approximately 0.2 L of soil is taken from the side of each pit, and roots and plant crowns are removed. The samples are combined in a sealable plastic bag, and a double-faced aluminum tag is inscribed with the installation name or abbreviation and plot number. Sealed bags areboxed and shipped to the USDA National Soil Survey Laboratory in Lincoln, NE, for analysis of selected physical and chemical soil characteristics that affect site
erodibility, productivity, and botanical composition. This information is stored in the SOILSMPL table.

**Aspect**

Aspect, which can influence soil moisture, botanical composition, and vegetation cover, is determined for plots while standing at the 50 m point and estimating the general direction that water would flow across the site. Using a compass, aspect is estimated to the nearest octant. If the average slope is less than 5 percent, aspect is considered unimportant and level is circled on the form. Aspect is placed in the PLOTSURV table under the ASPECT column.

**Slope Length and Gradient**

Slope length and gradient are measured at the 0, 50, and 100-m points. Slope length is the straight line distance runoff travels across each sample point. It is measured from the point of origin of runoff to a point where a barrier or significant reduction in slope causes overland flow to be diverted into a defined channel or causes suspended sediment to be deposited. Slope length is estimated by pacing the distance between point of origin and point of deposition. Slope gradient is measured with a clinometer to the nearest half percent. Slope length (SLPLEN) and gradient (SLOPE) are stored in the SOILLS table for each location (LOC).

<table>
<thead>
<tr>
<th>Table</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLOTSURV</td>
<td>table identifying all inventories on each plot</td>
</tr>
<tr>
<td>SOILLS</td>
<td>plot slope data (used to calculate LS in USLE)</td>
</tr>
<tr>
<td>SOILMAST</td>
<td>master soil series table</td>
</tr>
<tr>
<td>SOILSMPL</td>
<td>soil sample data from USDA National Soils Survey Laboratory</td>
</tr>
</tbody>
</table>

**Supplementary Information**

The following tables represent information that does not fall under any of the foregoing categories. The BASALA, ENVCONST, and F_COUNT tables were created to store data that is not part of the standard LCTA data collection. The database has been augmented with the addition of these tables to meet the needs of some installations. The GROUPING table has been added to facilitate grouping data for the purpose of analysis either through the use of the LCTA program or SQL statements. The HISTORY table is meant to hold general information about the installation, data collected, or the database. The INSTMAST table is a master listing for all LCTA installations and acts as a parent table to many of the other data tables.
BASALA  Basal area data
ENVCONST  Environmental constraints
F_COUNT  Optional data from inventory or monitoring
GROUPING  Dynamic table for LCTA front end routines
HISTORY  General informational data
INSTMAST  Master table listing LCTA installations

Summary Data

In database theory, any stored data that is calculated from other data within the database is called derived data. Storing derived data usually is discouraged because it can be obtained from existing data in the database, and storing it adds to the size of the database. Derived data is essentially duplicate data.

Because the LCTA databases hold a great deal of data and many of the analyses take some time to run, summary (derived) data is stored in the database. Also, this summary information can be used to group other data in the database for additional information.

<table>
<thead>
<tr>
<th>Tables</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMCLASSPLOTSUM</td>
<td>plant community classifications for each plot</td>
</tr>
<tr>
<td>EROSION</td>
<td>table for USLE estimations</td>
</tr>
<tr>
<td>LANDUSEYEARSUM</td>
<td>land use summary data by year</td>
</tr>
<tr>
<td>PCSDPLOTSUM</td>
<td>plant cover, surface disturbance summary data by plot</td>
</tr>
<tr>
<td>PCSDYEARSUM</td>
<td>plant cover, surface disturbance summary data by year</td>
</tr>
<tr>
<td>PCTTYEARSUM</td>
<td>percent of tolerance (USLE) summary data by year</td>
</tr>
<tr>
<td>TACTCONA</td>
<td>tactical concealment summary A</td>
</tr>
<tr>
<td>TACTCONB</td>
<td>tactical concealment summary B</td>
</tr>
<tr>
<td>TACTCONC</td>
<td>tactical concealment summary C</td>
</tr>
</tbody>
</table>

Validation Tables

Validation tables are used to enforce referential integrity constraints. After these integrity constraints are defined in the database system, by the database administrator, data will be allowed in the child table only if it exists in the parent table. The primary key of the parent table restricts the foreign key of the child table.
Table
AERCOV_CODE     Purpose          monitoring aerial cover code validation table
DISTURB_CODE    disturbance code validation table
EROS_CODE       observed erosion code validation table
EROSEVID        erosion evidence data from land use data
FED_STATUS      Federal status validation table
GENDER_CODE     gender code validation table
GNDCOV_CODE     monitoring ground cover code validation table
LANDUSE         military and nonmilitary land use data
LANDUSE_CODE    land use code validation table
MAINT_CODE      maintenance activity code validation table
MAINTACT        maintenance activity data
MATED_STATUS_CODE bird mated status validation table
METHODS_CODE    mammal and herpetologic methods validation table
POINT_CODE      bird data collection line location validation table
STATE_STATUS    state T&E status validation table

Relational Constraints

Relational constraints, in this situation referential integrity constraints, will be discussed in this section. The previous section listed the validation tables used to ensure data integrity of the data tables. The actual columns used to link the tables will be presented in this section.

Referential integrity constraints are used to ensure data integrity in a database. These constraints are defined between a parent table and a child table by the use of primary and foreign keys. A parent is defined with a data element or set of elements as a primary key. The primary key is a unique value, or set of values, that constrain the entry of data into the dependent child table. For example, PLOTMAST is a parent table to PLOTSURV with PLOTID as the primary key in PLOTMAST and the foreign key in PLOTSURV. If a particular value for PLOTID does not exist in PLOTMAST, data for that plot cannot be added to the PLOTSURV table.

Other rules exist that can be used to ensure data integrity. These rules include column constraints, check constraints, unique and primary key, and others. The most important column constraint is the NOT NULL rule. This rule forces a value to be entered for a data element (column) before that observation (row) of data is applied to the database. The NOT NULL is specified in the database schema and applied by the database administrator by using SQL statements. This rule is used throughout the LCTA database. Consult the data element listing appendix for elements with the
NOT NULL rule. Check constraints test the rows of a table against a logical expression. Not all database servers utilize this rule, and it currently is not used by the LCTA database. The UNIQUE and PRIMARY KEY rules are important to relational database theory and are somewhat related. The UNIQUE rule ensures that no duplicate values will exist for a column. Unless specifically defined, a column with the UNIQUE rule applied can have only one NULL here. The PRIMARY RULE is used in referential integrity constraints as discussed. Only one primary key can exist for a table, but many columns can make up the primary key. Each column that makes up the primary key must have the UNIQUE and NOT NULL rules applied. The LCTA database uses the primary key and the related foreign key rules extensively; refer to the database schema diagram (Appendix A) for their locations.

Defining referential integrity constraints is done by the database administrator using Data Definition Language (DDL) or SQL statements. Parent tables, child tables, and their linking keys are listed. The DDL or SQL statements are in Appendix D.

<table>
<thead>
<tr>
<th>Parent Table</th>
<th>Child Table</th>
<th>Joined by</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSTMAST</td>
<td>PLOTMAST</td>
<td>INSTALID</td>
</tr>
<tr>
<td>INSTMAST</td>
<td>ENVCONST</td>
<td>INSTALID</td>
</tr>
<tr>
<td>INSTMAST</td>
<td>CLIMATESTATIONS</td>
<td>INSTALID</td>
</tr>
<tr>
<td>INSTMAST</td>
<td>MAPS</td>
<td>INSTALID</td>
</tr>
<tr>
<td>INSTMAST</td>
<td>HISTORY</td>
<td>INSTALID</td>
</tr>
<tr>
<td>INSTMAST</td>
<td>EROSION</td>
<td>INSTALID</td>
</tr>
<tr>
<td>INSTMAST</td>
<td>COMMCLASSPLOTSUM</td>
<td>INSTALID</td>
</tr>
<tr>
<td>INSTMAST</td>
<td>LANDUSEYEARSUM</td>
<td>INSTALID</td>
</tr>
<tr>
<td>INSTMAST</td>
<td>PCSDPLOTSUM</td>
<td>INSTALID</td>
</tr>
<tr>
<td>INSTMAST</td>
<td>PCSDYEARSUM</td>
<td>INSTALID</td>
</tr>
<tr>
<td>INSTMAST</td>
<td>PCTTYEARSUM</td>
<td>INSTALID</td>
</tr>
<tr>
<td>INSTMAST</td>
<td>TACTCONA</td>
<td>INSTALID</td>
</tr>
<tr>
<td>INSTMAST</td>
<td>BIRDSURV</td>
<td>INSTALID</td>
</tr>
<tr>
<td>INSTMAST</td>
<td>HERPSURV</td>
<td>INSTALID</td>
</tr>
<tr>
<td>INSTMAST</td>
<td>MAMSURV</td>
<td>INSTALID</td>
</tr>
<tr>
<td>PLOTMAST</td>
<td>PLOTMAPS</td>
<td>PLOTID</td>
</tr>
<tr>
<td>PLOTMAST</td>
<td>PLOTSURV</td>
<td>INSTALID, PLOTID</td>
</tr>
<tr>
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<td>SOILSAMPL</td>
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</tr>
</tbody>
</table>
In the next table the same information is presented in a different format. All child tables, their key elements, and primary and foreign keys are listed. The contributing table is listed for each key element. The LCTA database schema (Appendix A) also can be consulted to understand the referential integrity constraints.

<table>
<thead>
<tr>
<th>Child Table</th>
<th>Key Elements</th>
<th>Contributing Table</th>
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<tbody>
<tr>
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</table>
SOILS | INSTALID | PLOTSURV
SOILS | PLOTID | PLOTSURV
SOILS | RECDATE | PLOTSURV
TACTCONA | INSTALID | INSTMAST
TACTCONA | PLOTID | PLOTMAST

* Denotes that there is no contributing table. This element has been defined as a primary key to be passed to other tables as a foreign key. In other words, the table becomes the initial contributing table for that primary key.

Legacy Components

Legacy components refer to data elements, entities, or relations that do not conform to the new proposed database standards. These components persist either because of operational considerations or the likelihood of the loss of data. The components that can be categorized as legacy components follow.

When possible, relational theory and rules have been used in this design of the LCTA database to ensure data integrity; the most important of these is referential integrity constraints. A few exceptions exist, primarily because of operational considerations. These exceptions include the SOILMAST, PLNTLIST, and VERTLIST tables.

The SOILMAST table stores information for each unique soil series found on LCTA plots. The SOILSER element contains the code used to refer to a soil series; it is found in both the PLOTMAST and SOILMAST tables. By using a relational join, SQL query, soil series information for each plot can be obtained from the PLOTMAST and SOILMAST tables. To ensure that only valid soil series codes are entered for each plot in the PLOTMAST table, a referential constraint between SOILMAST (parent table) and PLOTMAST (child table) could be defined. However, the issue is complicated because other plot information found in the PLOTMAST table is collected in the field and added to the database before the soil series is identified. In practice the data usually is added to the database, and the user will identify the soil series for each plot and update the database at a later time. This restricts the use of referential integrity constraints for the SOILMAST table.

The PLNTLIST and VERTLIST tables contain unique plant and wildlife information found on LCTA plots. The LCTA program is used to scan all plant and wildlife data tables and insert the species information for those valid data into the appropriate table. The PLNLIST and VERTLIST tables are populated after the data tables. In some situations a species cannot be identified in the field and must be given a temporary code. The temporary code is changed to a known code when the species is identified. These operational considerations eliminate the possibility of defining the PLNTLIST and VERTLIST tables as parent tables to the data tables.
3 Database Schema Updates

This section will cover changes to the database schema as released with version 1.0 of the user’s interface. These changes have been made to enhance the database usability, ensure further data integrity, and increase metadata.

New Tables

The format for this section is:

**TABLE NAME**

*Description of the data stored in the table*
Reason for adding table to the database

**AERCOV_CODE**

*Short-term monitoring aerial cover code validation table*
Validation table for LINEMON, element AERCOV

**BIRDSURV**

*Table identifying all inventories for bird data*
Plot survey information for bird data

**CLIMATEDATA**

*Climate data*
Climate data for analysis purposes

**CLIMATESTATIONS**

*Climate station information*
Validation table for CLIMATEDATA, element STATION

**DISTURB_CODE**

*Disturbance code validation table*
Validation table for GNDCOVER and LINEMON, element DISTURB
ENVCONST
   Environmental constraints
   Data from installation environmental constraint surveys

EROS_CODE
   Observed erosion evidence code validation table
   Validation table for EROSEVID, element STATUS

FED_STATUS
   Federal status validation table
   Validation table for HERBRRIUM, element FEDSTAT

GENDER_CODE
   Wildlife gender code validation table
   Validation table for HERPS and MAMMALS, element SEX

GNDCOV_CODE
   Short-term monitoring ground cover code validation table
   Validation table for LINEMON, element GNDCOV

GROUPING
   Dynamic table for LCTA front end routines (user defined attributes)
   Used by the update front table to group summaries

HERPSURV
   Table identifying all inventories for amphibians and reptiles on each plot
   Plot survey data for herpetologic data

LANDUSE_CODE
   Land use code validation table
   Validation table for LANDUSE, element LANDUSE

MAINT_CODE
   Maintenance activity code validation table
   Validation table for MAINTACT, element MAINTAIN

MAMSURV
   Table identifying all inventories for mammals on each plot
   Plot survey data for mammals data
MAPS

*Installation geographic information system maps used to display LCTA data*

Allows storing of geographic information system maps in the database

**MATED_STATUS_CODE**

*Bird mated status validation table*

Validation table for BIRDS, element MATED_STATUS

**METHODS_CODE**

*Mammal and herpetologic trapping methods validation table*

Validation table for HERPS and MAMMALS, element METHOD

**PLOTMAPS**

*Map and photo images for each plot*

Allows storing of plot location maps

**POINT_CODE**

*Bird data collection line location validation table*

Validation table for BIRDS, element MEASURE_PT

**STATE_STATUS**

*State Threatened and Endangered (T&E) status validation table*

Validation table for HERBRIUM, element STATESTAT

**Modified Tables**

The format for this section is:

**TABLE NAME**

*Description of the data stored in the table*

Reason for changing the table

**BIRDS**

*Bird data from wildlife inventory*

Changed to reflect data as it is collected

**HERBRIUM**

*Floristic Inventory data*

Changed to reflect data as it is recorded
HERPS

*Herpetologic data from wildlife inventory*

Changed to reflect data as it is collected

MAMMALS

*Mammal data from wildlife inventory*

Changed to reflect data as it is collected

**Discontinued Tables**

The tables in this section were dropped because they no longer are used or the new functionality of the user's interface does not require them.

WILDSURV
PLOTTASK
TCAPCCSUM
TCBPCCSUM
TCCPCCSUM
PCSDFUNCTPLOTSUM
PCSDPCCFINCTSUM
USLEPCCSUM

**Modified Data**

This section lists the tables and their data elements that have changed data. In all of these tables, data have been changed from text string to a shorter text code. This makes the use of validation tables easier and enhances data integrity and data use. The format for this section is:

TABLE NAME
   ELEMENT changed

LANDUSE
   LANDUSE
   G37
EROSEVID
   STATUS

MAINTACT
   MAINTAIN
4 Database Migration Strategy

The following is a series of SQL statements that will convert an existing LCTA database to the database schema described in this document. These commands are presented in SQLBase format and must be executed in the order presented to ensure proper operation. These statements try to account for all possible errors that may be encountered. However, some difficulty may be encountered during this migration strategy.

REMARK
\
DROP TABLES NO LONGER USED
/
DROP TABLE WILDSURV;
DROP TABLE PLOTTASK;
DROP TABLE TCAPCCSUM;
DROP TABLE TCBPCCSUM;
DROP TABLE TCCPCCSUM;
DROP TABLE PCSDFUNCTPLOTSUM;
DROP TABLE PCSDPCCFUNCTSUM;
DROP TABLE USLEPCCSUM;

REMARK
\
RENAME HERBRIUM TABLE TO SAVE DATA INSTALLATION MAY HAVE ENTERED
/
ALTER TABLE HERBRIUM RENAME TABLE HERBOLD;

REMARK
\
MODIFY INSTALID IN PLOTMAST AND PLOTSURV FOR NOT NULL FOR PRIMARY KEY
/
ALTER TABLE PLOTMAST MODIFY INSTALID NOT NULL;
ALTER TABLE PLOTSURV MODIFY INSTALID NOT NULL;
REMARK
"
UPDATE INSTALID IN ALL TABLES HAVING INSTALID AS KEY
REPLACE 'JUS' WITH APPROPRIATE ID
"
UPDATE PLOTMAST SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE PLOTSURV SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE MAINTACT SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE EROSEVID SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE LANDUSE SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE AERCOVER SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE GNDCOVER SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE LINEMON SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE BELTTRAN SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE BELTMON SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE BELTSURV SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE F_COUNT SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE SOILLS SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE BASALA SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE HISTORY SET INSTALID = 'JUS' WHERE INSTALID IS NOT NULL;
UPDATE GROUPING SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE PLOTMAPS SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE SOILSMPL SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE CLIMATESTATIONS SET INSTALID = 'JUS' WHERE INSTALID IS NOT NULL;
UPDATE CLIMATEDATA SET INSTALID = 'JUS' WHERE INSTALID IS NOT NULL;
UPDATE MAPS SET INSTALID = 'JUS' WHERE INSTALID IS NOT NULL;
UPDATE ENVCONST SET INSTALID = 'JUS' WHERE INSTALID IS NOT NULL;
UPDATE BIRDSURV SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE MAMSURV SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE HERPSURV SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE BIRDS SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE MAMMALS SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE HERPS SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE HERBRIUM SET INSTALID = 'JUS' WHERE PLOTID IS NOT NULL;
UPDATE PCTTYEAR SET INSTALID = 'JUS' WHERE INSTALID IS NOT NULL;
UPDATE TACTOCONA SET INSTALID = 'JUS' WHERE INSTALID IS NOT NULL;
UPDATE PCSDPLOTSUM SET INSTALID = 'JUS' WHERE INSTALID IS NOT NULL;
UPDATE EROSION SET INSTALID = 'JUS' WHERE INSTALID IS NOT NULL;
UPDATE PCSDYEARSUM SET INSTALID = 'JUS' WHERE INSTALID IS NOT NULL;
UPDATE COMMCLASSPLOTSUM SET INSTALID = 'JUS' WHERE INSTALID IS NOT NULL;
UPDATE LANDUSEYEARSUM SET INSTALID = 'JUS' WHERE INSTALID IS NOT NULL;
REMARK
/
DROP EXISTING INDEXES
/
DROP INDEX INST_ID;
DROP INDEX PBSYPBC_IDX;
DROP INDEX PBSYPBE_IDX;
DROP INDEX PBSYPBF_IDX;
DROP INDEX PBSYPBT_IDX;
DROP INDEX PBSYPBV_IDX;
DROP INDEX PL_VEGID;
DROP INDEX PM_PLOTDATE;
DROP INDEX PS_PLOTDATE;
DROP INDEX QST320102;

REMARK
/
DROP EXISTING KEYS
/
ALTER TABLE INSTMAST DROP PRIMARY KEY;
ALTER TABLE PLOTMAST DROP PRIMARY KEY;
ALTER TABLE PLOTSURV DROP PRIMARY KEY;

REMARK
/
CREATE NEW TABLES
/
CREATE TABLE ENVCONST (  
  INSTALID CHAR (3) NOT NULL,
  CASENO INTEGER,
  UNITLONG VARCHAR,
  RESTRAINT LONG VARCHAR,
  IMPACT LONG VARCHAR,
  REALISM LONG VARCHAR,
  MITIGATION LONG VARCHAR,
  RESEARCH LONG VARCHAR,
  RECDATE DATE NOT NULL,
  UPDATENO INTEGER  
);


CREATE TABLE CLIMATEDATA (  
    INSTALID       CHAR (3) NOT NULL,  
    STATION        INTEGER NOT NULL,  
    RECADETE       DATE NOT NULL,  
    RAIN           FLOAT  NOT NULL,  
    TEMPMIN        INTEGER,  
    TEMPMAX        INTEGER,  
    PANEVAP        FLOAT  
)

CREATE TABLE CLIMATESTATIONS (  
    INSTALID       CHAR (3) NOT NULL,  
    STATION        INTEGER NOT NULL,  
    STATIONNAME    VARCHAR (130) NOT NULL,  
    DMCE           INTEGER,  
    DMCN           INTEGER,  
    ZONE           INTEGER,  
    STATION_COMMENT VARCHAR (100)  
)

CREATE TABLE GROUPING (  
    PLOTID         INTEGER NOT NULL,  
    INSTALID       CHAR (3) NOT NULL  
)

CREATE TABLE MAPS (  
    INSTALID       CHAR (3) NOT NULL,  
    MAPNAME        VARCHAR (32) NOT NULL,  
    DMCELL         INTEGER NOT NULL,  
    DMCETR         INTEGER NOT NULL,  
    DMCNLL         INTEGER NOT NULL,  
    DMCNTR         INTEGER NOT NULL,  
    MAP            LONG VARCHAR NOT NULL  
)

CREATE TABLE PLOTMAPS (  
    INSTALID       CHAR (3) NOT NULL,  
    PLOTID         INTEGER NOT NULL,  
    GENMAP         LONG VARCHAR,  
    LOCMAP         LONG VARCHAR,  
    MISCMAP        LONG VARCHAR,  
    PHOTOS         LONG VARCHAR  
)
CREATE TABLE FED_STATUS (  
  FEDSTAT CHAR (6) NOT NULL,  
  FEDSTAT_DEF VARCHAR (50) NOT NULL,  
  FEDSTAT_NOTE VARCHAR (100)  
);  

CREATE TABLE STATE_STATUS (  
  STATESTAT CHAR (6) NOT NULL,  
  STATESTAT_DEF VARCHAR (50) NOT NULL,  
  STATESTAT_NOTE VARCHAR (100)  
);  

CREATE TABLE HERBRIUM (  
  INSTALID CHAR (3) NOT NULL,  
  VEGID CHAR (8),  
  FAMILY CHAR (20),  
  GENUS CHAR (20),  
  SPECIES CHAR (35),  
  BAUTHOR VARCHAR (150),  
  VAR_SSP CHAR (35),  
  VARAUTH VARCHAR (150),  
  SYNGENUS CHAR (20),  
  SYNSSP CHAR (35),  
  SYNAUTH VARCHAR (150),  
  SYNVAR_SSP CHAR (35),  
  SYNVARAUTH VARCHAR (150),  
  COMMON CHAR (40),  
  COLLNO INTEGER NOT NULL,  
  COLLDATE DATE,  
  COLLECTOR VARCHAR (70),  
  DETERMIN CHAR (20),  
  LOCALITY VARCHAR (224),  
  COUNTY VARCHAR (30),  
  DMCE INTEGER,  
  DMCN INTEGER,  
  ELEV INTEGER,  
  ASSOSPP VARCHAR (150),  
  SOILTOPO VARCHAR (150),  
  HABIT CHAR (6),  
  ABUNDANCE INTEGER,  
  FEDSTAT CHAR (6) NOT NULL,  
  STATESTAT CHAR (6) NOT NULL,  
  COMMENTS VARCHAR (175)  
);
REMARK
/
CHANGE WILDLIFE TABLES TO NEW STANDARD
/
CREATE TABLE BIRDSURV (
INSTALID CHAR (3) NOT NULL,
PLOTID INTEGER NOT NULL,
RECDATE DATE NOT NULL,
PLOTTYPE CHAR (8),
COLLECTOR VARCHAR (70),
CLOUD_COVER INTEGER,
WIND INTEGER,
TEMP INTEGER,
BIRDNOTE VARCHAR (100)
);

CREATE TABLE GENDER_CODE
(SEX CHAR(1) NOT NULL,
SEX_DEF CHAR(35) NOT NULL,
SEX_NOTE VARCHAR(100));

CREATE TABLE HERPSURV (
INSTALID CHAR (3) NOT NULL,
PLOTID INTEGER NOT NULL,
RECDATE DATE NOT NULL,
PLOTTYPE CHAR (8),
COLLECTOR VARCHAR (70),
AZIMUTH REAL,
LOC INTEGER,
TEMPMAX INTEGER,
TEMPPMIN INTEGER,
CLOUD_COVER INTEGER,
WIND INTEGER,
HERPNOTE VARCHAR (100)
);

CREATE TABLE MATED_STATUS_CODE (
MATED_STATUS CHAR (2) NOT NULL,
MSTATUS_DEF CHAR (35) NOT NULL,
MSTATUS_NOTE VARCHAR (100)
CREATE TABLE MAMSURV
(INSTALLID CHAR(3) NOT NULL,
PLOTID INTEGER NOT NULL,
RECDATE DATE NOT NULL,
PLOTYPE CHAR(4),
COLLECTORS CHAR(35),
TRAPS CHAR(25),
TRAPNIGHTS INTEGER,
BAITS CHAR(25),
TEMP_HIGH INTEGER,
TEMP_LOW INTEGER,
CLOUD_COVER INTEGER,
PRECIP INTEGER,
MAMNOTE VARCHAR(100));

CREATE TABLE METHODS_CODE
(METHOD CHAR(3) NOT NULL,
METHOD_DEF CHAR(35) NOT NULL,
METHOD_NOTE VARCHAR(100));

CREATE TABLE POINT_CODE
(MEASURE_PT CHAR(2) NOT NULL,
POINT_DEF CHAR(35) NOT NULL,
POINT_NOTE VARCHAR(100));

INSERT INTO BIRDSURV (INSTALLID,PLOTID,RECDATE) SELECT DISTINCT INSTALLID,PLOTID,RECDATE FROM BIRDS;
DELETE FROM BIRDS WHERE VERTID IS NULL;
ALTER TABLE BIRDS RENAME TOTAL NUM;
DELETE FROM BIRDS WHERE NUM IS NULL;
ALTER TABLE BIRDS MODIFY INSTALLID NOT NULL;
ALTER TABLE BIRDS MODIFY VERTID NOT NULL;
ALTER TABLE BIRDS MODIFY NUM NOT NULL;
ALTER TABLE BIRDS ADD MATED_STATUS CHAR(8);
ALTER TABLE BIRDS ADD MEASURE_PT CHAR(2);
UPDATE BIRDS SET MATED_STATUS = 'C' WHERE MATED_STATUS IS NULL;
UPDATE BIRDS SET MEASURE_PT = 'C' WHERE MEASURE_PT IS NULL;
ALTER TABLE BIRDS MODIFY MATED_STATUS NOT NULL;
ALTER TABLE BIRDS MODIFY MEASURE PT NOT NULL;

INSERT INTO MAMSURV (INSTALID, PLOTID, RECEDATE) SELECT DISTINCT INSTALID, PLOTID, RECEDATE FROM MAMMALS;
DELETE FROM MAMMALS WHERE VERTID IS NULL;
ALTER TABLE MAMMALS RENAME TOTAL NUM;
DELETE FROM MAMMALS WHERE NUM IS NULL;
UPDATE MAMMALS SET METHOD = 'U' WHERE METHOD IS NULL;

ALTER TABLE MAMMALS MODIFY INSTALID NOT NULL;
ALTER TABLE MAMMALS MODIFY VERTID NOT NULL;
ALTER TABLE MAMMALS MODIFY NUM NOT NULL;
ALTER TABLE MAMMALS MODIFY METHOD NOT NULL;

ALTER TABLE MAMMALS ADD SEX CHAR(1);
ALTER TABLE MAMMALS ADD RETRAP INTEGER;

UPDATE MAMMALS SET SEX = 'C' WHERE SEX IS NULL;

ALTER TABLE MAMMALS MODIFY SEX NOT NULL;
INSERT INTO HERPSURV (INSTALID, PLOTID, RECEDATE) SELECT DISTINCT INSTALID, PLOTID, RECEDATE FROM HERPS;
DELETE FROM HERPS WHERE VERTID IS NULL;
ALTER TABLE HERPS RENAME TOTAL NUM;
DELETE FROM HERPS WHERE NUM IS NULL;
UPDATE HERPS SET METHOD = 'U' WHERE METHOD IS NULL;

ALTER TABLE HERPS MODIFY INSTALID NOT NULL;
ALTER TABLE HERPS MODIFY VERTID NOT NULL;
ALTER TABLE HERPS MODIFY NUM NOT NULL;
ALTER TABLE HERPS MODIFY METHOD NOT NULL;

ALTER TABLE HERPS ADD SEX CHAR(1);
ALTER TABLE HERPS ADD RETRAP INTEGER;

UPDATE HERPS SET SEX = 'C' WHERE SEX IS NULL;

ALTER TABLE HERPS MODIFY SEX NOT NULL;
INSERT INTO MATED_STATUS_CODE VALUES(
  :1,
  :2,
  :3)
\$
$DATATYPES CHARACTER,CHARACTER,CHARACTER
  "S", "SINGING MALE", 
  "PR", "ADULT MALE/FEMALE PAIR", 
  "M", "NONSINGING MALE", 
  "F", "FEMALE ONLY", 
  "U", "UNKNOWN SEX AND AGE", 
  "Y", "YOUNG OF THE YEAR", 
  "FL", "FLOCK", 
  "C", "COMBINED", "ALL STATUSES WERE TOTALED AND ENTERED AS ONE OBSERVATION" 
  "NR", "NOT RECORDED", 
)
/

INSERT INTO POINT_CODE VALUES(
  :1,
  :2,
  :3)
\$
$DATATYPES CHARACTER,CHARACTER,CHARACTER
  "LO", "LINE OUT", 
  "LI", "LINE IN", 
  "EP", "END POINT", 
  "C", "COMBINED", "ALL POINTS WERE TOTALED AND ENTERED AS ONE OBSERVATION" 
  "U", "UNKNOWN", 
  "NR", "NOT RECORDED", 
)
/

INSERT INTO GENDER_CODE VALUES(
  :1,
  :2,
  :3)
\$
$DATATYPES CHARACTER,CHARACTER,CHARACTER
  "M", "MALE", 
  "F", "FEMALE", 
  "U", "UNKNOWN GENDER", 
  "C", "COMBINED", "ALL GENDERS WERE TOTALED AND ENTERED AS ONE OBSERVATION" 
  "N", "NOT RECORDED", 
)


INSERT INTO METHODS_CODE VALUES(
:1,
:2,
:3)
/

$DATATYPES CHARACTER,CHARACTER,CHARACTER
"O","OBSERVED",""
"S","SIGNS",""
"T","TRAPPED",""
"C","COMBINED","ALL METHODS WERE TOTALED AND ENTERED AS ONE OBSERVATION"
"U","UNKNOWN",""
"NR","NOT RECORDED",""
/

REMARK
/
TEST TO MAKE SURE COLUMNS ARE CORRECTLY NAMED
USED IF DATABASE HAS BEEN PARTIALLY UPDATED
/
ALTER TABLE BIRDSURV RENAME OBSERVER COLLECTORS;
ALTER TABLE HERPSURV RENAME SURVEYOR COLLECTORS;

ALTER TABLE MATED_STATUS_CODE RENAME STATUS_DEF MSTATUS_DEF;
ALTER TABLE MATED_STATUS_CODE RENAME STATUS_NOTE MSTATUS_NOTE;
ALTER TABLE HERPSURV RENAME SURVEYOR COLLECTORS;

REMARK
/
CREATE VALIDATION TABLES FOR
LANDUSE,MAINTACT,EROSEVID,LINEMON,GNDCOVER
AND LOAD VALIDATION DATA
/
CREATE TABLE AERCOV_CODE (  
    AERCOV        CHAR (2) NOT NULL,
    AERCOV_DEF    CHAR (35) NOT NULL,
    AERCOV_NOTE   VARCHAR (100))
/
INSERT INTO AERCOV_CODE VALUES(
:1,
:2,
:3)
/

$DATATYPES CHARACTER,CHARACTER,CHARACTER
"N","NO AERIAL COVER","NO CANOPY COVER ABOVE THE POINT",
"A","ANNUAL","ONLY ANNUAL COVER", 
"P", "PERENNIAL", "ONLY PERENNIAL COVER",
"AP", "ANNUAL/PERENNIAL", "BOTH ANNUAL AND PERENNIAL COVER",
"U", "UNKNOWN AERIAL COVER", "USUALLY USED WHEN CONVERTING OLD DATA",
"NR", "NOT RECORDED", "NO CANOPY COVER VALUE WAS ENTERED",
"L", "LITTER", "LITTER FOUND AT AERIAL HIT",
/
CREATE TABLE DISTURB_CODE (  
    DISTURB    CHAR (2) NOT NULL,
    DISTURB_DEF CHAR (35) NOT NULL,
    DISTURB_NOTE VARCHAR (100)
)
/
INSERT INTO DISTURB_CODE VALUES(
    :1,
    :2,
    :3)
/
$DATATYPES CHARACTER, CHARACTER, CHARACTER
"N", "NO DISTURBANCE", "NO EVIDENCE OF PHYSICAL DISTURBANCE TO THE SOIL SURFACE OR CRUSHED VEGETATION",
"R", "ROAD", "PERMANENT OR SEMIPERMANENT TRAFFIC ROUTE RECEIVING PERIODIC MAINTENANCE",
"T", "TRAIL", "SEMIPERMANENT TRAFFIC ROUTE RECEIVING NO MAINTENANCE",
"P", "PASS", "A RANDOM VEHICLE TRACK THAT DOES NOT FOLLOW AN ESTABLISHED TRAFFIC PATTERN",
"O", "OTHER DISTURBANCE", "EVIDENCE OF SOIL DISTURBANCE FROM NONVEHICULAR SOURCES SUCH AS EXCAVATION, DEMOLITION, BIVOUAC, ETC.",
"PO", "PASS/OTHER", "A RANDOM VEHICLE TRACK WITH OTHER VISIBLE DISTURBANCE",
"TO", "TRAIL/OTHER", "SEMIPERMANENT TRAFFIC ROUTE RECEIVING NO MAINTENANCE WITH OTHER VISIBLE DISTURBANCE",
"NR", "NOT RECORDED", "NO DISTURBANCE WAS RECORDED (NO DATA COLLECTED)",
"U", "UNKNOWN", "UNKNOWN DISTURBANCE (USUALLY USED WHEN CONVERTING OLD DATA)",
/
CREATE TABLE EROS_CODE (  
    STATUS    CHAR (16) NOT NULL,
    STATUS_DEF CHAR (35) NOT NULL,
    STATUS_NOTE VARCHAR (100)
)
/
INSERT INTO EROS_CODE VALUES(
    :1,
    :2,
    :3)
/
$DATATYPES CHARACTER, CHARACTER, CHARACTER
"WAA", "ACTIVE GULLY", ","
CREATE TABLE GNDCOV_CODE (  
    GNDCOV CHAR (2) NOT NULL,  
    GNDCOV_DEF CHAR (35) NOT NULL,  
    GNDCOV_NOTE VARCHAR (100))
/

INSERT INTO GNDCOV_CODE VALUES(  
    1,  
    2,  
    3)
\

$DATATYPES CHARACTER,CHARACTER,CHARACTER  
"B","BARE GROUND","EXPOSED SOIL",  
"R","ROCK","ANY ROCK OR GRAVEL >2MM",  
"L","LITTER","ANY DETACHED PLANT PART",  
"P","PLANT","ANY ATTACHED PART OF ROOTED VASCULAR PLANT",  
"M","MICROPHYTE","ANY MOSS, LICHEN OR ALGAE",  
"U","UNKNOWN","UNKNOWN GROUND COVER (USUALLY USED WHEN CONVERTING OLD DATA)",  
"NR","NOT RECORDED","NO GROUND COVER VALUE ENTERED",  
/
CREATE TABLE LANDUSE_CODE (  
    LANDUSE CHAR (16) NOT NULL,  
    LANDUSE_DEF CHAR (35) NOT NULL,  
    LANDUSE_NOTE VARCHAR (100))
/

INSERT INTO LANDUSE_CODE VALUES(  
    1,  
    2,  
    3)
\

$DATATYPES CHARACTER,CHARACTER,CHARACTER  
"MD","DEMOLITION","",  
"NGO","GRAZING-OTHER","",  
"NGS","GRAZING-SHEEP","",  
"MF","FOOT","",  
"NGC","GRAZING-CATTLE","",  

"NN", "NO NON-MILITARY USE", "",
"ME", "EXCAVATION", "",
"MT", "TRACKED", "",
"NF", "FORESTRY", "",
"MW", "WHEELED", "",
"NH", "HAY", "",
"MT", "NO MILITARY USE", "",
"MO", "OTHER MILITARY USE", "",
"MB", "BIVOUAC", "",
"NO", "OTHER NON-MILITARY USE", "",
"NR", "ROW CROP", "",
"NG", "GRAZING", "GRAZING OF UNKNOWN TYPE",
/
CREATE TABLE MAINT_CODE (
    MAINTAIN CHAR (16) NOT NULL,
    MAINTAIN_DEF CHAR (35) NOT NULL,
    MAINTAIN_NOTE VARCHAR (100))
/
INSERT INTO MAINT_CODE VALUES(
    1,
    2,
    3)
/
$DATATYPES CHARACTER,CHARACTER,CHARACTER
"MABA", "ACCIDENTAL BURN", "",
"MABAL", "ACCIDENTAL BURN > 1 YEAR", "",
"MABAS", "ACCIDENTAL BURN < 1 YEAR", "",
"MABP", "PRESCRIBED BURN", "",
"MABPL", "PRESCRIBED BURN > 1 YEAR", "",
"MABPS", "PRESCRIBED BURN < 1 YEAR", "",
"MAC", "CHEMICAL APPLICATION", "",
"MAM", "MOWING", "",
"MAN", "NO MAINTENANCE", "",
"MAO", "OTHER MAINTENANCE", "",
"MAP", "PLANTING", "",
"MAS", "SEEDING", "",
"MAT", "TILLAGE", "",
/
REMARK
/
CHANGE LANDUSE, MAINTACT, EROEVID, LINEMON, GNDCOVER DATA
TO NEW STANDARD
/
UPDATE MAINTACT SET MAINTAIN = 'MABA' WHERE MAINTAIN = 'AC BURN';
UPDATE MAINTACT SET MAINTAIN = 'MABA' WHERE MAINTAIN = 'AC BURN';
UPDATE MAINTACT SET MAINTAIN = 'MABAL' WHERE MAINTAIN = 'AC BURN > 1 YR';
UPDATE MAINTACT SET MAINTAIN = 'MABAL' WHERE MAINTAIN = 'AC BURN > 1 YR';
UPDATE MAINTACT SET MAINTAIN = 'MABAL' WHERE MAINTAIN = 'AC BURN > 1 YR';
UPDATE MAINTACT SET MAINTAIN = 'MABAL' WHERE MAINTAIN = 'AC BURN > 1 YR';
UPDATE MAINTACT SET MAINTAIN = 'MABAS' WHERE MAINTAIN = 'AC BURN < 1 YR';
UPDATE MAINTACT SET MAINTAIN = 'MABAS' WHERE MAINTAIN = 'AC BURN < 1 YR';
UPDATE MAINTACT SET MAINTAIN = 'MABAS' WHERE MAINTAIN = 'AC BURN < 1 YR';
UPDATE MAINTACT SET MAINTAIN = 'MABAS' WHERE MAINTAIN = 'AC BURN < 1 YR';
UPDATE MAINTACT SET MAINTAIN = 'MABP' WHERE MAINTAIN = 'PX BURN';
UPDATE MAINTACT SET MAINTAIN = 'MABP' WHERE MAINTAIN = 'PX BURN';
UPDATE MAINTACT SET MAINTAIN = 'MABP' WHERE MAINTAIN = 'PX BURN';
UPDATE MAINTACT SET MAINTAIN = 'MABPL' WHERE MAINTAIN = 'PX BURN > 1 YR';
UPDATE MAINTACT SET MAINTAIN = 'MABPL' WHERE MAINTAIN = 'PX BURN > 1 YR';
UPDATE MAINTACT SET MAINTAIN = 'MABPL' WHERE MAINTAIN = 'PX BURN > 1 YR';
UPDATE MAINTACT SET MAINTAIN = 'MABPL' WHERE MAINTAIN = 'PX BURN > 1 YR';
UPDATE MAINTACT SET MAINTAIN = 'MABPS' WHERE MAINTAIN = 'PX BURN < 1 YR';
UPDATE MAINTACT SET MAINTAIN = 'MABPS' WHERE MAINTAIN = 'PX BURN < 1 YR';
UPDATE MAINTACT SET MAINTAIN = 'MABPS' WHERE MAINTAIN = 'PX BURN < 1 YR';
UPDATE MAINTACT SET MAINTAIN = 'MABPS' WHERE MAINTAIN = 'PX BURN < 1 YR';
UPDATE MAINTACT SET MAINTAIN = 'MAC' WHERE MAINTAIN = 'CHEM APP';
UPDATE MAINTACT SET MAINTAIN = 'MAC' WHERE MAINTAIN = 'CHEM APP';
UPDATE MAINTACT SET MAINTAIN = 'MAC' WHERE MAINTAIN = 'CHEM APP';
UPDATE MAINTACT SET MAINTAIN = 'MAM' WHERE MAINTAIN = 'MOWED';
UPDATE MAINTACT SET MAINTAIN = 'MAM' WHERE MAINTAIN = 'MOWING';
UPDATE MAINTACT SET MAINTAIN = 'MAM' WHERE MAINTAIN = 'MOWING';
UPDATE MAINTACT SET MAINTAIN = 'MAM' WHERE MAINTAIN = 'NONE';
UPDATE MAINTACT SET MAINTAIN = 'MAN' WHERE MAINTAIN = 'NO MAINT';
UPDATE MAINTACT SET MAINTAIN = 'MAN' WHERE MAINTAIN = 'NO MAINT';
UPDATE MAINTACT SET MAINTAIN = 'MAN' WHERE MAINTAIN = 'NO MAINT';
UPDATE MAINTACT SET MAINTAIN = 'MAN' WHERE MAINTAIN = 'NO MAINT';
UPDATE MAINTACT SET MAINTAIN = 'MAN' WHERE MAINTAIN = 'NO MAINT';
UPDATE MAINTACT SET MAINTAIN = 'MAN' WHERE MAINTAIN = 'NO MAINT';
UPDATE MAINTACT SET MAINTAIN = 'MAN' WHERE MAINTAIN = 'NO MAINT';
UPDATE MAINTACT SET MAINTAIN = 'MAN' WHERE MAINTAIN = 'NO MAINT';
UPDATE MAINTACT SET MAINTAIN = 'MAO' WHERE MAINTAIN = 'OTHER';
UPDATE MAINTACT SET MAINTAIN = 'MAO' WHERE MAINTAIN = 'OTHER';
UPDATE MAINTACT SET MAINTAIN = 'MAO' WHERE MAINTAIN = 'OTHER';
UPDATE MAINTACT SET MAINTAIN = 'MAO' WHERE MAINTAIN = 'OTHER';
UPDATE MAINTACT SET MAINTAIN = 'MAP' WHERE MAINTAIN = 'PLANTING';
UPDATE MAINTACT SET MAINTAIN = 'MAP' WHERE MAINTAIN = 'PLANTING';
UPDATE MAINTACT SET MAINTAIN = 'MAS' WHERE MAINTAIN = 'SEEDED';
UPDATE MAINTACT SET MAINTAIN = 'MAS' WHERE MAINTAIN = 'SEEDING';
UPDATE MAINTACT SET MAINTAIN = 'MAS' WHERE MAINTAIN = 'SEEDING';
UPDATE MAINTACT SET MAINTAIN = 'MAS' WHERE MAINTAIN = 'SEEDINGS';
UPDATE MAINTACT SET MAINTAIN = 'MAT' WHERE MAINTAIN = 'TILLAGE';
UPDATE MAINTACT SET MAINTAIN = 'MAT' WHERE MAINTAIN = 'TILLAGE';
UPDATE LANDUSE SET LANDUSE = 'MB' WHERE LANDUSE = 'BIVOUAC';
UPDATE LANDUSE SET LANDUSE = 'MB' WHERE LANDUSE = 'BIVOUAC';
UPDATE LANDUSE SET LANDUSE = 'MB' WHERE LANDUSE = 'BIVOUAC';
UPDATE LANDUSE SET LANDUSE = 'MD' WHERE LANDUSE = 'DEMOLITION';
UPDATE LANDUSE SET LANDUSE = 'MD' WHERE LANDUSE = 'DEMOLITION';
UPDATE LANDUSE SET LANDUSE = 'ME' WHERE LANDUSE = 'EXCAVATION';
UPDATE LANDUSE SET LANDUSE = 'ME' WHERE LANDUSE = 'EXCAVATION';
UPDATE LANDUSE SET LANDUSE = 'MF' WHERE LANDUSE = 'FOOT';
UPDATE LANDUSE SET LANDUSE = 'MF' WHERE LANDUSE = 'FOOT';
UPDATE LANDUSE SET LANDUSE = 'MF' WHERE LANDUSE = 'FOOT';
UPDATE LANDUSE SET LANDUSE = 'MN' WHERE LANDUSE = '?';
UPDATE LANDUSE SET LANDUSE = 'MN' WHERE LANDUSE = 'NO MIL.';
UPDATE LANDUSE SET LANDUSE = 'MN' WHERE LANDUSE = 'NO MIL.';
UPDATE LANDUSE SET LANDUSE = 'MN' WHERE LANDUSE = 'NO MIL.';
UPDATE LANDUSE SET LANDUSE = 'MO' WHERE LANDUSE = 'OTHER';
UPDATE LANDUSE SET LANDUSE = 'MO' WHERE LANDUSE = 'OTHER';
UPDATE LANDUSE SET LANDUSE = 'MO' WHERE LANDUSE = 'OTHER MIL.';
UPDATE LANDUSE SET LANDUSE = 'MO' WHERE LANDUSE = 'OTHER MIL.';
UPDATE LANDUSE SET LANDUSE = 'MO' WHERE LANDUSE = 'OTHER MIL. USE';
UPDATE LANDUSE SET LANDUSE = 'MO' WHERE LANDUSE = 'OTHER MIL.';
UPDATE LANDUSE SET LANDUSE = 'MT' WHERE LANDUSE = 'TRACKED';
UPDATE LANDUSE SET LANDUSE = 'MT' WHERE LANDUSE = 'TRACKED';
UPDATE LANDUSE SET LANDUSE = 'MT' WHERE LANDUSE = 'TRACKED';
UPDATE LANDUSE SET LANDUSE = 'MW' WHERE LANDUSE = 'WHEELED';
UPDATE LANDUSE SET LANDUSE = 'MW' WHERE LANDUSE = 'WHEELED';
UPDATE LANDUSE SET LANDUSE = 'MW' WHERE LANDUSE = 'WHEELED';
UPDATE LANDUSE SET LANDUSE = 'MF' WHERE LANDUSE = 'FORESTRY';
UPDATE LANDUSE SET LANDUSE = 'MF' WHERE LANDUSE = 'FORESTRY';
UPDATE LANDUSE SET LANDUSE = 'MF' WHERE LANDUSE = 'FORESTRY';
UPDATE LANDUSE SET LANDUSE = 'NG' WHERE LANDUSE = 'GRAZING';
UPDATE LANDUSE SET LANDUSE = 'NGC' WHERE LANDUSE = 'GRAZING-CATTLE';
UPDATE LANDUSE SET LANDUSE = 'NGC' WHERE LANDUSE = 'GRAZING-CATTLE';
UPDATE LANDUSE SET LANDUSE = 'NGC' WHERE LANDUSE = 'GRAZING-CATTLE';
UPDATE LANDUSE SET LANDUSE = 'NGO' WHERE LANDUSE = 'GRAZING-OTHER';
UPDATE LANDUSE SET LANDUSE = 'NGO' WHERE LANDUSE = 'GRAZING-OTHER';
UPDATE LANDUSE SET LANDUSE = 'NGS' WHERE LANDUSE = 'GRAZING-SHEEP';
UPDATE LANDUSE SET LANDUSE = 'NH' WHERE LANDUSE = 'HAY';
UPDATE LANDUSE SET LANDUSE = 'NN' WHERE LANDUSE = 'NO NON-MIL.';
UPDATE LANDUSE SET LANDUSE = 'NN' WHERE LANDUSE = 'NO NON-MIL.';
UPDATE LANDUSE SET LANDUSE = 'NN' WHERE LANDUSE = 'NO NONMIL.';
UPDATE LANDUSE SET LANDUSE = 'NN' WHERE LANDUSE = 'NO NON-MIL.';
UPDATE LANDUSE SET LANDUSE = 'NN' WHERE LANDUSE = 'NO MIL. USE';
UPDATE LANDUSE SET LANDUSE = 'NO' WHERE LANDUSE = 'OTHER NON-MIL';
UPDATE LANDUSE SET LANDUSE = 'NO' WHERE LANDUSE = 'OTHER NON-MIL';
UPDATE LANDUSE SET LANDUSE = 'NO' WHERE LANDUSE = 'OTHER NON-MIL';
UPDATE LANDUSE SET LANDUSE = 'NO' WHERE LANDUSE = 'OTHER NON-MIL';
UPDATE LANDUSE SET LANDUSE = 'NO' WHERE LANDUSE = 'OTHER NON-MIL';
UPDATE LANDUSE SET LANDUSE = 'NR' WHERE LANDUSE = 'CROP';
UPDATE LANDUSE SET LANDUSE = 'NR' WHERE LANDUSE = 'ROW CROP';
UPDATE EROSEVID SET STATUS = 'WAA' WHERE STATUS = 'ACTIVE GULLY';
UPDATE EROSEVID SET STATUS = 'WAA' WHERE STATUS = 'ACTIVE GULLY';
UPDATE EROSEVID SET STATUS = 'WAA' WHERE STATUS = 'ACTIVE GULLY';
UPDATE EROSEVID SET STATUS = 'WAA' WHERE STATUS = 'GULLY';
UPDATE EROSEVID SET STATUS = 'WAD' WHERE STATUS = 'DEBRIS DAM';
UPDATE EROSEVID SET STATUS = 'WAD' WHERE STATUS = 'DEBRIS';
UPDATE EROSEVID SET STATUS = 'WAD' WHERE STATUS = 'DEBRIS DAM';
UPDATE EROSEVID SET STATUS = 'WAD' WHERE STATUS = 'DEBRIS DAM';
UPDATE EROSEVID SET STATUS = 'WAD' WHERE STATUS = 'DEBRIS DAMS';
UPDATE EROSEVID SET STATUS = 'WAD' WHERE STATUS = 'DEBRIS DAMS';
UPDATE EROSEVID SET STATUS = 'WAN' WHERE STATUS = 'NO WATER EROSION';
UPDATE EROSEVID SET STATUS = 'WAN' WHERE STATUS = 'NO WATER EROSION';
UPDATE EROSEVID SET STATUS = 'WAN' WHERE STATUS = 'NO WATER EROSION';
UPDATE EROSEVID SET STATUS = 'WAN' WHERE STATUS = 'NO WATER EROSION';
UPDATE EROSEVID SET STATUS = 'WAN' WHERE STATUS = 'NO WATER EROSION';
UPDATE EROSEVID SET STATUS = 'WAP' WHERE STATUS = 'WATER PED PLNT';
UPDATE EROSEVID SET STATUS = 'WAP' WHERE STATUS = 'WATER PED PLNT';
UPDATE EROSEVID SET STATUS = 'WAP' WHERE STATUS = 'WATER PED PLNT';
UPDATE EROSEVID SET STATUS = 'WAP' WHERE STATUS = 'WATER PED PLNT';
UPDATE EROSEVID SET STATUS = 'WAP' WHERE STATUS = 'WATER PED PLNT';
UPDATE EROSEVID SET STATUS = 'WAP' WHERE STATUS = 'WATER PED PLNT';
UPDATE EROSEVID SET STATUS = 'WAS' WHERE STATUS = 'SHEET/RILL';
UPDATE EROSEVID SET STATUS = 'WAS' WHERE STATUS = 'SHEET/RILL';
UPDATE EROSEVID SET STATUS = 'WAS' WHERE STATUS = 'SHEET/RILL';
UPDATE EROSEVID SET STATUS = 'WAS' WHERE STATUS = 'SHEET/RILL';
UPDATE EROSEVID SET STATUS = 'WAS' WHERE STATUS = 'SHEET/RILL';
UPDATE EROSEVID SET STATUS = 'WID' WHERE STATUS = 'DRIFTING';
UPDATE EROSEVID SET STATUS = 'WIN' WHERE STATUS = 'NO WIND EROSION';
UPDATE EROSEVID SET STATUS = 'WIN' WHERE STATUS = 'NO WIND EROSION';
UPDATE EROSEVID SET STATUS = 'WIN' WHERE STATUS = 'NO WIND EROSION';
UPDATE EROSEVID SET STATUS = 'WIN' WHERE STATUS = 'NO WIND EROSION';
UPDATE EROSEVID SET STATUS = 'WIN' WHERE STATUS = 'NO WIND EROSION';
UPDATE EROSEVID SET STATUS = 'WIP' WHERE STATUS = 'WIND PED PLNT';
UPDATE EROSEVID SET STATUS = 'WIP' WHERE STATUS = 'WIND PED PLNT';
UPDATE EROSEVID SET STATUS = 'WIP' WHERE STATUS = 'WIND PED PLNT';
UPDATE EROSEVID SET STATUS = 'WIS' WHERE STATUS = 'SCOURING';
UPDATE EROSEVID SET STATUS = 'WIS' WHERE STATUS = 'SCOURING';
UPDATE LINEEMON SET AERCov = 'N' WHERE AERCov = '';
UPDATE LINEEMON SET AERCov = 'A' WHERE AERCov = 'A';
UPDATE LINEEMON SET AERCov = 'AP' WHERE AERCov = 'AP';
UPDATE LINEEMON SET AERCov = 'N' WHERE AERCov = 'B';
UPDATE LINEMON SET AERCov = 'U' WHERE AERCov = 'H2';
UPDATE LINEMON SET AERCov = 'L' WHERE AERCov = 'L';
UPDATE LINEMON SET AERCov = 'N' WHERE AERCov = 'M';
UPDATE LINEMON SET AERCov = 'N' WHERE AERCov = 'N';
UPDATE LINEMON SET AERCov = 'N' WHERE AERCov = 'NN';
UPDATE LINEMON SET AERCov = 'N' WHERE AERCov = 'NP';
UPDATE LINEMON SET AERCov = 'P' WHERE AERCov = 'P';
UPDATE LINEMON SET AERCov = 'P' WHERE AERCov = 'P';
UPDATE LINEMON SET AERCov = 'AP' WHERE AERCov = 'PA';
UPDATE LINEMON SET AERCov = 'N' WHERE AERCov = 'PN';
UPDATE LINEMON SET AERCov = 'N' WHERE AERCov = 'R';
UPDATE LINEMON SET AERCov = 'N' WHERE AERCov = 'T';
UPDATE LINEMON SET AERCov = 'A' WHERE AERCov = 'A';
UPDATE LINEMON SET AERCov = 'AP' WHERE AERCov = 'AP';
UPDATE LINEMON SET AERCov = 'N' WHERE AERCov = 'N';
UPDATE LINEMON SET AERCov = 'P' WHERE AERCov = 'P';
UPDATE GNDCOVER SET DISTurb = 'N' WHERE DISTurb = 'N';
UPDATE GNDCOVER SET DISTurb = 'U' WHERE DISTurb = 'H2';
UPDATE GNDCOVER SET DISTurb = 'N' WHERE DISTurb = 'L';
UPDATE GNDCOVER SET DISTurb = 'N' WHERE DISTurb = 'M';
UPDATE GNDCOVER SET DISTurb = 'N' WHERE DISTurb = 'N';
UPDATE GNDCOVER SET DISTurb = 'O' WHERE DISTurb = 'O';
UPDATE GNDCOVER SET DISTurb = 'P' WHERE DISTurb = 'P';
UPDATE GNDCOVER SET DISTurb = 'PO' WHERE DISTurb = 'PO';
UPDATE GNDCOVER SET DISTurb = 'R' WHERE DISTurb = 'R';
UPDATE GNDCOVER SET DISTurb = 'T' WHERE DISTurb = 'T';
UPDATE GNDCOVER SET DISTurb = 'TO' WHERE DISTurb = 'TO';
UPDATE GNDCOVER SET DISTurb = 'N' WHERE DISTurb = 'W';
UPDATE GNDCOVER SET DISTurb = 'N' WHERE DISTurb = 'X';
UPDATE GNDCOVER SET DISTurb = 'N' WHERE DISTurb = 'LT';
UPDATE GNDCOVER SET DISTurb = 'N' WHERE DISTurb = 'N';
UPDATE GNDCOVER SET DISTurb = 'O' WHERE DISTurb = 'O';
UPDATE GNDCOVER SET DISTurb = 'O' WHERE DISTurb = 'OR';
UPDATE GNDCOVER SET DISTurb = 'N' WHERE DISTurb = 'O';
UPDATE GNDCOVER SET DISTurb = 'P' WHERE DISTurb = 'P';
UPDATE GNDCOVER SET DISTurb = 'R' WHERE DISTurb = 'R';
UPDATE GNDCOVER SET DISTurb = 'T' WHERE DISTurb = 'T';
UPDATE GNDCOVER SET DISTurb = 'T' WHERE DISTurb = 'TR';
UPDATE GNDCOVER SET DISTurb = 'N' WHERE DISTurb = 'X';
UPDATE LINEMON SET GNDcov = 'B' WHERE GNDcov = 'B';
UPDATE LINEMON SET GNDcov = 'B' WHERE GNDcov = 'AT';
UPDATE LINEMON SET GNDcov = 'B' WHERE GNDcov = 'B';
UPDATE LINEMON SET GNDcov = 'B' WHERE GNDcov = 'BB';
UPDATE LINEMON SET GNDcov = 'L' WHERE GNDcov = 'FL';
UPDATE LINEMON SET GNDcov = 'B' WHERE GNDcov = 'G';
UPDATE LINEMON SET GNDCOV = 'U' WHERE GNDCOV = 'H2';
UPDATE LINEMON SET GNDCOV = 'B' WHERE GNDCOV = 'K';
UPDATE LINEMON SET GNDCOV = 'L' WHERE GNDCOV = 'L';
UPDATE LINEMON SET GNDCOV = 'M' WHERE GNDCOV = 'M';
UPDATE LINEMON SET GNDCOV = 'M' WHERE GNDCOV = 'MO';
UPDATE LINEMON SET GNDCOV = 'B' WHERE GNDCOV = 'N';
UPDATE LINEMON SET GNDCOV = 'P' WHERE GNDCOV = 'P';
UPDATE LINEMON SET GNDCOV = 'R' WHERE GNDCOV = 'R';
UPDATE LINEMON SET GNDCOV = 'P' WHERE GNDCOV = 'T';
UPDATE LINEMON SET GNDCOV = 'L' WHERE GNDCOV = 'TL';
UPDATE LINEMON SET GNDCOV = 'P' WHERE GNDCOV = 'TR';
UPDATE LINEMON SET GNDCOV = 'P' WHERE GNDCOV = 'V';
UPDATE LINEMON SET GNDCOV = 'B' WHERE GNDCOV = 'B';
UPDATE LINEMON SET GNDCOV = 'L' WHERE GNDCOV = 'L';
UPDATE LINEMON SET GNDCOV = 'P' WHERE GNDCOV = 'P';
UPDATE LINEMON SET GNDCOV = 'R' WHERE GNDCOV = 'R';
UPDATE LINEMON SET DISTURB = 'N' WHERE DISTURB = '';
UPDATE LINEMON SET DISTURB = 'U' WHERE DISTURB = 'H2';
UPDATE LINEMON SET DISTURB = 'N' WHERE DISTURB = 'L';
UPDATE LINEMON SET DISTURB = 'N' WHERE DISTURB = 'M';
UPDATE LINEMON SET DISTURB = 'N' WHERE DISTURB = 'N';
UPDATE LINEMON SET DISTURB = 'O' WHERE DISTURB = 'O';
UPDATE LINEMON SET DISTURB = 'P' WHERE DISTURB = 'P';
UPDATE LINEMON SET DISTURB = 'PO' WHERE DISTURB = 'PO';
UPDATE LINEMON SET DISTURB = 'R' WHERE DISTURB = 'R';
UPDATE LINEMON SET DISTURB = 'T' WHERE DISTURB = 'T';
UPDATE LINEMON SET DISTURB = 'TO' WHERE DISTURB = 'TO';
UPDATE LINEMON SET DISTURB = 'N' WHERE DISTURB = 'W';
UPDATE LINEMON SET DISTURB = 'N' WHERE DISTURB = 'X';
UPDATE LINEMON SET DISTURB = 'N' WHERE DISTURB = 'LT';
UPDATE LINEMON SET DISTURB = 'N' WHERE DISTURB = 'N';
UPDATE LINEMON SET DISTURB = 'O' WHERE DISTURB = 'O';
UPDATE LINEMON SET DISTURB = 'O' WHERE DISTURB = 'OR';
UPDATE LINEMON SET DISTURB = 'N' WHERE DISTURB = '0';
UPDATE LINEMON SET DISTURB = 'P' WHERE DISTURB = 'P';
UPDATE LINEMON SET DISTURB = 'R' WHERE DISTURB = 'R';
UPDATE LINEMON SET DISTURB = 'T' WHERE DISTURB = 'T';
UPDATE LINEMON SET DISTURB = 'T' WHERE DISTURB = 'TR';
UPDATE LINEMON SET DISTURB = 'N' WHERE DISTURB = 'X';

REMARK
\nREBUILD INDEXES AND KEYS
/
CREATE UNIQUE INDEX AERCOV_CODE_KEY ON AERCOV_CODE (AERCOV);

CREATE UNIQUE INDEX BIRDSURV_KEY ON BIRDSURV (INSTALID, PLOTID, RECDATE);

CREATE UNIQUE INDEX CLIMATESTN_KEY ON CLIMATESTATIONS (INSTALID, STATION);

CREATE UNIQUE INDEX DISTURB_CODE_KEY ON DISTURB_CODE (DISTURB);

CREATE UNIQUE INDEX EROS_CODE_KEY ON EROS_CODE (STATUS);

CREATE UNIQUE INDEX FED_STATUS_KEY ON FED_STATUS (FEDSTAT);

CREATE UNIQUE INDEX GENDER_CODE_KEY ON GENDER_CODE (SEX);

CREATE UNIQUE INDEX GNDCOV_CODE_KEY ON GNDCOV_CODE (GNDCOV);

CREATE UNIQUE INDEX GROUPING_KEY ON GROUPING (PLOTID, INSTALID);

CREATE UNIQUE INDEX HERPSURV_KEY ON HERPSURV (INSTALID, PLOTID, RECDATE);

CREATE UNIQUE INDEX INSTMAST_KEY ON INSTMAST (INSTALID);

CREATE UNIQUE INDEX LANDUSE_CODE_KEY ON LANDUSE_CODE (LANDUSE);

CREATE UNIQUE INDEX MAINT_CODE_KEY ON MAINT_CODE (MAINTAIN);
CREATE UNIQUE INDEX MAMSURV_KEY ON MAMSURV (INSTALID, PLOTID, RECDATE);

CREATE UNIQUE INDEX MATED_STATUS_KEY ON MATED_STATUS_CODE (MATED_STATUS);

CREATE UNIQUE INDEX METHODS_CODE_KEY ON METHODS_CODE (METHOD);

CREATE UNIQUE INDEX PLNTLIST_KEY ON PLNTLIST (VEGID);

CREATE UNIQUE INDEX PLOTMAST_KEY ON PLOTMAST (INSTALID, PLOTID);

CREATE UNIQUE INDEX PLOTSURV_KEY ON PLOTSURV (INSTALID, PLOTID, RECDATE);

CREATE UNIQUE INDEX POINT_CODE_KEY ON POINT_CODE (MEASURE_PT);

CREATE UNIQUE INDEX STATE_STATUS_KEY ON STATE_STATUS (STATESTAT);

CREATE UNIQUE INDEX VERTLIST_KEY ON VERTLIST (VERTID);

ALTER TABLE INSTMAST PRIMARY KEY (INSTALID);

ALTER TABLE PLOTMAST PRIMARY KEY (INSTALID, PLOTID);

ALTER TABLE PLOTSURV PRIMARY KEY (INSTALID, PLOTID, RECDATE);

ALTER TABLE HERPSURV PRIMARY KEY (INSTALID, PLOTID, RECDATE);
ALTER TABLE MAMSURV
    PRIMARY KEY (INSTALID, PLOTID, RECDATE);

ALTER TABLE BIRDSURV
    PRIMARY KEY (INSTALID, PLOTID, RECDATE);

ALTER TABLE METHODS_CODE
    PRIMARY KEY (METHOD);

ALTER TABLE GENDER_CODE
    PRIMARY KEY (SEX);

ALTER TABLE POINT_CODE
    PRIMARY KEY (MEASURE_PT);

ALTER TABLE MATED_STATUS_CODE
    PRIMARY KEY (MATED_STATUS);

ALTER TABLE DISTURB_CODE
    PRIMARY KEY (DISTURB);

ALTER TABLE AERCOV_CODE
    PRIMARY KEY (AERCOV);

ALTER TABLE GNDCOV_CODE
    PRIMARY KEY (GNDCOV);

ALTER TABLE LANDUSE_CODE
    PRIMARY KEY (LANDUSE);

ALTER TABLE EROS_CODE
    PRIMARY KEY (STATUS);

ALTER TABLE MAINT_CODE
    PRIMARY KEY (MAINTAIN);

ALTER TABLE GROUPING
    PRIMARY KEY (PLOTID, INSTALID);

ALTER TABLE CLIMATESTATIONS
    PRIMARY KEY (INSTALID, STATION);

ALTER TABLE FED_STATUS
    PRIMARY KEY (FEDSTAT);
ALTER TABLE STATE_STATUS
  PRIMARY KEY (STATESTAT);

ALTER TABLE PLOTMAST
  FOREIGN KEY FK_PMAST (INSTALID)
  REFERENCES INSTMAST ON DELETE RESTRICT;

ALTER TABLE PLOTSURV
  FOREIGN KEY FK_PSRV (INSTALID, PLOTID)
  REFERENCES PLOTMAST ON DELETE RESTRICT;

ALTER TABLE ENVCONST
  FOREIGN KEY FK_EC (INSTALID)
  REFERENCES INSTMAST ON DELETE RESTRICT;

ALTER TABLE GROUPING
  FOREIGN KEY FK_GRP (INSTALID, PLOTID)
  REFERENCES PLOTMAST ON DELETE RESTRICT;

ALTER TABLE HERPSURV
  FOREIGN KEY FK_HSRV (INSTALID)
  REFERENCES INSTMAST ON DELETE RESTRICT;

ALTER TABLE MAMSURV
  FOREIGN KEY FK_MSRV (INSTALID)
  REFERENCES INSTMAST ON DELETE RESTRICT;

ALTER TABLE BIRDSURV
  FOREIGN KEY FK_BSRV (INSTALID)
  REFERENCES INSTMAST ON DELETE RESTRICT;

ALTER TABLE HERPS
  FOREIGN KEY FK_HRPS1 (METHOD)
  REFERENCES METHODS_CODE ON DELETE RESTRICT;

ALTER TABLE HERPS
  FOREIGN KEY FK_HRPS2 (INSTALID, PLOTID, RECDATE)
  REFERENCES HERPSURV ON DELETE RESTRICT;

ALTER TABLE HERPS
  FOREIGN KEY FK_HRPS3 (SEX)
  REFERENCES GENDER_CODE ON DELETE RESTRICT;

ALTER TABLE MAMMALS
  FOREIGN KEY FK_MAM1 (METHOD)
  REFERENCES METHODS_CODE ON DELETE RESTRICT;
ALTER TABLE MAMMALS
  FOREIGN KEY FK_MAM2 (INSTALID, PLOTID, RECDATE)
  REFERENCES MAMSURV ON DELETE RESTRICT;

ALTER TABLE MAMMALS
  FOREIGN KEY FK_MAM3 (SEX)
  REFERENCES GENDER_CODE ON DELETE RESTRICT;

ALTER TABLE BIRDS
  FOREIGN KEY FK_BIRD1 (MEASURE_PT)
  REFERENCES POINT_CODE ON DELETE RESTRICT;

ALTER TABLE BIRDS
  FOREIGN KEY FK_BIRD2 (MATED_STATUS)
  REFERENCES MATED_STATUS_CODE ON DELETE RESTRICT;

ALTER TABLE BIRDS
  FOREIGN KEY FK_BIRD3 (INSTALID, PLOTID, RECDATE)
  REFERENCES BIRDSURV ON DELETE RESTRICT;

ALTER TABLE MAINTACT
  FOREIGN KEY FK_MNT1 (INSTALID, PLOTID, RECDATE)
  REFERENCES PLOTSURV ON DELETE RESTRICT;

ALTER TABLE MAINTACT
  FOREIGN KEY FK_MNT2 (MAINTAIN)
  REFERENCES MAINT_CODE ON DELETE RESTRICT;

ALTER TABLE LINEMON
  FOREIGN KEY FK_LM1 (DISTURB)
  REFERENCES DISTURB_CODE ON DELETE RESTRICT;

ALTER TABLE LINEMON
  FOREIGN KEY FK_LM2 (AERCOV)
  REFERENCES AERCOV_CODE ON DELETE RESTRICT;

ALTER TABLE LINEMON
  FOREIGN KEY FK_LM3 (GNDCOV)
  REFERENCES GNDCOV_CODE ON DELETE RESTRICT;

ALTER TABLE LINEMON
  FOREIGN KEY FK_LM4 (INSTALID, PLOTID, RECDATE)
  REFERENCES PLOTSURV ON DELETE RESTRICT;

ALTER TABLE LANDUSE
  FOREIGN KEY FK_LU1 (INSTALID, PLOTID, RECDATE)
  REFERENCES PLOTSURV ON DELETE RESTRICT;

ALTER TABLE LANDUSE
  FOREIGN KEY FK_LU2 (LANDUSE)
  REFERENCES LANDUSE_CODE ON DELETE RESTRICT;
ALTER TABLE GNDCOVER
    FOREIGN KEY FK_GND1 (INSTALID, PLOTID, RECDATE)
    REFERENCES PLOTSURV ON DELETE RESTRICT;

ALTER TABLE GNDCOVER
    FOREIGN KEY FK_GND2 (DISTURB)
    REFERENCES DISTURB_CODE ON DELETE RESTRICT;

ALTER TABLE F_COUNT
    FOREIGN KEY FK_FCNT (INSTALID, PLOTID, RECDATE)
    REFERENCES PLOTSURV ON DELETE RESTRICT;

ALTER TABLE EROSEVID
    FOREIGN KEY FK_EROS1 (INSTALID, PLOTID, RECDATE)
    REFERENCES PLOTSURV ON DELETE RESTRICT;

ALTER TABLE EROSEVID
    FOREIGN KEY FK_EROS2 (STATUS)
    REFERENCES EROS_CODE ON DELETE RESTRICT;

ALTER TABLE BELTTRAN
    FOREIGN KEY FK_BELT (INSTALID, PLOTID, RECDATE)
    REFERENCES PLOTSURV ON DELETE RESTRICT;

ALTER TABLE BELTSURV
    FOREIGN KEY FK_BTSRV (INSTALID, PLOTID, RECDATE)
    REFERENCES PLOTSURV ON DELETE RESTRICT;

ALTER TABLE AERCOVER
    FOREIGN KEY FK_AER (INSTALID, PLOTID, RECDATE)
    REFERENCES PLOTSURV ON DELETE RESTRICT;

ALTER TABLE PLOTMAPS
    FOREIGN KEY FK_PMAP (INSTALID, PLOTID)
    REFERENCES PLOTMAST ON DELETE RESTRICT;

ALTER TABLE HISTORY
    FOREIGN KEY FK_HIST (INSTALID)
    REFERENCES INSTMAST ON DELETE RESTRICT;

ALTER TABLE BELTMON
    FOREIGN KEY FK_BM (INSTALID, PLOTID, RECDATE)
    REFERENCES PLOTSURV ON DELETE RESTRICT;

ALTER TABLE BASALA
    FOREIGN KEY FK_BA (INSTALID, PLOTID, RECDATE)
    REFERENCES PLOTSURV ON DELETE RESTRICT;
ALTER TABLE SOILSMPL
FOREIGN KEY FK_SSMPL (INSTALID, PLOTID)
REFERENCES PLOTMAST ON DELETE RESTRICT;

ALTER TABLE CLIMATESTATIONS
FOREIGN KEY FK_CSTNT (INSTALID)
REFERENCES INSTMAST ON DELETE RESTRICT;

ALTER TABLE CLIMATEDATA
FOREIGN KEY FK_CDATA (INSTALID, STATION)
REFERENCES CLIMATESTATIONS ON DELETE RESTRICT;

ALTER TABLE MAPS
FOREIGN KEY FK_MAPS (INSTALID)
REFERENCES INSTMAST ON DELETE RESTRICT;

ALTER TABLE PCSDYEARSUM
FOREIGN KEY FK_PCSDY (INSTALID)
REFERENCES INSTMAST ON DELETE RESTRICT;

ALTER TABLE EROSION
FOREIGN KEY FK_ERSN (INSTALID, PLOTID)
REFERENCES PLOTMAST ON DELETE RESTRICT;

ALTER TABLE COMMCLASSPLOTSUM
FOREIGN KEY FK_COMM (INSTALID, PLOTID)
REFERENCES PLOTMAST ON DELETE RESTRICT;

ALTER TABLE LANDUSEYEARSUM
FOREIGN KEY FK_LUYRS (INSTALID)
REFERENCES INSTMAST ON DELETE RESTRICT;

ALTER TABLE PCSDPLOTSUM
FOREIGN KEY FK_PDFS (INSTALID, PLOTID)
REFERENCES PLOTMAST ON DELETE RESTRICT;

ALTER TABLE TACTCONA
FOREIGN KEY FK_CONA (INSTALID, PLOTID)
REFERENCES PLOTMAST ON DELETE RESTRICT;

ALTER TABLE PCTYPEYEARSUM
FOREIGN KEY FK_PCTT (INSTALID)
REFERENCES INSTMAST ON DELETE RESTRICT;
ALTER TABLE HERBRIUM
  FOREIGN KEY FK_Herb1 (FEDSTAT)
  REFERENCES FED_STATUS ON DELETE RESTRICT;

ALTER TABLE HERBRIUM
  FOREIGN KEY FK_Herb2 (STATESTAT)
  REFERENCES STATE_STATUS ON DELETE RESTRICT;

ALTER TABLE HERBRIUM
  FOREIGN KEY FK_Herb3 (INSTALID)
  REFERENCES INSTMAST ON DELETE RESTRICT;

REMARK

/ 
UPDATE COMMENTS ON COLUMNS AND TABLES / 

COMMENT ON TABLE AERCOVER IS 'AERIAL DATA FROM LINE TRANSECT INVENTORY';
COMMENT ON TABLE AERCOV_CODE IS 'MONITORING AERIAL COVER CODE VALIDATION TABLE';
COMMENT ON TABLE BASAL is 'BASAL AREA DATA';
COMMENT ON TABLE BELTMON IS 'BELT TRANSECT MONITORING DATA';
COMMENT ON TABLE BELTSURV IS 'PARAMETERS FOR INVENTORY AND MONITORING BELT TRANSECTS';
COMMENT ON TABLE BELITTRAN IS 'BELT TRANSECT INVENTORY DATA';
COMMENT ON TABLE BIRDS IS 'BIRD DATA FROM WILDLIFE INVENTORY';
COMMENT ON TABLE BIRDSURV IS 'TABLE IDENTIFYING ALL INVENTORIES FOR BIRDS ON EACH PLOT';
COMMENT ON TABLE CLIMATEDATA IS 'CLIMATE DATA';
COMMENT ON TABLE CLIMATESTATIONS IS 'CLIMATE STATION INFORMATION';
COMMENT ON TABLE COMMCLASSPLTSUM IS 'PLANT COMMUNITY CLASSIFICATIONS FOR EACH PLOT';
COMMENT ON TABLE DISTURB_CODE IS 'DISTURBANCE CODE VALIDATION TABLE';
COMMENT ON TABLE ENVCONST IS 'ENVIRONMENTAL CONSTRAINTS';
COMMENT ON TABLE EROSEVID IS 'EROSION EVIDENCE DATA FROM LAND USE DATA';
COMMENT ON TABLE EROSION IS 'TABLE FOR USLE ESTIMATIONS';
COMMENT ON TABLE EROS_CODE IS 'OBSERVED EROSION CODE VALIDATION TABLE';
COMMENT ON TABLE FED_STATUS IS 'FEDERAL STATUS VALIDATION TABLE';
COMMENT ON TABLE F_COUNT IS 'OPTIONAL DATA FROM INVENTORY OR MONITORING';
COMMENT ON TABLE GEND_CODE IS 'GENDER CODE VALIDATION TABLE';
COMMENT ON TABLE GNDCOVER IS 'GROUND DATA FROM LINE TRANSECT INVENTORY';
COMMENT ON TABLE GNDCOV_CODE IS 'MONITORING GROUND COVER CODE VALIDATION TABLE';
COMMENT ON TABLE GROUPING IS 'DYNAMIC TABLE FOR LCTA FRONT END ROUTINES';
COMMENT ON TABLE HERBRIUM IS 'FLORISTIC INVENTORY DATA';
COMMENT ON TABLE HERPS IS 'HERP DATA FROM WILDLIFE INVENTORY';
COMMENT ON TABLE HERPS_SURV IS 'TABLE IDENTIFYING ALL INVENTORIES FOR HERPS ON EACH PLOT';
COMMENT ON TABLE HISTORY IS 'GENERAL INFORMATIONAL DATA';
COMMENT ON TABLE INSTMAST IS 'MASTER TABLE LISTING LCTA INSTALLATIONS';
COMMENT ON TABLE LANDUSE IS 'MILITARY AND NON-MILITARY LAND USE DATA';
COMMENT ON TABLE LANDUSEYEARSUM IS 'LAND USE SUMMARY DATA BY YEAR';
COMMENT ON TABLE LANDUSE_CODE IS 'LANDUSE CODE VALIDATION TABLE';
COMMENT ON TABLE LINEMON IS 'LINE TRANSECT MONITORING DATA';
COMMENT ON TABLE MAINTACT IS 'MAINTENANCE ACTIVITY DATA';
COMMENT ON TABLE MAINT_CODE IS 'MAINTENANCE ACTIVITY CODE VALIDATION TABLE';
COMMENT ON TABLE MAMMALS IS 'MAMMAL DATA FROM WILDLIFE INVENTORY';
COMMENT ON TABLE MAMSURV IS 'TABLE IDENTIFYING ALL INVENTORIES FOR MAMMALS ON EACH PLOT';
COMMENT ON TABLE MATED_STATUS_CODE IS 'BIRD MATED STATUS VALIDATION TABLE';
COMMENT ON TABLE METHODS_CODE IS 'MAMMAL AND HERP METHODS VALIDATION TABLE';
COMMENT ON TABLE PCSDPLOTSUM IS 'PLANT COVER, SURFACE DISTURBANCE SUMMARY DATA BY PLOT';
COMMENT ON TABLE PCSDYEARSUM IS 'PLANT COVER, SURFACE DISTURBANCE SUMMARY DATA BY YEAR';
COMMENT ON TABLE PCTTYEARSUM IS 'PERCENT OF TOLERANCE (USLE) SUMMARY DATA BY YEAR';
COMMENT ON TABLE PLNTLIST IS 'MASTER LIST CATALOGING EACH PLANT CODE';
COMMENT ON TABLE PLOTMAPS IS 'MAP IMAGES FOR EACH PLOT';
COMMENT ON TABLE PLOTMAST IS 'MASTER PLOT TABLE [ONE PER LCTA PLOT]';
COMMENT ON TABLE PLOTSURV IS 'TABLE IDENTIFYING ALL INVENTORIES ON EACH PLOT';
COMMENT ON TABLE POINT_CODE IS 'BIRD DATA COLLECTION LINE LOCATION VALIDATION TABLE';
COMMENT ON TABLE SOILLS IS 'PLOT SLOPE DATA [USED TO CALCULATE LS IN USLE]';
COMMENT ON TABLE SOILMAST IS 'MASTER SOIL SERIES TABLE';
COMMENT ON TABLE SOILS_Sampp is 'SOIL SAMPLE DATA FROM USDA NATIONAL SOILS LAB';
COMMENT ON TABLE STATE_STATUS IS 'STATE T&E STATUS VALIDATION TABLE';
COMMENT ON TABLE TACTCONA IS 'TACTICAL CONCEALMENT SUMMARY A';
COMMENT ON TABLE TACTCONB IS 'TACTICAL CONCEALMENT SUMMARY B';
COMMENT ON TABLE TACTCONC IS 'TACTICAL CONCEALMENT SUMMARY C';
COMMENT ON TABLE VERTLIST IS 'MASTER LIST CATALOGING EACH VERTEBRATE CODE';

COMMENT ON COLUMN HERBRUIM.ABUNDANCE IS 'RELATIVE ABUNDANCE, 1-5';
COMMENT ON COLUMN PCSDYEARSUM.AC00 IS 'PERCENT OF PLOTS WITH NO AERIAL CONCEALMENT';
COMMENT ON COLUMN PCSDYEARSUM.AC100 IS 'PERCENT OF PLOTS WITH 100% AERIAL CONCEALMENT';
COMMENT ON COLUMN PCSDYEARSUM.AC20 IS 'PERCENT OF PLOTS WITH 20% AERIAL CONCEALMENT';
COMMENT ON COLUMN PCSDYEARSUM.AC40 IS 'PERCENT OF PLOTS WITH 40% AERIAL CONCEALMENT';
COMMENT ON COLUMN PCSDPLOTSUM.AC4M IS 'NUMBER OF POINTS WITH COVER ABOVE 4 M';
COMMENT ON COLUMN PCSDYEARSUM.AC60 IS 'PERCENT OF PLOTS WITH 60% AERIAL CONCEALMENT';
COMMENT ON COLUMN PCSDYEARSUM.AC80 IS 'PERCENT OF PLOTS WITH 80% AERIAL CONCEALMENT';
COMMENT ON COLUMN LANDUSEYEARSUM.ACCBURN IS 'NUMBER OF PLOTS WITH ACCIDENTAL BURN';
COMMENT ON COLUMN PCSDYEARSUM.ACMEAN IS 'MEAN AERIAL CONCEALMENT PERCENT';
COMMENT ON COLUMN PCSDPLOTSUM.ACOBS IS 'NUMBER OF AERIAL CONCEALMENT PLOTS';
COMMENT ON COLUMN PCSDYEARSUM.ACSTDEV IS 'STANDARD DEVIATION OF MEAN AERIAL CONCEALMENT PERCENT';
COMMENT ON COLUMN AERC0V_CODE.AERC0V IS 'MONITORING AERIAL COVER CODE';
COMMENT ON COLUMN LINEM0N.AERC0V IS 'MONITORING AERIAL COVER CODE';
COMMENT ON COLUMN AERC0V_CODE.AERC0V_DEF IS 'MONITORING AERIAL COVER CODE DEFINITION';
COMMENT ON COLUMN AERC0V_CODE.AERC0V_NOTE IS 'AERIAL COVER CATEGORY NOTE';
COMMENT ON COLUMN COMMCLASSPLOTSUM.ANALYEAR IS 'YEAR FOR RECORDING:ANALYSIS';
COMMENT ON COLUMN EROSION.ANALYEAR IS 'YEAR FOR RECORDING:ANALYSIS';
COMMENT ON COLUMN LANDUSEYEARSUM.ANALYEAR IS 'YEAR FOR RECORDING:ANALYSIS';
COMMENT ON COLUMN PCSDPLOTSUM.ANALYEAR IS 'YEAR FOR RECORDING:ANALYSIS';
COMMENT ON COLUMN PCSDYEARSUM.ANALYEAR IS 'YEAR FOR RECORDING:ANALYSIS';
COMMENT ON COLUMN PCTTYEARSUM.ANALYEAR IS 'YEAR FOR RECORDING:ANALYSIS';
COMMENT ON COLUMN TACTCONA.ANALYEAR IS 'YEAR FOR RECORDING: ANALYSIS';
COMMENT ON COLUMN TACTCONB.ANALYEAR IS 'YEAR FOR RECORDING: ANALYSIS';
COMMENT ON COLUMN TACTCONC.ANALYEAR IS 'YEAR FOR RECORDING: ANALYSIS';
COMMENT ON COLUMN BELTTRAN.AREA IS 'SURFACE AREA OF A VEGETATION CLUMP';
COMMENT ON COLUMN PLOTSURV.ASPECT IS 'PLOT ASPECT';
COMMENT ON COLUMN HERBRUIM.ASSOSPP IS 'ASSOCIATED SPECIES';
COMMENT ON COLUMN COMMCLASSPLOTSUM.ATDB IS 'AERIAL TOP HITS DWARFSHRUB BROADLEAF';
COMMENT ON COLUMN COMMCLASSPLOTSUM.ATDC IS 'AERIAL TOP HITS DWARFSHRUB CONIFER';
COMMENT ON COLUMN COMMCLASSPLOTSUM.ATFA IS 'AERIAL TOP HITS FORB ANNUAL';
COMMENT ON COLUMN COMMCLASSPLOTSUM.ATFP IS 'AERIAL TOP HITS FORB PERENNIAL';
COMMENT ON COLUMN COMMCLASSPLOTSUM.ATGA IS 'AERIAL TOP HITS GRASS ANNUAL';
COMMENT ON COLUMN COMMCLASSPLOTSUM.ATGP IS 'AERIAL TOP HITS GRASS PERENNIAL';
COMMENT ON COLUMN COMMCLASSPLOTSUM.ATH IS 'AERIAL TOP HITS HALFSHRUB';
COMMENT ON COLUMN COMMCLASSPLOTSUM.ATSB IS 'AERIAL TOP HITS SHRUB CONIFER';
COMMENT ON COLUMN COMMCLASSPLOTSUM.ATSC IS 'AERIAL TOP HITS SHRUB CONIFER';
COMMENT ON COLUMN COMMCLASSPLOTSUM.ATTB IS 'AERIAL TOP HITS TREE BROADLEAF';
COMMENT ON COLUMN COMMCLASSPLOTSUM.ATTC IS 'AERIAL TOP HITS TREE CONIFER';
COMMENT ON COLUMN VERTLIST.AUTHORS IS 'AUTHOR OF THE SPECIES';
COMMENT ON COLUMN EROSION.AVEMINHT IS 'AVERAGE MINIMUM DRIP HEIGHT';
COMMENT ON COLUMN PLOTMAST.AZIMUTH IS 'PLOT AZIMUTH';
COMMENT ON COLUMN HERPSURV.AZIMUTH IS 'PLOT AZIMUTH';
COMMENT ON COLUMN TACTCONC.B00TO05 IS 'NUMBER OF BROADLEAF TREES IN 0 TO 5 HEIGHT CATEGORY';
COMMENT ON COLUMN TACTCONC.B06TO10 IS 'NUMBER OF BROADLEAF TREES IN 6 TO 10 HEIGHT CATEGORY';
COMMENT ON COLUMN TACTCONC.B11TO15 IS 'NUMBER OF BROADLEAF TREES IN 11 TO 15 HEIGHT CATEGORY';
COMMENT ON COLUMN TACTCONC.B16TO20 IS 'NUMBER OF BROADLEAF TREES IN 16 TO 20 HEIGHT CATEGORY';
COMMENT ON COLUMN TACTCONC.B21TO40 IS 'NUMBER OF BROADLEAF TREES IN
21 TO 40 HEIGHT CATEGORY';
COMMENT ON COLUMN TACTCONC.B41TO60 IS 'NUMBER OF BROADLEAF TREES IN
41 TO 60 HEIGHT CATEGORY';
COMMENT ON COLUMN TACTCONC.B61TO85 IS 'NUMBER OF BROADLEAF TREES IN
61 TO 85 HEIGHT CATEGORY';
COMMENT ON COLUMN BASALA.BA IS 'BASAL AREA';
COMMENT ON COLUMN MAMSURV.BAITS IS 'BAITS USED FOR SMALL MAMMAL
TRAPPING';
COMMENT ON COLUMN SOILSMPL.BARCLAY IS 'RATION 15 BAR-CLAY';
COMMENT ON COLUMN SOILSMPL.BARWATER IS '15 BAR WATER ON AIR DRY SOIL,
WEIGHT PERCENT';
COMMENT ON COLUMN HERBRIUM.BAUTHOR IS 'AUTHOR OF THE SPECIES';
COMMENT ON COLUMN BELTSURV.BELTHT IS 'BELT TRANSECT BELT HEIGHT';
COMMENT ON COLUMN BELTSURV.BELTWIDE IS 'BELT TRANSECT BELT WIDTH';
COMMENT ON COLUMN TACTCONC.BGT85 IS 'NUMBER OF BROADLEAF TREES IN
GREATER THAN 85 HEIGHT';
COMMENT ON COLUMN BIRDSURV.BIRDNOTE IS 'PLOT NOTE FOR BIRD SURVEY';
COMMENT ON COLUMN LANDUSEYEARS.Sum.BIV IS 'NUMBER OF BIVOUAC
DISTURBED SITES';
COMMENT ON COLUMN EROSION.C IS 'C VALUE USED IN USLE';
COMMENT ON COLUMN TACTCONC.C00TO05 IS 'NUMBER OF CONIFERS IN 0 TO 5
HEIGHT CATEGORY';
COMMENT ON COLUMN TACTCONC.C06TO10 IS 'NUMBER OF CONIFERS IN 6 TO 10
HEIGHT CATEGORY';
COMMENT ON COLUMN EROSION.C1 IS 'C1 SUBFACTOR OF C (USLE FACTOR)';
COMMENT ON COLUMN TACTCONC.C11TO15 IS 'NUMBER OF CONIFERS IN 11 TO 15
HEIGHT CATEGORY';
COMMENT ON COLUMN TACTCONC.C16TO20 IS 'NUMBER OF CONIFERS IN 16 TO 20
HEIGHT CATEGORY';
COMMENT ON COLUMN EROSION.C2 IS 'C2 SUBFACTOR OF C (USLE FACTOR)';
COMMENT ON COLUMN TACTCONC.C21TO40 IS 'NUMBER OF CONIFERS IN 21 TO 40
HEIGHT CATEGORY';
COMMENT ON COLUMN TACTCONC.C41TO60 IS 'NUMBER OF CONIFERS IN 41 TO 60
HEIGHT CATEGORY';
COMMENT ON COLUMN TACTCONC.C61TO85 IS 'NUMBER OF CONIFERS IN 61 TO 85
HEIGHT CATEGORY';
COMMENT ON COLUMN SOILMAST.CALCKMEAN IS 'MEAN CALCULATED K VALUE
(USLE FACTOR)';
COMMENT ON COLUMN SOILMAST.CALCKSTDEV IS 'STANDARD DEVIATION OF
CALCULATED K VALUE (USLE FACTOR)';
COMMENT ON COLUMN SOILSMPL.CARB2MM IS 'CARBONATE, < 2MM FRACTION';
COMMENT ON COLUMN ENVCONST.CASENO IS 'CASE NUMBER';
COMMENT ON COLUMN BELTMON.CAT1TO2 IS 'SHORT-TERM BELT HEIGHT
CATEGORY';
COMMENT ON COLUMN BELTMON.CAT2T03 IS 'SHORT-TERM BELT HEIGHT CATEGORY';
COMMENT ON COLUMN BELTMON.CAT3T04 IS 'SHORT-TERM BELT HEIGHT CATEGORY';
COMMENT ON COLUMN BELTMON.CATGT4 IS 'SHORT-TERM BELT HEIGHT CATEGORY';
COMMENT ON COLUMN BELTMON.CATMINTO1 IS 'SHORT-TERM BELT HEIGHT CATEGORY';
COMMENT ON COLUMN PCSDPLOTSUM.CCANN IS 'NUMBER OF LOCATION WITH ONLY ANNUAL COVER';
COMMENT ON COLUMN PCSDYEARSUM.CCANNMEAN IS 'MEAN NUMBER OF LOCATION WITH ONLY ANNUAL COVER';
COMMENT ON COLUMN PCSDPLOTSUM.CCANNPER IS 'NUMBER OF LOCATION WITH ANNUAL AND PERENNIAL COVER';
COMMENT ON COLUMN PCSDYEARSUM.CCANNSTDEV IS 'STANDARD DEVIATION OF NUMBER OF LOCATION WITH ONLY';
COMMENT ON COLUMN PCSDYEARSUM.CCAPMEAN IS 'MEAN NUMBER OF LOCATION WITH ANNUAL AND PERENNIAL';
COMMENT ON COLUMN PCSDYEARSUM.CCAPSTDEV IS 'STANDARD DEVIATION OF NUMBER OF LOCATION WITH ANNUAL';
COMMENT ON COLUMN PCSDPLOTSUM.CCNONE IS 'NUMBER OF LOCATION WITH NO COVER';
COMMENT ON COLUMN PCSDYEARSUM.CCNONEMEAN IS 'MEAN NUMBER OF LOCATION WITH NO COVER';
COMMENT ON COLUMN PCSDYEARSUM.CCNONESTDEV IS 'STANDARD DEVIATION OF NUMBER OF LOCATION WITH NO';
COMMENT ON COLUMN PCSDPLOTSUM.CCOBS IS 'NUMBER OF TOTAL LOCATION MEASURED';
COMMENT ON COLUMN PCSDPLOTSUM.CCPER IS 'NUMBER OF LOCATION WITH ONLY PERENNIAL COVER';
COMMENT ON COLUMN PCSDYEARSUM.CCPERMEAN IS 'MEAN NUMBER OF LOCATION WITH ONLY PERENNIAL COVER';
COMMENT ON COLUMN PCSDYEARSUM.CCPERSTDEV IS 'STANDARD DEVIATION OF NUMBER OF LOCATION WITH ONLY';
COMMENT ON COLUMN TACTCONC.CGT85 IS 'NUMBER OF CONIFERS GREATER THAN 85 DM';
COMMENT ON COLUMN LANDUSEYEARSUM.CHEMICAL IS 'NUMBER OF PLOTS WITH EVIDENCE OF CHEMICAL USE';
COMMENT ON COLUMN VERTLIST.CLASS IS 'VERTEBRATE SPECIES CLASS';
COMMENT ON COLUMN BELTTRAN.CLMPBEGIN IS 'BEGINNING LOCATION OF VEGETATION CLUMP';
COMMENT ON COLUMN BELTTRAN.CLMPEND IS 'END LOCATION OF VEGETATION CLUMP';
COMMENT ON COLUMN BIRDSURV.CLOUD_COVER IS 'PERCENT OF CLOUD COVER';
COMMENT ON COLUMN HERPSURV.CLOUD_COVER IS 'PERCENT OF CLOUD COVER';
COMMENT ON COLUMN MAMSURV.CLOUD_COVER IS 'PERCENT OF CLOUD COVER';
COMMENT ON COLUMN SOILSML.CO3CLAY IS 'CO3 CLAY';
COMMENT ON COLUMN HERBRUML.COLLDATE IS 'HERBARIUM COLLECTION DATE';
COMMENT ON COLUMN BIRDSURV.COLLECTOR IS 'COLLECTOR(S)';
COMMENT ON COLUMN HERPSURV.COLLECTOR IS 'COLLECTOR(S)';
COMMENT ON COLUMN MAMSURV.COLLECTOR IS 'COLLECTOR(S)';
COMMENT ON COLUMN HERBRUML.COLNO IS 'COLLECTION NUMBER';
COMMENT ON COLUMN HERBRUML.COMMENTS IS 'COMMENTS ON PLANT CHARACTERISTICS, SITE, HABITAT, ETC.';
COMMENT ON COLUMN VERTLIST.COMMON IS 'VERTEBRATE COMMON NAME';
COMMENT ON COLUMN HERBRUML.COMMON IS 'VERTEBRATE COMMON NAME';
COMMENT ON COLUMN HERBRUML.COUNTY IS 'COUNTY WHERE COLLECTED';
COMMENT ON COLUMN SOILSML.COURFRAG IS 'COURSE FRAGMENTS (> 2MM), WEIGHT % OF WHOLE SOIL';
COMMENT ON COLUMN LANDUSEYEARSUM.CROP IS 'NUMBER OF PLOTS WITH CROP USE';
COMMENT ON COLUMN SOILSML.CSAND IS 'SOIL ANALYSIS OF COURSE SAND';
COMMENT ON COLUMN SOILSML.CSILT IS 'SOIL ANALYSIS OF COURSE SILT';
COMMENT ON COLUMN LANDUSEYEARSUM.DEBDAM IS 'NUMBER OF PLOTS WITH DEBRIS DAMS';
COMMENT ON COLUMN PLOTMAST.DECLIN IS 'PLOT DECLINATION';
COMMENT ON COLUMN LANDUSEYEARSUM.DEMO IS 'NUMBER OF PLOTS WITH DEMOLITION';
COMMENT ON COLUMN HERBRUML.DETERMIN IS 'DETERMINER OF FINAL IDENTIFICATION';
COMMENT ON COLUMN DISTURB_CODE.DISTURB IS 'GROUND DISTURBANCE TYPE';
COMMENT ON COLUMN GNDCOVER.DISTURB IS 'GROUND DISTURBANCE TYPE';
COMMENT ON COLUMN LINEMON.DISTURB IS 'GROUND DISTURBANCE TYPE';
COMMENT ON COLUMN DISTURB_CODE.DISTURB_DEF IS 'GROUND DISTURBANCE CODE DEFINITION';
COMMENT ON COLUMN DISTURB_CODE.DISTURB_NOTE IS 'DISTURBANCE CATEGORY NOTE';
COMMENT ON COLUMN CLIMATESTATIONS.DMCE IS 'UNIVERSAL TRASVERSE MERCATOR COORDINATE, EASTING';
COMMENT ON COLUMN PLOTMAST.DMCE IS 'UNIVERSAL TRASVERSE MERCATOR COORDINATE, EASTING';
COMMENT ON COLUMN HERBRUML.DMCE IS 'UNIVERSAL TRASVERSE MERCATOR COORDINATE, EASTING';
COMMENT ON COLUMN CLIMATESTATIONS.DMCN IS 'UNIVERSAL TRASVERSE MERCATOR COORDINATE, NORTHING';
COMMENT ON COLUMN PLOTMAST.DMCN IS 'UNIVERSAL TRASVERSE MERCATOR COORDINATE, NORTHING';
COMMENT ON COLUMN HERBRUML.DMCN IS 'UNIVERSAL TRASVERSE MERCATOR COORDINATE, NORTHING';
COMMENT ON COLUMN LANDUSEYEARSUM.DRIFTING IS 'NUMBER OF PLOTS WITH DRIFTING WIND EROSION';
COMMENT ON COLUMN EROSION.EFFCOVER IS 'EFFECTIVE COVER IN USLE';
COMMENT ON COLUMN HERBRUIUM.ELEV IS 'ELEVATION';
COMMENT ON COLUMN LANDUSEYEARSUM.EXCA IS 'NUMBER OF PLOTS WITH EXCAVATION';
COMMENT ON COLUMN BELT_SURV.EXCPTNSP IS 'EXCEPTION SPECIES TO BELT WIDTH';
COMMENT ON COLUMN PLNTLIST.FAMILY IS 'SPECIES FAMILY';
COMMENT ON COLUMN VERTLIST.FAMILY IS 'SPECIES FAMILY';
COMMENT ON COLUMN HERBRUIUM.FAMILY IS 'SPECIES FAMILY';
COMMENT ON COLUMN HERBRUIUM.FEDSTAT IS 'FEDERAL STATUS';
COMMENT ON COLUMN FED_STATUS.FEDSTAT IS 'FEDERAL STATUS';
COMMENT ON COLUMN FED_STATUS.FEDSTAT_DEF IS 'FEDERAL STATUS CODE DEFINITION';
COMMENT ON COLUMN FED_STATUS.FEDSTAT_NOTE IS 'FEDERAL STATUS CODE NOTES';
COMMENT ON COLUMN TACTCONC.FHDIV IS 'FOLIAR HEIGHT DIVERSITY';
COMMENT ON COLUMN TACTCONC.FHEVEN IS 'FOLIAR HEIGHT EVENNESS';
COMMENT ON COLUMN BIRDS.FLYOVER IS 'BIRD SPECIES FLYOVER (YES OR NO)';
COMMENT ON COLUMN LANDUSEYEARSUM.FOOT IS 'NUMBER OF PLOTS WITH FOOT TRAFFIC';
COMMENT ON COLUMN LANDUSEYEARSUM.FOREST IS 'NUMBER OF PLOTS WITH FORESTRY ACTIVITY';
COMMENT ON COLUMN PLNTLIST.FORM1 IS 'PLANT LIFE FORM 1';
COMMENT ON COLUMN PLNTLIST.FORM2 IS 'PLANT LIFE FORM 2';
COMMENT ON COLUMN SOILSMPL.FSAND IS 'SOIL ANALYSIS OF FIND SAND';
COMMENT ON COLUMN SOILSMPL.FSILT IS 'SOIL ANALYSIS OF FIND SILT';
COMMENT ON COLUMN PCSDPLOTSUM.GCBARE IS 'NUMBER OF BARE GROUND POINTS';
COMMENT ON COLUMN PCSDYEARSUM.GCBAREMEAN IS 'MEAN NUMBER OF BARE GROUND POINTS';
COMMENT ON COLUMN PCSDYEARSUM.GCBARESTDEV IS 'STANDARD DEVIATION OF NUMBER OF BARE GROUND';
COMMENT ON COLUMN PCSDYEARSUM.GCLITMEAN IS 'MEAN NUMBER OF POINTS WITH LITTER';
COMMENT ON COLUMN PCSDYEARSUM.GCLITSTDEV IS 'STANDARD DEVIATION OF POINTS WITH LITTER';
COMMENT ON COLUMN PCSDPLOTSUM.GCLITTER IS 'STANDARD DEVIATION OF NUMBER OF POINTS WITH LITTER';
COMMENT ON COLUMN PCSDPLOTSUM.GCMICRO IS 'NUMBER OF POINTS WITH MICROPHYNES';
COMMENT ON COLUMN PCSDYEARSUM.GCMICROMEAN IS 'MEAN NUMBER OF POINTS WITH MICROPHYNES';
COMMENT ON COLUMN PCSDYEARSUM.GCMICROSDEV IS 'STANDARD DEVIATION OF NUMBER OF POINTS WITH MICROPHYTES';
COMMENT ON COLUMN PCSDPLOTSUM.GCOBS IS 'TOTAL NUMBER OF GROUND COVER POINTS';
COMMENT ON COLUMN PCSDPLOTSUM.GCPLANT IS 'NUMBER OF POINTS WITH PLANTS';
COMMENT ON COLUMN PCSDYEARSUM.GCPLANTMEAN IS 'MEAN NUMBER OF POINTS WITH PLANTS';
COMMENT ON COLUMN PCSDYEARSUM.GCPLANTSTDEV IS 'STANDARD DEVIATION OF NUMBER OF POINTS WITH PLANTS';
COMMENT ON COLUMN PCSDPLOTSUM.GCROCK IS 'NUMBER OF POINTS WITH ROCKS';
COMMENT ON COLUMN PCSDYEARSUM.GCROCKMEAN IS 'MEAN NUMBER OF POINTS WITH ROCKS';
COMMENT ON COLUMN PCSDYEARSUM.GCROCKSTDEV IS 'STANDARD DEVIATION OF NUMBER OF POINTS WITH ROCKS';
COMMENT ON COLUMN PCSDPLOTSUM.GDNONE IS 'NUMBER OF POINTS WITH NOTHING';
COMMENT ON COLUMN PCSDYEARSUM.GDNONEMEAN IS 'MEAN NUMBER OF POINTS WITH NOTHING';
COMMENT ON COLUMN PCSDYEARSUM.GDNESTDEV IS 'STANDARD DEVIATION OF NUMBER OF POINTS WITH NOTHING';
COMMENT ON COLUMN PCSDPLOTSUM.GDOBS IS 'NUMBER OF GROUND DISTURBANCE POINTS';
COMMENT ON COLUMN PCSDPLOTSUM.GDOOTHER IS 'NUMBER OF POINTS WITH OTHER DISTURBANCE';
COMMENT ON COLUMN PCSDYEARSUM.GDOTHEMEAN IS 'MEAN NUMBER OF POINTS WITH OTHER DISTURBANCE';
COMMENT ON COLUMN PCSDYEARSUM.GDOTHSTDEV IS 'STANDARD DEVIATION OF NUMBER OF POINTS WITH OTHER';
COMMENT ON COLUMN PCSDPLOTSUM.GDPASS IS 'NUMBER OF POINTS WITH VEHICLE PASS DISTURBANCE';
COMMENT ON COLUMN PCSDYEARSUM.GDPASSMEAN IS 'MEAN NUMBER OF POINTS WITH VEHICLE PASS DISTURBANCE';
COMMENT ON COLUMN PCSDYEARSUM.GDPASSSTDEV IS 'STANDARD DEVIATION OF NUMBER OF POINTS WITH PASS DISTURBANCE';
COMMENT ON COLUMN PCSDPLOTSUM.GDROAD IS 'NUMBER OF POINTS WITH ROAD DISTURBANCE';
COMMENT ON COLUMN PCSDYEARSUM.GDROADMEAN IS 'MEAN NUMBER OF POINTS WITH ROAD DISTURBANCE';
COMMENT ON COLUMN PCSDYEARSUM.GDROADSTDEV IS 'STANDARD DEVIATION OF NUMBER OF POINTS WITH ROAD';
COMMENT ON COLUMN PCSDPLOTSUM.GDTRAIL IS 'NUMBER OF POINTS WITH FOOT TRAIL DISTURBANCE';
COMMENT ON COLUMN PCSDYEARSUM.GDTRAILMEAN IS 'MEAN NUMBER OF POINTS WITH FOOT TRAIL DISTURBANCE';
COMMENT ON COLUMN PCSDYEARSUM.GDTRAILSDEV IS 'STANDARD DEVIATION OF NUMBER OF POINTS WITH FOOT';
COMMENT ON COLUMN PLOTRAMAP.GENMAP IS 'GENERAL PLOT LOCATION MAP';
COMMENT ON COLUMN PLNTLIST.GENUS IS 'SPECIES GENUS';
COMMENT ON COLUMN VERTLIST.GENUS IS 'SPECIES GENUS';
COMMENT ON COLUMN HERBRIUM.GENUS IS 'SPECIES GENUS';
COMMENT ON COLUMN GNDSCOV_CODE.GNDCOV IS 'MONITORING GROUND COVER CODE';
COMMENT ON COLUMN LINE_MON.GNDCOV IS 'MONITORING GROUND COVER CODE';
COMMENT ON COLUMN GNDSCOV_CODE.GNDCOV_DEF IS 'MONITORING GROUND COVER CODE DEFINITION';
COMMENT ON COLUMN GNDSCOV_CODE.GNDCOV_NOTE IS 'GROUND COVER CATEGORY NOTE';
COMMENT ON COLUMN LANDUSEYEARSUM.GRAZING IS 'NUMBER OF PLOTS WITH GRAZING';
COMMENT ON COLUMN LANDUSEYEARSUM.GULLY IS 'NUMBER OF PLOTS WITH GULLY EROSION';
COMMENT ON COLUMN TACTCONC.H00TO05 IS 'NUMBER OF LOCATION WITH HERBACEOUS COVER IN 0 TO 5';
COMMENT ON COLUMN TACTCONC.H05TO10 IS 'NUMBER OF LOCATION WITH HERBACEOUS COVER IN 5 TO 10';
COMMENT ON COLUMN TACTCONC.H10TO15 IS 'NUMBER OF LOCATION WITH HERBACEOUS COVER IN 10 TO 15';
COMMENT ON COLUMN TACTCONC.H15TO20 IS 'NUMBER OF LOCATION WITH HERBACEOUS COVER IN 15 TO 20';
COMMENT ON COLUMN TACTCONC.H20TO40 IS 'NUMBER OF LOCATION WITH HERBACEOUS COVER IN 0 TO 5';
COMMENT ON COLUMN TACTCONC.H40TO60 IS 'NUMBER OF LOCATION WITH HERBACEOUS COVER IN 41 TO 60';
COMMENT ON COLUMN TACTCONC.H61TO85 IS 'NUMBER OF LOCATION WITH HERBACEOUS COVER IN 61 TO 85';
COMMENT ON COLUMN EROSION.HABDIVIS IS 'HABITAT DIVISOR IN USLE';
COMMENT ON COLUMN HERBRIUM.HABIT IS 'HABIT CODE, FROM PLANTS';
COMMENT ON COLUMN LANDUSEYEARSUM.HAY IS 'NUMBER OF PLOTS WITH HAY USE';
COMMENT ON COLUMN HERPSURV.HERPNOTE IS 'PLOT NOTE FOR HERP SURVEY';
COMMENT ON COLUMN TACTCONC.HGT85 IS 'NUMBER OF LOCATION WITH HERBACEOUS COVER GREATER THAN 85';
COMMENT ON COLUMN TACTCONA.HT1TO2 IS 'NUMBER OF HITS IN HEIGHT CATEGORY 1 TO 2 M';
COMMENT ON COLUMN TACTCONA.HT2TO3 IS 'NUMBER OF HITS IN HEIGHT CATEGORY 2 TO 3 M';
COMMENT ON COLUMN TACTCONA.HT3TO4 IS 'NUMBER OF HITS IN HEIGHT CATEGORY 3 TO 4 M';
COMMENT ON COLUMN TACTCONA.HTGT4 IS 'NUMBER OF HITS IN HEIGHT CATEGORY GREATER THAN 4 M';
COMMENT ON COLUMN TACTCONA.HTMINTO1 IS 'NUMBER OF HITS IN HEIGHT CATEGORY MINIMUM TO 1 M';
COMMENT ON COLUMN TACTCONC.HWDIV IS 'HARDWOOD DIVERSITY INDEX';
COMMENT ON COLUMN TACTCONC.HWEVEN IS 'HARDWOOD EVENNESS INDEX';
COMMENT ON COLUMN ENVCONST.IMPACT IS 'IMPACT ON TRAINING';
COMMENT ON COLUMN INSTMAST.INLOC IS 'INSTALLATION LOCATION';
COMMENT ON COLUMN INSTMAST.INNAME IS 'INSTALLATION NAME';
COMMENT ON COLUMN INSTMAST.INSIZE IS 'INSTALLATION SIZE';
COMMENT ON COLUMN AERCOVER.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN BASALA.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN BELTMON.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN BELTSURV.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN BELITTRAN.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN BIRDS.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN COMMCLASSPLOTSUM.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN EROSEVID.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN EROSION.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN F_COUNT.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN GNDCOVER.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN HERPS.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN HISTORY.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN INSTMAST.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN LANDUSE.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN LANDUSEYEARSUM.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN LINEMON.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN MAINTACT.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN MAMMALS.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN PCSDPLOTSUM.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN PCSDYEARSUM.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN PCTTYEARSUM.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN PlotMaps.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN PLOTMAST.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN PLOTSURV.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN SOILLLS.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN SOILSMP.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN TACTCONA.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN TACTCONB.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN TACTCONC.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN BIRDSSURV.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN HERPSURV.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN MAMSSURV.INSTALID IS 'INSTALLATION CODE';
COMMENT ON COLUMN ENVCONST.INSTALLID IS 'INSTALLATION CODE';
COMMENT ON COLUMN GROUPING.INSTALLID IS 'INSTALLATION CODE';
COMMENT ON COLUMN HERBRRIUM.INSTALLID IS 'INSTALLATION CODE';
COMMENT ON COLUMN HISTORY.INSTNOTE IS 'INSTALLATION NOTE';
COMMENT ON COLUMN PLOTSURV.INVTYPE IS 'INVENTORY TYPE';
COMMENT ON COLUMN EROSION.KCAL IS 'CALCULATED K VALUE (USLE FACTOR)';
COMMENT ON COLUMN EROSION.KCALEROSINDEX IS 'EROSION INDEX USING CALCULATED K';
COMMENT ON COLUMN EROSION.KPUB IS 'SCS PUBLISHED K VALUE (USLE FACTOR)';
COMMENT ON COLUMN EROSION.KPUBEROSINDEX IS 'EROSION INDEX USING PUBLISHED K (USLE FACTOR)';
COMMENT ON COLUMN SOILSMPL.LABK IS 'K VALUE CALCULATED WITH SAMPLE DATA (USLE FACTOR)';
COMMENT ON COLUMN LANDUSE.LANDUSE IS 'PLOT LAND USE CODE';
COMMENT ON COLUMN LANDUSE_CODE.LANDUSE IS 'PLOT LAND USE CODE';
COMMENT ON COLUMN LANDUSE_CODE.LANDUSE_DEF IS 'LANDUSE CODE DEFINITION';
COMMENT ON COLUMN LANDUSE_CODE.LANDUSE_NOTE IS 'NOTE ON LANDUSE CODE';
COMMENT ON COLUMN LANDUSEYEARSUM.LEALLOBS IS 'NUMBER OF PLOTS WITH LAND USE SHOWING EROSION EVIDENCE';
COMMENT ON COLUMN LANDUSEYEARSUM.LEALLVIS IS 'NUMBER OF PLOTS WITH LAND USE OTHER THAN NONE SHOWING EROSION EVIDENCE';
COMMENT ON COLUMN LANDUSEYEARSUM.LEWAOBS IS 'NUMBER OF PLOTS WITH LAND USE SHOWING WATER EROSION EVIDENCE';
COMMENT ON COLUMN LANDUSEYEARSUM.LEWAVIS IS 'NUMBER OF PLOTS WITH LAND USE OTHER THAN NONE SHOWING WATER EROSION EVIDENCE';
COMMENT ON COLUMN LANDUSEYEARSUM.LEWIOBS IS 'NUMBER OF PLOTS WITH LAND USE SHOWING WIND EROSION EVIDENCE';
COMMENT ON COLUMN LANDUSEYEARSUM.LEWIVIS IS 'NUMBER OF PLOTS WITH LAND USE OTHER THAN NONE SHOWING WIND EROSION EVIDENCE';
COMMENT ON COLUMN PLNTLIST.LIFE IS 'PLANT LIFE PATTERN';
COMMENT ON COLUMN TACTCONA.LIFEFORM IS 'PLANT LIFE FORM CATEGORY';
COMMENT ON COLUMN TACTCONB.LIFEFORM IS 'PLANT LIFE FORM CATEGORY';
COMMENT ON COLUMN HERPSURV.LOC IS 'LINE TRANSECT LOCATION OF HERP TRAP';
COMMENT ON COLUMN HERBRRIUM.LOCALITY IS 'DESCRIPTION OF GEOGRAPHIC AREA WHERE COLLECTED';
COMMENT ON COLUMN PLOTMAPS.LOCMAP IS 'SPECIFIC LOCATION MAP';
COMMENT ON COLUMN EROSION.LS0 IS 'LS AT TRANSECT LOCATION 0 (USLE FACTOR)';
COMMENT ON COLUMN EROSION.LS1 IS 'LS AT TRANSECT LOCATION 50 (USLE FACTOR)';
COMMENT ON COLUMN EROSION.LS2 IS 'LS AT TRANSECT LOCATION 100 (USLE FACTOR)';
COMMENT ON COLUMN EROSION.LSM IS 'MEAN LS OF 3 TRANSECTS (USLE FACTOR)';
COMMENT ON COLUMN MAINTACT.MAINTNOTE IS 'PLOT MAINTENANCE NOTE';
COMMENT ON COLUMN MAINTACT.MAINTAIN IS 'PLOT MAINTENANCE CODE';
COMMENT ON COLUMN MAINT_CODE.MAINTAIN IS 'PLOT MAINTENANCE CODE';
COMMENT ON COLUMN MAINT_CODE.MAINTAIN_DEF IS 'MAINTENANCE CODE DEFINITION';
COMMENT ON COLUMN MAINT_CODE.MAINTEN NOTE IS 'MAINTENANCE ACTIVITY CODE NOTE';
COMMENT ON COLUMN MAMSURV.MAMNOTE IS 'PLOT NOTE FOR MAMMAL SURVEY';
COMMENT ON COLUMN LANDUSEYEARSUM.MANONE IS 'NUMBER OF PLOTS WITH NO MAINTENANCE ACTIVITY';
COMMENT ON COLUMN LANDUSEYEARSUM.MAOBES IS 'NUMBER OF PLOTS WITH MAINTENANCE RECORDED';
COMMENT ON COLUMN LANDUSEYEARSUM.MAOTHER IS 'NUMBER OF PLOTS WITH "OTHER" MAINTENANCE';
COMMENT ON COLUMN BIRDS.MATED_STATUS IS 'CODE OF BIRD SPECIES MATED STATUS';
COMMENT ON COLUMN MATED_STATUS_CODE.MATED_STATUS IS 'CODE OF BIRD SPECIES MATED STATUS';
COMMENT ON COLUMN COMMCLASSPLOTSUM.MCCCODE IS 'MOST COMMON COMMUNITY (MCC) CLASSIFICATION CODE';
COMMENT ON COLUMN COMMCLASSPLOTSUM.MCCTYPE IS 'MOST COMMON COMMUNITY (MCC) CLASSIFICATION TYPE';
COMMENT ON COLUMN LANDUSEYEARSUM.MEALLOBES IS 'NUMBER OF PLOTS WITH MAINTENANCE ACTIVITIES SHOWING EROSION EVIDENCE';
COMMENT ON COLUMN LANDUSEYEARSUM.MEALLVIS IS 'NUMBER OF PLOTS WITH MAINTENANCE ACTIVITIES OTHER THAN NONE SHOWING EROSION EVIDENCE';
COMMENT ON COLUMN BIRDS.MEASURE_PT IS 'LINE LOCATION OF BIRD SURVEY DATA LOCATION';
COMMENT ON COLUMN POINT_CODE.MEASURE_PT IS 'LINE LOCATION OF BIRD SURVEY DATA LOCATION';
COMMENT ON COLUMN HERPS.METHOD IS 'VERTEBRATE COLLECTION METHOD';
COMMENT ON COLUMN MAMMALS.METHOD IS 'VERTEBRATE COLLECTION METHOD';
COMMENT ON COLUMN METHODS_CODE.METHOD IS 'VERTEBRATE COLLECTION METHOD';
COMMENT ON COLUMN METHODS_CODE.METHOD_DEF IS 'VERTEBRATE COLLECTION METHOD CODE DEFINITION';
COMMENT ON COLUMN METHODS_CODE.METHOD_NOTE IS 'VERTEBRATE COLLECTION NOTES';
COMMENT ON COLUMN LANDUSEYEARSUM.MEWAlobs IS 'NUMBER OF PLOTS WITH MAINTENANCE ACTIVITIES SHOWING WATER EROSION EVIDENCE';
COMMENT ON COLUMN LANDUSEYEARSUM.MEWAVIS IS 'NUMBER OF PLOTS WITH MAINTENANCE ACTIVITIES OTHER THAN NONE SHOWING WATER EROSION EVIDENCE';
COMMENT ON COLUMN LANDUSEYEARSUM.MEWIObs IS 'NUMBER OF PLOTS WITH MAINTENANCE ACTIVITIES SHOWING WIND EROSION EVIDENCE';
COMMENT ON COLUMN LANDUSEYEARSUM.MEWIVIS IS 'NUMBER OF PLOTS WITH MAINTENANCE ACTIVITIES OTHER THAN NONE SHOWING WIND EROSION EVIDENCE';
COMMENT ON COLUMN PLOTMAPS.MISCMAP IS 'ADDITIONAL MAPS';
COMMENT ON COLUMN ENVCONST.MITIGATION IS 'MITIGATION STRATEGIES';
COMMENT ON COLUMN LANDUSEYEARSUM.MNONE IS 'NUMBER OF PLOTS WITH NO MILITARY ACTIVITY';
COMMENT ON COLUMN LANDUSEYEARSUM.MOBS IS 'NUMBER OF PLOTS WITH MILITARY ACTIVITY RECORDED';
COMMENT ON COLUMN LANDUSEYEARSUM.MOTHER IS 'NUMBER OF PLOTS WITH "OTHER" MIL ACTIVITY';
COMMENT ON COLUMN LANDUSEYEARSUM.MOW IS 'NUMBER OF PLOTS WITH MOWING';
COMMENT ON COLUMN SOILSMPL.MSAND IS 'SOIL ANALYSIS OF MEDIUM SAND';
COMMENT ON COLUMN MATED_STATUS_CODE.MSTATUS_DEF IS 'BIRD SPECIES MATED STATUS CODE';
COMMENT ON COLUMN MATED_STATUS_CODE.MSTATUS_NOTE IS 'MATED STATUS CODE NOTE';
COMMENT ON COLUMN LANDUSEYEARSUM.NMNONE IS 'NUMBER OF PLOTS WITH NO NONMILITARY ACTIVITY';
COMMENT ON COLUMN LANDUSEYEARSUM.NMOBS IS 'NUMBER OF PLOTS WITH NONMILITARY ACTIVITY RECORDED';
COMMENT ON COLUMN LANDUSEYEARSUM.NMOTHER IS 'NUMBER OF PLOTS WITH NONMILITARY "OTHER" ACTIVITY';
COMMENT ON COLUMN BIRDS.NUM IS 'NUMBER OF BIRD, MAMMAL, OR HERP SPECIES SITED/TRAPPED';
COMMENT ON COLUMN HERPS.NUM IS 'NUMBER OF BIRD, MAMMAL, OR HERP SPECIES SITED/TRAPPED';
COMMENT ON COLUMN MAMMALS.NUM IS 'NUMBER OF BIRD, MAMMAL, OR HERP SPECIES SITED/TRAPPED';
COMMENT ON COLUMN PCTTYEARSUM.OBS IS 'TOTAL NUMBER OF OBSERVATION PER GROUP';
COMMENT ON COLUMN BELTTRAN.OPT_REAL IS 'OPTIONAL BELT VARIABLE, USUALLY DBH';
COMMENT ON COLUMN GNDCOVER.OPT_TEXT IS 'OPTIONAL LINE VARIABLE';
COMMENT ON COLUMN LINEMON.OPT_TEXT IS 'OPTIONAL LINE VARIABLE';
COMMENT ON COLUMN F_COUNT.OPT_TEXT1 IS 'OPTIONAL VARIABLE 1';
COMMENT ON COLUMN F_COUNT.OPT_TEXT2 IS 'OPTIONAL VARIABLE 2';
COMMENT ON COLUMN LANDUSEYEARSUM.PLANT IS 'NUMBER OF PLOTS WITH PLANTING';
COMMENT ON COLUMN BELTRAN.PLANTHT IS 'BELT TRANSECT PLANT HEIGHT';
COMMENT ON COLUMN PLOTPLOT.PLDATE IS 'INITIAL PLOT ALLOCATION DATE';
COMMENT ON COLUMN AERCOVER.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN BASALA.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN BELTMON.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN BELTSURV.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN BELTRAN.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN BIRDS.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN COMMCLASSPLTSUM.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN EROSEVID.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN EROSION.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN F_COUNT.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN GNDCOVER.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN HERP.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN LANDUSE.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN LINE.MON.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN MAINTACT.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN MAMMALS.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN PCSDPLOTSPLTSUM.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN PLOTSPLTSUM.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN PLTSURV.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN SOILS.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN TACTCONA.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN TACTCONB.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN TACTCONC.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN BIRDSURV.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN HERPSURV.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN MAMMALSURV.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN GROUPING.PLOTID IS 'PLOT IDENTIFICATION NUMBER';
COMMENT ON COLUMN PLTSURV.PLOTNOTE IS 'PLOT COMMENTS';
COMMENT ON COLUMN PCSDPLOTSPLTSUM.PLOTTYP IS 'PLOTS CORE:SPECIAL USE FLAG';
COMMENT ON COLUMN PLTSURV.PLOTTYP IS 'PLOTS CORE:SPECIAL USE FLAG';
COMMENT ON COLUMN BIRDSURV.PLOTTYP IS 'PLOTS CORE:SPECIAL USE FLAG';
COMMENT ON COLUMN HERPSURV.PLOTTYP IS 'PLOTS CORE:SPECIAL USE FLAG';
COMMENT ON COLUMN MAMMALSURV.PLOTTYP IS 'PLOTS CORE:SPECIAL USE FLAG';
COMMENT ON COLUMN POINT_CODE.POINT_DEF IS 'LINE LOCATION CODE OF BIRD SURVEY DATA DEFINITION';
COMMENT ON COLUMN POINT_CODE.POINT_NOTE IS 'NOTE ON MEASURE PT CODE';
COMMENT ON COLUMN HERBRIUM.STATESTAT IS 'CURRENT STATUS AS STATE ENDANGERED (SE), OTHER STATE STATUS';
COMMENT ON COLUMN STATE_STATUS.STATESTAT IS 'CURRENT STATUS AS STATE ENDANGERED (SE), OTHER STATE STATUS';
COMMENT ON COLUMN STATE_STATUS.STATESTAT_DEF IS 'STATE STATUS CODE DEFINITION';
COMMENT ON COLUMN STATE_STATUS.STATESTAT_NOTE IS 'STATE STATUS CODE NOTES';
COMMENT ON COLUMN CLIMATEDATA.STATION IS 'CLIMATE STATION ID';
COMMENT ON COLUMN CLIMATESTATIONS.STATION IS 'CLIMATE STATION ID';
COMMENT ON COLUMN CLIMATESTATIONS.STATIONNAME IS 'CLIMATE STATION NAME';
COMMENT ON COLUMN EROSEVID.STATUS IS 'OBSERVED EROSION STATUS CODE';
COMMENT ON COLUMN EROS_CODE.STATUS IS 'OBSERVED EROSION STATUS CODE';
COMMENT ON COLUMN EROS_CODE.STATUS_DEF IS 'OBSERVED EROSION CODE DEFINITION';
COMMENT ON COLUMN EROS_CODE.STATUS_NOTE IS 'NOTE ON EROSION STATUS CODE';
COMMENT ON COLUMN TACTCONC.SRDIV IS 'STRUCTURAL DIVERSITY INDEX';
COMMENT ON COLUMN TACTCONC.STREVEN IS 'STRUCTURAL DIVERSITY EVENNESS';
COMMENT ON COLUMN SOILSMPL.STRUCT_CODE IS 'SOIL STRUCTURE CODE USED TO CALCULATE K-VALUE';
COMMENT ON COLUMN VERTLIST.SBFAM IS 'VERTEBRATE SUBFAMILY';
COMMENT ON COLUMN VERTLIST.SUBORDER IS 'VERTEBRATE SUBORDER';
COMMENT ON COLUMN PLNTLIST.SUBSPEC IS 'PLANT SUBSPECIES';
COMMENT ON COLUMN PLOTSURV.SURVEYOR IS 'PLOT SURVEYOR';
COMMENT ON COLUMN HERBRIUM.SYNAUTH IS 'AUTHOR OF SYNONYM VARIETY OR SUBSPECIES';
COMMENT ON COLUMN HERBRIUM.SYNGENUS IS 'SYNONYM GENUS';
COMMENT ON COLUMN PLNTLIST.SYNON IS 'PLANT SYNONYM';
COMMENT ON COLUMN HERBRIUM.SYNSSPP IS 'SYNONYM SPECIES';
COMMENT ON COLUMN HERBRIUM.SYNVARAUTH IS 'AUTHOR OF SYNONYM VARIETY OR SUBSPECIES';
COMMENT ON COLUMN HERBRIUM.SYNVAR_SSSP IS 'SYNONYM VARIETY OR SUBSPECIES';
COMMENT ON COLUMN EROSION.T IS 'SOIL SERIES T VALUE';
COMMENT ON COLUMN SOILMAST.T IS 'SOIL SERIES T VALUE';
COMMENT ON COLUMN PCTTYEARSUM.T00TO50 IS 'PERCENT OF PLOTS WITH T VALUES FROM 0 TO 50';
COMMENT ON COLUMN PCTTYEARSUM.T100TO150 IS 'PERCENT OF PLOTS WITH T VALUES FROM 100 TO 150';
COMMENT ON COLUMN PCTTYYEARSUM.T150TO200 IS 'PERCENT OF PLOTS WITH T VALUES FROM 150 TO 200';
COMMENT ON COLUMN PCTTYYEARSUM.T50TO100 IS 'PERCENT OF PLOTS WITH T VALUES FROM 50 TO 100';
COMMENT ON COLUMN COMMCLASSPLOTSUM.TCDB IS 'TOTAL COUNT DWARFSHRUB BROADLEAF';
COMMENT ON COLUMN COMMCLASSPLOTSUM.TCDC IS 'TOTAL COUNT DWARFSHRUB CONIFER';
COMMENT ON COLUMN COMMCLASSPLOTSUM.TCFA IS 'TOTAL COUNT FORB ANNUAL';
COMMENT ON COLUMN COMMCLASSPLOTSUM.TCFP IS 'TOTAL COUNT FORB PERENNIAL';
COMMENT ON COLUMN COMMCLASSPLOTSUM.TCGA IS 'TOTAL COUNT GRASS ANNUAL';
COMMENT ON COLUMN COMMCLASSPLOTSUM.TCGP IS 'TOTAL COUNT GRASS PERENNIAL';
COMMENT ON COLUMN COMMCLASSPLOTSUM.TCH IS 'TOTAL COUNT HALFSHRUB';
COMMENT ON COLUMN COMMCLASSPLOTSUM.TCSB IS 'TOTAL COUNT SHRUB BROADLEAF';
COMMENT ON COLUMN COMMCLASSPLOTSUM.TCSC IS 'TOTAL COUNT SHRUB CONIFER';
COMMENT ON COLUMN COMMCLASSPLOTSUM.TCTB IS 'TOTAL COUNT TREE BROADLEAF';
COMMENT ON COLUMN COMMCLASSPLOTSUM.TCTC IS 'TOTAL COUNT TREE CONIFER';
COMMENT ON COLUMN BIRDSURV.TEMP IS 'TEMPERATURE';
COMMENT ON COLUMN CLIMATEGRADE.TEMPMAX IS 'MAXIMUM TEMPERATURE';
COMMENT ON COLUMN HERPSURV.TEMPMAX IS 'MAXIMUM TEMPERATURE';
COMMENT ON COLUMN MAMSURV.TEMPMAX IS 'MAXIMUM TEMPERATURE';
COMMENT ON COLUMN CLIMATEGRADE.TEMP MIN IS 'MINIMUM TEMPERATURE';
COMMENT ON COLUMN HERPSURV.TEMP MIN IS 'MINIMUM TEMPERATURE';
COMMENT ON COLUMN MAMSURV.TEMP MIN IS 'MINIMUM TEMPERATURE';
COMMENT ON COLUMN PCTTYYEARSUM.TGT200 IS 'PERCENT OF PLOTS WITH T VALUES GREATER THAN 200';
COMMENT ON COLUMN LANDUSEYEARSUM.TILL IS 'NUMBER OF PLOTS WITH TILLAGE';
COMMENT ON COLUMN SOILSMPL.TOTCLAY IS 'PERCENT TOTAL CLAY';
COMMENT ON COLUMN SOILSMPL.TOTSAND IS 'PERCENT TOTAL SAND';
COMMENT ON COLUMN SOILSMPL.TOTSLT IS 'PERCENT TOTAL SILT';
COMMENT ON COLUMN LANDUSEYEARSUM.TRACK IS 'PERCENT OF PLOTS WITH EVIDENCE OF TRACKED VEHICLES';
COMMENT ON COLUMN PLOTSURV.TRAIN IS 'PLOT TRAINING AREA';
COMMENT ON COLUMN BASALAB.TranLoc IS 'TRANSECT LOCATION';
COMMENT ON COLUMN SOILS.TranLoc IS 'TRANSECT LOCATION';
COMMENT ON COLUMN MAMSURV.TRAPNIGHTS IS 'NUMBER OF TRAP NIGHTS
(NUMBER OF TRAPS * NUMBER OF NIGHTS)';
COMMENT ON COLUMN MAMSURV.TRAPS IS 'TYPES OF TRAPS USED FOR SMALL
MAMMAL SURVEY';
COMMENT ON COLUMN PLNTLIST.TSTYPE IS 'BROADLEAF:CONIFEROUS TYPE';
COMMENT ON COLUMN ENVCONST.UNIT IS 'UNITS AFFECTED';
COMMENT ON COLUMN ENVCONST.UPDATENO IS 'UPDATE VERSION OF
INFORMATION';
COMMENT ON COLUMN LANDUSE.USENOTE IS 'LAND USE NOTE';
COMMENT ON COLUMN PLOTMAST.USAUS IS 'USGS QUADRANGLE NAME';
COMMENT ON COLUMN EROSION.USLE0KCAL IS 'USLE (AT LOCATION 0 USING
CALCULATED K)';
COMMENT ON COLUMN EROSION.USLE0KPUK IS 'USLE (AT TRANSECT LOCATION
0 USING PUB K)';
COMMENT ON COLUMN EROSION.USLE1KCAL IS 'USLE (AT LOCATION 50 USING
CALCULATED K)';
COMMENT ON COLUMN EROSION.USLE1KPUK IS 'USLE (AT TRANSECT LOCATION
50 USING PUB K)';
COMMENT ON COLUMN EROSION.USLE2KCAL IS 'USLE (AT LOCATION 100 USING
CALCULATED K)';
COMMENT ON COLUMN EROSION.USLE2KPUK IS 'USLE (AT TRANSECT LOCATION
100 USING PUB K)';
COMMENT ON COLUMN EROSION.USLEMKCAL IS 'USLE (MEAN OF 3 TRANSECTS
USING CALCULATED K)';
COMMENT ON COLUMN EROSION.USLEMKPUK IS 'USLE (MEAN OF 3 TRANSECTS
USING PUB K)';
COMMENT ON COLUMN HERBRIUM.VARAUTH IS 'AUTHOR OF VARIETY OR
SUBSPECIES';
COMMENT ON COLUMN PLNTLIST.VARIETY IS 'PLANT VARIETY';
COMMENT ON COLUMN HERBRIUM.VAR_SSP IS 'VARIETY OR SUBSPECIES';
COMMENT ON COLUMN SOILSMPL.VCSAND IS 'SOIL ANALYSIS OF VERY COARSE
SAND';
COMMENT ON COLUMN BELTMON.VEGCOND IS 'PLANT CONDITION';
COMMENT ON COLUMN BELTSURV.VEGCOND IS 'PLANT CONDITION';
COMMENT ON COLUMN BELTTRAN.VEGCOND IS 'PLANT CONDITION';
COMMENT ON COLUMN GNDCOVER.VEGCOND IS 'PLANT CONDITION';
COMMENT ON COLUMN TACTCONA.VEGCOND IS 'PLANT CONDITION';
COMMENT ON COLUMN AERCOVER.VEGHT IS 'AERIAL PLANT HEIGHT NAME';
COMMENT ON COLUMN AERCOVER.VEGID IS 'PLANT SPECIES CODE';
COMMENT ON COLUMN BELTMON.VEGID IS 'PLANT SPECIES CODE';
COMMENT ON COLUMN BELTRAN.VEGID IS 'PLANT SPECIES CODE';
COMMENT ON COLUMN GNDCOVER.VEGID IS 'PLANT SPECIES CODE';
COMMENT ON COLUMN PLNLIST.VEGID IS 'PLANT SPECIES CODE';
COMMENT ON COLUMN TACTCONA.VEGID IS 'PLANT SPECIES CODE';
COMMENT ON COLUMN TACTCONB.VEGID IS 'PLANT SPECIES CODE';
COMMENT ON COLUMN HERBRIUM.VEGID IS 'PLANT SPECIES CODE';
COMMENT ON COLUMN AERCOVER.VEGLOC IS 'TRANSECT LOCATION ALONG LINE';
COMMENT ON COLUMN BELTRTRAN.VEGLOC IS 'TRANSECT LOCATION ALONG LINE';
COMMENT ON COLUMN F_COUNT.VEGLOC IS 'TRANSECT LOCATION ALONG LINE';
COMMENT ON COLUMN GNDCOVER.VEGLOC IS 'TRANSECT LOCATION ALONG LINE';
COMMENT ON COLUMN LINEMON.VEGLOC IS 'TRANSECT LOCATION ALONG LINE';
COMMENT ON COLUMN PLTSURV.VEGTYPE IS 'GENERAL PLOT VEGETATION TYPE';
COMMENT ON COLUMN BIRDS.VERTID IS 'VERTEBRATE SPECIES CODE';
COMMENT ON COLUMN HERPS.VERTID IS 'VERTEBRATE SPECIES CODE';
COMMENT ON COLUMN MAMMALS.VERTID IS 'VERTEBRATE SPECIES CODE';
COMMENT ON COLUMN VERTLIST.VERTID IS 'VERTEBRATE SPECIES CODE';
COMMENT ON COLUMN VERTLIST.VERNOTE IS 'NOTE ABOUT THE LISTING';
COMMENT ON COLUMN VERTLIST.VERSTAT IS 'VERTEBRATE STATUS';
COMMENT ON COLUMN SOILSMP.VEFSAND IS 'SOIL ANALYSIS OF VERY FINE SAND';
COMMENT ON COLUMN LANDUSEYEARSUM.WANONE IS 'NUMBER OF PLOTS WITH NO WATER EROSION';
COMMENT ON COLUMN LANDUSEYEARSUM.WAOBS IS 'NUMBER OF PLOTS WITH WATER EROSION RECORDED';
COMMENT ON COLUMN LANDUSEYEARSUM.WAPEDPLNT IS 'NUMBER OF PLOTS WITH WATER PEDESTAL PLANT EROSION';
COMMENT ON COLUMN LANDUSEYEARSUM.WHEEL IS 'NUMBER OF PLOTS WITH WHEEL TRAFFIC';
COMMENT ON COLUMN BIRDSURV.WIND IS 'WIND SPEED';
COMMENT ON COLUMN HERPSURV.WIND IS 'WIND SPEED';
COMMENT ON COLUMN LANDUSEYEARSUM.WINONE IS 'NUMBER OF PLOTS WITH NO WIND EROSION';
COMMENT ON COLUMN LANDUSEYEARSUM.WIOBS IS 'NUMBER OF PLOTS WITH WIND EROSION RECORDED';
COMMENT ON COLUMN LANDUSEYEARSUM.WIPEPLNT IS 'NUMBER OF PLOTS WITH WIND PEDESTAL PLANT EROSION';
COMMENT ON COLUMN SOILSMP.WT20TO75M IS '20-75 MM WEIGHT PERCENTAGE OF SOIL < 75 MM';
COMMENT ON COLUMN SOILSMP.WT2TO5MM IS '2-5 MM WEIGHT PERCENTAGE OF SOIL < 75 MM';
COMMENT ON COLUMN SOILSMP.WT5TO20MM IS '5-20 MM WEIGHT PERCENTAGE OF SOIL < 75 MM';
COMMENT ON COLUMN SOILSMP.YR IS 'SAMPLE YEAR';
REMARK

\RECORD NOTE IN HISTORY TABLE THAT UPDATE WAS MADE
REPLACE ??? WITH INSTALATION ID AND ????? WITH YOUR NAME
/
INSERT INTO HISTORY (INSTALID,RECDATA,RECORDER,INSTNOTE)
VALUES (:1,:2,:3,:4)
/
"???,"1994-01-01","????","UPDATED LCTA DATABASE TO NEW STANDARD"
/

References


Appendix A: Database Schema

The LCTA database schema is presented in IDEF1X format. Terms and notation are presented here.

Identifying relation | A relationship in which the primary key attributes of the parent table become part of the primary key of the child entity. Represented by a solid line between entities with a solid circle at the child entity end.

Nonidentifying relation | A relationship in which the primary key attributes of the parent do not become part of the primary key of the child. Represented by a dashed line between entities with a filled solid at the child entity end.

Independent entity | An entity that does not depend on any other for its identification. Represented by a squared corner rectangle.

Dependent entity | An entity that depends on another for its identity (the primary key of the child contains attributes inherited from the primary key of the parent). Represented by a rounded corner rectangle.

PK (primary key) | An element or group of elements that act as the unique identifier of the entity. Represented by placing [PK] to the left of the element.

FK (foreign key) | A primary key of a parent entity that is contributed to the child entity through a relationship. Represented by placing [FK] to the left of the element.
Appendix B: Entity (table) Information

Entity definitions and structures are presented in this appendix. Syntax is as follows.

**TABLE NAME**

Description of the data stored in the table

```
data structure
```

The data structure is presented in the format output by Systems Architect.* Each data element is followed by a "+" denoting the end of the element information. In some cases information between two "/" will appear. This shows the referential integrity constraint references. For example, INSTALID/FKFROM "PLOTSURV. INSTALID()"/+ is defined as:

the data element INSTALID is a foreign key constrained by the element INSTALID in the table PLOTSURV.

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* Popkin Software and Systems Incorporated, 11 Park Place, New York, NY.
LCTA Entity Definitions
LCTA System

AERCOVER

Aerial data from initial inventory and long-term monitoring line transect

INSTALID / FKFROM "PLOTSURV.INSTALIDQ"/
PLOTID / FKFROM "PLOTSURV.PLOTIDQ"/
RECDATE / FKFROM "PLOTSURV.RECDATEQ"/
VEGLOC+
VEGID+
VEGHT

AERCOV_CODE

Short-term monitoring aerial cover code validation table

@1 AERCOV+
AERCOV_DEF+
AERCOV_NOTE

BASALA

Tree basal area data

INSTALID / FKFROM "PLOTSURV.INSTALIDQ"/
PLOTID / FKFROM "PLOTSURV.PLOTIDQ"/
RECDATE / FKFROM "PLOTSURV.RECDATEQ"/
TRANLOC+
BA

BELTMON

Short-term monitoring belt transect data (woody vegetation)

INSTALID / FKFROM "PLOTSURV.INSTALIDQ"/
PLOTID / FKFROM "PLOTSURV.PLOTIDQ"/
RECDATE / FKFROM "PLOTSURV.RECDATEQ"/
VEGID+
VEGCOND+
CATMINT1+
CAT1T20+
CAT2T30+
CAT3T40+
CATGT4

BELTSURV

Parameters for inventory and monitoring belt transects

INSTALID / FKFROM "PLOTSURV.INSTALIDQ"/
PLOTID / FKFROM "PLOTSURV.PLOTIDQ"/
RECDATE / FKFROM "PLOTSURV.RECDATEQ"/
EXCPNTS+
SIDE+
VEGCOND+
BELTWIDE+
BELTHT

BELTRAN

Initial inventory and long-term monitoring belt transect data (woody vegetation)

INSTALID / FKFROM "PLOTSURV.INSTALIDQ"/
PLOTID / FKFROM "PLOTSURV.PLOTIDQ"/
RECDATE / FKFROM "PLOTSURV.RECDATEQ"/
VEGID+
VEGLOC+
SIDE+
SIEDIST+
PLANTHT+
VEGCOND+
CLMPBEGIN+
**LCTA Entity Definitions**

**LCTA System**

CLMEND+
AREA+
OPT_REAL

**BIRDS**

*Bird data from wildlife inventory*

INSTALID / FKFROM "BIRDSERV.INSTALID"/+  
PLOTID / FKFROM "BIRDSERV.PLOTID"/+  
RECDATE / FKFROM "BIRDSERV.RECDATE"/+  
VERTID+  
PERIOD+  
MATED_STATUS / FKFROM "MATED_STATUS.CODE,MATED_STATUS"/+  
MEASURE_PT / FKFROM "POINT_CODE.MEASURE_PT"/+  
NUM+  
FLYOVERS

**BIRDSERV**

*Table identifying all inventories for bird data*

@1 INSTALID / FKFROM "INSTMAST.INSTALID"/+  
@2 PLOTID+  
@3 RECDATE+  
PLOTTYPE+  
COLLECTOR+  
CLOUD_COVER+  
WIND+  
TEMP+  
BIRDNOTE

**CLIMATEDATA**

*Climate Data*

INSTALID / FKFROM "CLIMATESTATIONS.INSTALID"/+  
STATION / FKFROM "CLIMATESTATIONS.STATION"/+  
RECDATE+  
RAIN+  
TEMPMIN+  
TEMPMAX+  
PANEVAP

**CLIMATESTATIONS**

*Climate station information*

@1 INSTALID / FKFROM "INSTMAST.INSTALID"/+  
@2 STATION+  
STATIONNAME+  
DMCF+  
DMCN+  
ZONE+  
STATION_COMMENT

**COMMCLASSPLOTSUM**

*Plant community classifications for each plot*

INSTALID / FKFROM "INSTMAST.INSTALID" FKFROM "PLOTMAST.INSTALID"/+  
ANALYEAR+  
PLOTID / FKFROM "PLOTMAST.PLOTID"/+  
PCCTYPE+  
PCCCODE+  
MCCTYPE+  
MCICODE+  
ATGA+  
ATGP+  
ATFA+  
ATFP+
LCTA Entity Definitions
LCTA System

ATH+
ATDC+
ATDB+
ATSC+
ATSB+
ATTC+
ATTB+
PAGA+
PAGP+
PAFA+
PAFP+
PAH+
PADC+
PADB+
PASC+
PASB+
PATC+
PATB+
TCGA+
TCGP+
TCFA+
TCFP+
TCH+
TCDC+
TCDB+
TCSC+
TCSB+
TCTC+
TCTB

DISTURB_CODE
Disturbance code validation table

@I DISTURB+
DISTURB_DEF+
DISTURB_NOTE

ENVCONST
Environmental constraints

INSTALID / FKFROM "INSTMAST.INSTALIDQ"/+
CASENO+
UNIT+
RESTRAINT+
IMPACT+
REALISM+
MITIGATION+
RESEARCH+
RECDATE+
UPDATENO

EROSEVID
Observed erosion evidence data

INSTALID / FKFROM "PLOTSURV.INSTALIDQ"/+
PLOTID / FKFROM "PLOTSURV.PLOTIDQ"/+
RECDATE / FKFROM "PLOTSURV.RECDATEQ"/+
STATUS / FKFROM "EROS_CODE.STATUSQ"/

EROSION
Table for Universal Soil Loss Equation (USLE) estimations

INSTALID / FKFROM "INSTMAST.INSTALIDQ" FKFROM "PLOTMAST.INSTALIDQ"/+
ANALYEAR+
PLOTID / FKFROM "PLOTMAST.PLOTIDQ"/+
USLEMKPUB+
USLEOKPUB+
USLE1KPUB+
LCTA Entity Definitions

LCTA System

USLE2KUB+
USLEMKCAL+
USLE0KCAL+
USLE1KCAL+
USLE2KCAL+
LSM+
LS0+
LS1+
LS2+
PCTTKPUB+
PCTTKCAL+
KPUBEROSINDEX+
KCALOSINDEX+
KPUB+
KCAL+
RVAL+
C+
C1+
C2+
T+
PGNDCOV+
PAERCOV+
AVEMINHT+
EFFCOVER+
HABDIVIS

EROS_CODE

Observed erosion evidence code validation table

@1 STATUS+
STATUS_DEF+
STATUS_NOTE

F_COUNT

Optional data for initial from inventory or monitoring (contains user defined attributes)

INSTALID / FKFROM "PLOTSURV.INSTALLID()"
PLOTID / FKFROM "PLOTSURV.PLOTID()"
RECODE / FKFROM "PLOTSURV.RECODE()"
VEGLOC+
OPT_TEXT1+
OPT_TEXT2+
OPT_TEXT3+
OPT_TEXT4+
OPT_TEXT5

GENDER_CODE

Wildlife gender code validation table

@1 SEX+
SEX_DEF+
SEX_NOTE

GNDCOVER

Initial inventory and long-term monitoring ground vegetation data

INSTALID / FKFROM "PLOTSURV.INSTALLID()"
PLOTID / FKFROM "PLOTSURV.PLOTID()"
RECODE / FKFROM "PLOTSURV.RECODE()"
VEGLOC+
DISTURB / FKFROM "DISTURB_CODE.DISTURB()"
VEGID+
VEGCOND+
OPT_TEXT
LCTA Entity Definitions

LCTA System

*Short-term monitoring ground cover code validation table*

@1 GNDCOV+
GNDCOV_DEF+
GNDCOV_NOTE

**GROUPING**

*Dynamic table for LCTA front end routines (user defined attributes)*

@1 PLOTID / FKFROM "PLOTMAST.PLOTID()"/+ 
@2 INSTALID / FKFROM "PLOTMAST.INSTALID()"

**HERPS**

*Herp data from wildlife inventory*

INSTALID / FKFROM "HERPSURV.INSTALID()"/+ 
PLOTID / FKFROM "HERPSURV.PLOTID()"/+ 
RECDATE / FKFROM "HERPSURV.RECDATE()"/+ 
VERTID+ 
SEX / FKFROM "GENDER_CODE.SEX()"/+ 
METHOD / FKFROM "METHODS_CODE.METHOD()"/+ 
NUM+ 
RETRAP

**HERPSURV**

*Table identifying all inventories for herp on each plot*

@1 INSTALID / FKFROM "INSTMAST.INSTALID()"/+ 
@2 PLOTID+ 
@3 RECDATE+ 
PLOTTYPE+ 
COLLECTOR+ 
AZIMUTH+ 
LOC+ 
TEPMAx+ 
TEPMPIN+ 
CLOUD_COVER+ 
WIND+ 
HERPNOTE

**HISTORY**

*General informational data*

INSTALID / FKFROM "INSTMAST.INSTALID()"/+ 
RECDATE+ 
RECODER+ 
INSTNOTE

**INSTMAST**

*Master listing of all LCTA installations*

@1 INSTALID+ 
INNAME+ 
INLOC+ 
INSIZE

**LANDUSE**

*Military and non-military land use data*

INSTALID / FKFROM "PLOTSURV.INSTALID()"/+ 
PLOTID / FKFROM "PLOTSURV.PLOTID()"/+ 
RECDATE / FKFROM "PLOTSURV.RECDATE()"/+ 
LANDUSE / FKFROM "LANDUSE_CODE.LANDUSE()"/+ 
USERNOTE
LCTA Entity Definitions
LCTA System

LANDUSEYEARSUM
Land use summary data by year

`INSTALID / FKFROM "INSTMAST.INSTALIDO"/+`  
`ANALYEAR/+`  
`MOBS/+`  
`MNONE/+`  
`WHEEL/+`  
`TRACK/+`  
`EXCA/+`  
`FOOT/+`  
`BIV/+`  
`DEMO/+`  
`MOTHER/+`  
`NMOBS/+`  
`NMNONE/+`  
`GRAZING/+`  
`CROP/+`  
`FOREST/+`  
`HAY/+`  
`NMOTHER/+`  
`MAOBS/+`  
`MANONE/+`  
`PREBURN/+`  
`ACCBDURN/+`  
`TILL/+`  
`MOW/+`  
`SEED/+`  
`PLANT/+`  
`CHEMICAL/+`  
`MAOTHER/+`  
`WIOBS/+`  
`WINONE/+`  
`DRIFTING/+`  
`SCOURING/+`  
`WPEDPNT/+`  
`WAOBS/+`  
`WANONE/+`  
`SHEET/+`  
`GULLY/+`  
`WAPEDPNT/+`  
`DEBDAM/+`  
`MEALOBS/+`  
`MEALVIS/+`  
`LEALOBS/+`  
`LEALVIS/+`  
`MEWAOBS/+`  
`MEWAVIS/+`  
`LEWAOBS/+`  
`LEWAVIS/+`  
`MEWIOBS/+`  
`MEWIVIS/+`  
`LEWI/+`  
`LEWIVIS/+`

LANDUSE_CODE
Land use code validation table

`@1 LANDUSE+`  
`LANDUSE_DEF+`  
`LANDUSE_NOTE`

LINEMON
Short-term monitoring line transect data

`INSTALID / FKFROM "PLOTSURV.INSTALIDO"/+`  
`PLOTID / FKFROM "PLOTSURV.PLOTID"/+`  
`RECDATE / FKFROM "PLOTSURV.RECDATE"/+`  
`VEGLOC/+`
LCTA Entity Definitions
LCTA System

DISTURB / FKFROM "DISTURB_CODE.DISTURBQ"+
GNDCOV / FKFROM "GNDCOV_CODE.GNDCOVQ"+
AERCOV / FKFROM "AERCOV_CODE.AERCOVQ"+
OPT_TEXT

MAINTACT
Maintenance activity data

INSTALLID / FKFROM "PLOTSURV.INSTALLIDQ"+
PLOTID / FKFROM "PLOTSURV.PLOTIDQ"+
RECDATE / FKFROM "PLOTSURV.RECDATEQ"+
MAINTAIN / FKFROM "MAINT_CODE.MAINTAINQ"+
MAINNOTE

MAINT_CODE
Maintenance activity code validation table

@1 MAINTAIN+
MAINTAIN_DEF+
MAINTAIN_NOTE

MAMMALS
Mammal data from wildlife inventory

INSTALLID / FKFROM "MAMSURV.INSTALLIDQ"+
PLOTID / FKFROM "MAMSURV.PLOTIDQ"+
RECDATE / FKFROM "MAMSURV.RECDATEQ"+
VERTID+
SEX / FKFROM "GENDER_CODE.SEXQ"+
METHOD / FKFROM "METHODS_CODE.METHODQ"+
NUM+
RETRAP

MAMSURV
Table identifying all inventories for mammals on each plot

@1 INSTALLID / FKFROM "INSTMAST.INSTALLIDQ"+
@2 PLOTID+
@3 RECDATE+
PLOTTYPE+
COLLECTOR+
TRAP+
TRAPNIGHTS+
BAITS+
TEMPMAX+
TEMPMIN+
CLOUD_COVER+
PRECIP+
MAMNOTE

MAPS
Installation GIS maps used to display LCTA data

INSTALLID / FKFROM "INSTMAST.INSTALLIDQ"+
MAPNAME+
DMCELL+
DMCETR+
DMCNRIL+
DMCNTR+
MAP

MATED_STATUS_CODE
Bird mated status validation table

@1 MATED_STATUS+
LCTA Entity Definitions
LCTA System

MSTATUS_DEF+
MSTATUS_NOTE

METHODS_CODE

Mammal and harp trapping methods validation table

@1 METHOD+
METHOD_DEF+
METHOD_NOTE

PCSDPLOTSUM

Plant Cover, Surface Disturbance (PCSD) summary data by plot

INSTALID / FKFROM "INSTMAST.INSTALID" FKFROM "PLOTMAST.INSTALID"
/
/
PLOTID / FKFROM "PLOTMAST.PLOTID"
/
/
ANALYEAR+
PLOTTYPE+
GD_OBS+
GD_NONE+
GD_ROAD+
GD_PASS+
GD_TRAIL+
GD_OTHER+
GC_OBS+
GC_BARE+
GC_LITTER+
GC_CROCK+
GC_PLAN+
GC_MACRO+
CC_OBS+
CC_NONE+
CC_NAN+
CC_PER+
CC_NPER+
AC_OBS+
AC_M

PCSDYEARSUM

Plant Cover, Surface Disturbance (PCSD) summary data by year

INSTALID / FKFROM "INSTMAST.INSTALID"
/
/
ANALYEAR+
GD_NONEMEAN+
GD_NONESTDEV+
GD_ROADMEN+
GD_ROADSTDEV+
GD_PASSMEAN+
GD_PASSSTDEV+
GD_TRAILMEAN+
GD_TRAILSTDEV+
GD_THMEAN+
GD_THSTDEV+
GC_BAREMEAN+
GC_BARESTDEV+
GC_LITMEAN+
GC_LITSTDEV+
GC_CROCKMEAN+
GC_CROCKSTDEV+
GC_PLANMEAN+
GC_PLANSTDEV+
GC_MACROMEAN+
GC_MACROSTDEV+
CC_NONEMEAN+
CC_NONESTDEV+
CC_NPERMEAN+
CC_NPERSTDEV+
LCTA Entity Definitions
LCTA System

CCAPSTDDEV+
ACMEAN+
ACSTDEV+
AC00+
AC20+
AC40+
AC60+
AC80+
AC100

PCTTYEARSUM
Percent of soil loss tolerance summary data by year

INSTALID / FKFROM "INSTMAST.INSTALIDQ"/+
ANALYEAR+
OBS+
T00TO50+
T50TO100+
T100TO150+
T150TO200+
TGT200

PLNTLIST
Installation master vegetation list

@1 VEGID+
FAMILY+
GENUS+
SPEC+
SUBSPEC+
VARIETY+
LIFE+
ORIGIN+
FORM1+
FORM2+
TSTYPE+
SYNON

PLOTMAPS
Map and photo images for each plot

INSTALID / FKFROM "PLOTMAST.INSTALIDQ"/+
PLOTID / FKFROM "PLOTMAST.PLOTIDQ"/+
GENMAP+
LOCMAP+
MISCMAP+
PHOTOS

PLOTMAST
Master plot table (one per LCTA plot)

@1 INSTALID / FKFROM "GROUPING.INSTALIDQ" FKFROM "INSTMAST.INSTALIDQ"/+
@2 PLOTID / FKFROM "GROUPING.PLOTIDQ"/+
DMCE+
DMCN+
ZONE+
PLDATE+
USGS+
SOILSER+
RVAL+
AZIMUTH+
DECLIN

PLOTSURV
Table identifying all inventories on each plot

96
LCTA Entity Definitions
LCTA System

@1 INSTALID /FKFROM "PLOTMAST:INSTALID"/+
@2 PLOTID /FKFROM "PLOTMAST:PLOTID"/+
@3 RECDATA+
    INVTYP+
    PLOTYPE+
    SURVEYOR+
    RECORDER+
    TRAIN+
    VEGTYP+
    ASPECT+
    SOILDPHT+
    PLOTNTE

POINT_CODE

Bird data collection line location validation table

@1 MEASURE_PT+
    POINT_DEF+
    POINT_NOTE

SOILS
Plot slope data

INSTALID+
    PLOTID+
    RECDATA+
    TRANLOC+
    SLOPE+
    SLPLEN

SOILMAST
Installation master soil series table

SOILSER+
    SOILNAME+
    PUBL+
    CLACKMEAN+
    CLACKSTDDEV+
    T+
    SOILCAT

SOILSMPL
Soil sample data from USDA National Soils Lab

INSTALID /FKFROM "PLOTMAST:INSTALID"/+
    PLOTID /FKFROM "PLOTMAST:PLOTID"/+
    YR+
    LABK+
    TOTCLAY+
    TOTALT+
    TOTSAN+
    CO3CLAY+
    FSILT+
    CSILT+
    VFSAND+
    FSAND+
    MSAND+
    CSAND+
    VCSAND+
    WT2TO5MM+
    WT3TO20MM+
    WT2TO75MM+
    COURFRAG+
    ORGCARB+
    ORGMATT+
    BARCLAY+
    BARWATER+
    CARBLT2MM+

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LCTA Entity Definitions
LCTA System

PH1TO2+
PH1TO1+
SOILNOTE+
STRUCT_CODE+
PERM_CLASS

TACTCONA
Tactical Concealment summary A

INSTALID / FKFROM "INSTMAST.INSTALIDQ" FKFROM "PLOTMAST.INSTALIDQ"/
ANALYEAR+
PLOTID / FKFROM "PLOTMAST.PLOTIDQ"/
VEGID+
LIFEFORM+
VEGCOND+
HTMINTO1+
HT1TO2+
HT2TO3+
HT3TO4+
HTGT4

VERTLIST
Installation master vertebrate list

@1 VERTID+
CLASS+
ORDERS+-
SUBORDER+
FAMILY+
SUBFAM+
GENUS+
SPEC+
COMMON+
AUTHORS+
VERTSTAT+
VERTNOTE
Appendix C: Data Element Information

Data element definitions are presented in this appendix. Syntax is as follows.

**DATA ELEMENT NAME**

- element definition

**SQL Data Type**: designates the type of data

**SQL Type Qualifiers**: length of text data

**Default Nullity**: if not null data is required

**Derived Data**: if T (true) this data was calculated from other data in the database

**Valid Entries**: gives valid data information

**Missing/Invalid**: if applicable lists the data entered to denote missing or invalid data

**Used By**: a list of tables that contain the data element
ABUNDANCE

Relative abundance, 1-5

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: F
Valid Entries: Integer
Missing/Invalid: N/A
Used By: HERBRUM

AC00

Percent of plots with no aerial concealment

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PCSDYEARSUM

AC100

Percent of plots with 100% aerial concealment

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PCSDYEARSUM

AC20

Percent of plots with 20% aerial concealment

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PCSDYEARSUM

100
LCTA Data Element/Entity Reference
LCTA System

AC40

Percent of plots with 40% aerial concealment

SQL Data Type: Float
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PCSDYEARSUM

AC4M

Number of points with cover above 4 m

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCSDPLOTSUM

AC60

Percent of plots with 60% aerial concealment

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PCSDYEARSUM

AC80

Percent of plots with 80% aerial concealment

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PCSDYEARSUM
LCTA Data Element/Entity Reference
LCTA System

ACCBURN

Number of plots with accidental burn

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

ACMEAN

Mean aerial concealment percent

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PCSDYEARSUM

ACOBS

Number of aerial concealment plots

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCSDPLOTSUM

ACSTDEV

Standard deviation of mean aerial concealment percent

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PCSDYEARSUM
LCTA Data Element/Entity Reference
LCTA System

AERCOV

Short-term monitoring aerial cover code

SQL Data Type: CHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: (A)annual,(P)erennial,(AP)annual&perennial,(N)one
Missing/Invalid: N/A
Used By: AERCOV_CODE
Used By: LINEMON

AERCOV_DEF

Short-term monitoring aerial cover code definition

SQL Data Type: CHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Annual,Perennial,annual&perennial,None
Missing/Invalid: N/A
Used By: AERCOV_CODE

AERCOV_NOTE

Aerial cover category note

SQL Data Type: VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text
Missing/Invalid: N/A
Used By: AERCOV_CODE

ANALYEAR

Year for recording:analysis

SQL Data Type: INTEGER
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: 4 digit year
Missing/Invalid: N/A
Used By: COMMCLASSPLOTSUM
Used By: EROSION
LCTA Data Element/Entity Reference

LCTA System

Used By: LANDUSEYEARSUM
Used By: PCSDPLOTSUM
Used By: PCSDYEARSUM
Used By: PCTYEARSUM
Used By: TACTCONA

AREA

Surface area of a vegetation clump

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: BELITTRAN

ASPECT

Plot aspect

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: N,NE,E,SE,S,SW,W,NW,L
Missing/Invalid: N/A
Used By: PLOTSSURV

ASSOSPP

Associated species

SQL Data Type: VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Valid associated species
Missing/Invalid: N/A
Used By: HERBRIUM

ATDB

Aerial top hits dwarfshrub broadleaf

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
LCTA Data Element/Entity Reference
LCTA System

Valid Entries: Integer

Missing/Invalid: N/A
Used By: COMMACLASSPLOTSUM

ATDC

Aerial top hits dwarfshrub conifer

SQL Data Type: INTEGER
Default Nullify: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMACLASSPLOTSUM

ATFA

Aerial top hits forb annual

SQL Data Type: INTEGER
Default Nullify: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMACLASSPLOTSUM

ATFP

Aerial top hits forb perennial

SQL Data Type: INTEGER
Default Nullify: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMACLASSPLOTSUM

ATGA

Aerial top hits grass annual

SQL Data Type: INTEGER
Default Nullify: NULL
Derived Data: T
LCTA Data Element/Entity Reference
LCTA System

Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCLASSPLOTSUM

ATGP

Aerial top hits grass perennial

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCLASSPLOTSUM

ATH

Aerial top hits halfshrub

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCLASSPLOTSUM

ATSB

Aerial top hits shrub conifer

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCLASSPLOTSUM

ATSC

Aerial top hits shrub conifer

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
LCTA Data Element/Entity Reference
LCTA System

Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMACLASSPLOTSUM

ATTB

Aerial top hits tree broadleaf

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMACLASSPLOTSUM

ATTC

Aerial top hits tree conifer

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMACLASSPLOTSUM

AVEMINHT

Average minimum drip height

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: EROSION

AZIMUTH

Plot azimuth

SQL Data Type: REAL
Default Nullity: NULL
Derived Data: F
LCTA Data Element/Entity Reference

LCTA System

Valid Entries: Real number
Missing/Invalid: N/A
Used By: HERPSURV
Used By: PLOTMAST

BA

Basal Area

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: BASALA

BAITS

Baits used for small mammal trapping

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Valid baits used for trapping
Missing/Invalid: N/A
Used By: MAMSURV

BARCLAY

Ration 15 Bar-Clay

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMPL

BARWATER

15 Bar water on air dry soil, weight percent

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
LCTA Data Element/Entity Reference
LCTA System

Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMPL

BAUTHOR
Author of the species

SQL Data Type: VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text
Missing/Invalid: N/A
Used By: HERBRIUM

BELHTHT
Belt transect belt minimum height

SQL Data Type: FLOAT
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: BELTSURV

BELTWIDE
Belt transect belt width

SQL Data Type: FLOAT
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: BELTSURV

BIRDNOTE
Plot note for bird survey

SQL Data Type: VARCHAR
Default Nullity: NULL
Derived Data: F
LCTA Data Element/Entity Reference

LCTA System

Valid Entries: Text

Missing/Invalid: N/A

Used By: BIRDSURV

BIV

Number of Bivouac disturbed sites

SQL Data Type: INTEGER

Default Nullity: NULL

Derived Data: T

Valid Entries: Integer

Missing/Invalid: N/A

Used By: LANDUSEYEARSUMP

C

Cover value (C) used in USLE

SQL Data Type: FLOAT

Default Nullity: NULL

Derived Data: T

Valid Entries: Real number

Missing/Invalid: N/A

Used By: EROSION

C1

C1 subfactor of C (USLE factor)

SQL Data Type: FLOAT

Default Nullity: NULL

Derived Data: T

Valid Entries: Real number

Missing/Invalid: N/A

Used By: EROSION

C2

C2 subfactor of C (USLE factor)

SQL Data Type: FLOAT

Default Nullity: NULL

Derived Data: T
LCTA Data Element/Entity Reference
LCTA System

Valid Entries: Real number
Missing/Invalid: N/A
Used By: EROSION

CALCKMEAN
Mean Calculated natural erodibility (K) value (USLE factor)

SQL Data Type: FLOAT
SQL Type Qualifiers:
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILMAST

CALCKSTDEV
Standard deviation of calculated natural erodibility (K) value (USLE factor)

SQL Data Type: FLOAT
SQL Type Qualifiers:
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: -I
Used By: SOILMAST

CARBLT2MM
Carbonate, < 2mm fraction

SQL Data Type: FLOAT
SQL Type Qualifiers:
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMPL

CASENO
Case Number

SQL Data Type: INTEGER
SQL Type Qualifiers:
Default Nullity: NULL
Derived Data: F
LCTA Data Element/Entity Reference
LCTA System

Valid Entries: Integer
Missing/Invalid: N/A
Used By: ENVCONST

CAT1TO2
Short-term belt height category 1 to 2 meters

SQL Data Type: INTEGER
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Integer
Missing/Invalid: N/A
Used By: BELTMON

CAT2TO3
Short-term belt height category 2 to 3 meters

SQL Data Type: INTEGER
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Integer
Missing/Invalid: N/A
Used By: BELTMON

CAT3TO4
Short-term belt height category 3 to 4 meters

SQL Data Type: INTEGER
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Integer
Missing/Invalid: N/A
Used By: BELTMON

CATGT4
Short-term belt height category greater than 4 meters

SQL Data Type: INTEGER
Default Nullity: NOT NULL
Derived Data: F
LCTA Data Element/Entity Reference
LCTA System

Valid Entries: Integer
Missing/Invalid: N/A
Used By: BELTMON

CATMINT01
Short-term belt height category minimum to 1 meter

SQL Data Type: INTEGER
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Integer
Missing/Invalid: N/A
Used By: BELTMON

CCANN
Number of locations with only annual cover

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCSDPLOTSUM

CCANNMEAN
Mean number of locations with only annual cover

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PCSDYEARSUM

CCANNPER
Number of locations with annual and perennial cover

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
LCTA Data Element/Entity Reference

LCTA System

Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCSDPLOTSUM

CCANNSTDEV

Standard deviation of number of locations with only annual cover

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: -1
Used By: PCSDYEARSUM

CCAPMEAN

Mean number of locations with annual and perennial cover

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PCSDYEARSUM

CCAPSTDEV

Standard deviation of number of locations with annual and perennial cover

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PCSDYEARSUM

CCNONE

Number of locations with no cover

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
LCTA Data Element/Entity Reference
LCTA System

Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCSDPLOTSUM

CCNONEMEAN

Mean number of locations with no cover

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PCSDYEARSUM

CCNONESTDEV

Standard deviation of number of locations with no cover

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: -1
Used By: PCSDYEARSUM

CCOBS

Number of total locations measured

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCSDPLOTSUM

CCPER

Number of locations with only perennial cover

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
LCTA Data Element/Entity Reference
LCTA System

Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCSDPLOTSUM

CCPERMEAN
Mean number of locations with only perennial cover

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PCSDYEARSUM

CCPERSTDEV
Standard deviation of number of locations with only perennial cover

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: -1
Used By: PCSDYEARSUM

CHEMICAL
Number of plots with evidence of chemical use

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

CLASS
Vertebrate species class

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F

SQL Type Qualifiers:

SQL Type Qualifiers: 15
LCTA Data Element/Entity Reference
LCTA System

Valid Entries: Species database Class
Missing/Invalid: N/A
Used By: VERTLIST

CLMPBEGIN
Beginning location of vegetation clump

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number (0.0-100.0)
Missing/Invalid: N/A
Used By: BELTRAN

CLMPEND
End location of vegetation clump

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number (0.0-100.0)
Missing/Invalid: N/A
Used By: BELTRAN

CLOUD_COVER
Percent of cloud cover

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: F
Valid Entries: Valid percentage (0-100)
Missing/Invalid: N/A
Used By: BIRDSURV
Used By: HERPSURV
Used By: MAMPSURV

CO3CLAY
CO3 Clay

SQL Data Type: FLOAT
Default Nullity: NULL
LCTA Data Element/Entity Reference

LCTA System

Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMAPL

COLLDATE

Herbarium collection date

SQL Data Type: DATE
Default Nullity: NULL
Derived Data: F
Valid Entries: Valid date
Missing/Invalid: N/A
Used By: HERBRHUM

COLLECTOR

Collector(s)

SQL Data Type: VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text
Missing/Invalid: N/A
Used By: BIRDSSURV
Used By: HERBSURV
Used By: MASURV

COLLNO

Collection number

SQL Data Type: INTEGER
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Integer
Missing/Invalid: N/A
Used By: HERBRHUM

COMMENTS

Comments on plant characteristics, site, habitat, etc.

SQL Data Type: VARCHAR
SQL Type Qualifiers: 175
LCTA Data Element/Entity Reference
LCTA System

Default Nullity: NULL
Derived Data: F
Valid Entries: Text
Missing/Invalid: N/A
Used By: HERBRIUM

COMMON
Species common name

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Species database animal common name
Missing/Invalid: N/A
Used By: HERBRIUM
Used By: VERTLIST

COUNTY
County where collected

SQL Data Type: VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Valid State county
Missing/Invalid: N/A
Used By: HERBRIUM

COURFRAG
Course fragments (> 2mm), weight % of whole soil

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMPL

CROP
Number of plots with crop use

SQL Data Type: INTEGER
SQL Type Qualifiers:
LCTA Data Element/Entity Reference

LCTA System

Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

CSAND

Soil analysis of course sand

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMPL

CSILT

Soil analysis of course silt

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMPL

DEBDAM

Number of plots with debris dams

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

DECLIN

Plot declination

SQL Data Type: FLOAT
SQL Type Qualifiers:
LCTA Data Element/Entity Reference
LCTA System

Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PLOTTMAST

DEMO
Number of plots with demolition

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSsum

DETERMIN
Determiner of final identification

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text
Missing/Invalid: N/A
Used By: HERBRUM

DISTURB
Ground disturbance code

SQL Data Type: CHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: (N)one,(P)ass,(T)rail,(R)oad,(O)ther
Missing/Invalid: N/A
Used By: DISTURB_CODE
Used By: GNDCOVER
Used By: LINEMON

DISTURB_DEF
Ground disturbance code definition
LCTA Data Element/Entity Reference
LCTA System

SQL Data Type: CHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: None, Pass, Trail, Road, Other
Missing/Invalid: N/A
Used By: DISTURB_CODE

DISTURB_NOTE
Disturbance category note

SQL Data Type: VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text
Missing/Invalid: N/A
Used By: DISTURB_CODE

DMCE
Universal Trasverse Mercator coordinate, easting

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: F
Valid Entries: Valid UTM - Easting
Missing/Invalid: N/A
Used By: CLIMATESTATIONS
Used By: HERBRUIUM
Used By: PLOTMAST

DMCELL
Universal Trasverse Mercator easting of lower left corner

SQL Data Type: INTEGER
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Valid DMC (UTM)
Missing/Invalid: N/A
Used By: MAPS

DMCETR
Universal Trasverse Mercator easting of top right corner
LCTA Data Element/Entity Reference
LCTA System

SQL Data Type: INTEGER
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Valid DMCE (UTM)
Missing/Invalid: N/A
Used By: MAPS

DMCN

Universal Transverse Mercator coordinate, northing

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: F
Valid Entries: Valid UTM - Northing
Missing/Invalid: N/A
Used By: CLIMATESTATIONS
Used By: HERBRUIUM
Used By: PLOTMAST

DMCNLL

Universal Transverse Mercator northing of lower left corner

SQL Data Type: INTEGER
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Valid DMCN (UTM)
Missing/Invalid: N/A
Used By: MAPS

DMCNTR

Universal Transverse Mercator northing or top right corner

SQL Data Type: INTEGER
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Valid DMCN (UTM)
Missing/Invalid: N/A
Used By: MAPS

DRIFTING

Number of plots with observed drifting wind erosion
**LCTA Data Element/Entity Reference**

**LCTA System**

SQL Data Type: INTEGER  
Default Nullity: NULL  
Derived Data: T  
Valid Entries: Integer  
Missing/Invalid: N/A  
Used By: LANDUSEYEARSUM

---

**EFFCOVER**  
*Effective cover in USLE calculation*

SQL Data Type: FLOAT  
Default Nullity: NULL  
Derived Data: T  
Valid Entries: Real number  
Missing/Invalid: N/A  
Used By: EROSION

---

**ELEV**  
*Elevation*

SQL Data Type: INTEGER  
Default Nullity: NULL  
Derived Data: F  
Valid Entries: Integer  
Missing/Invalid: N/A  
Used By: HERBRUM

---

**EXCA**  
*Number of plots with excavation*

SQL Data Type: INTEGER  
Default Nullity: NULL  
Derived Data: T  
Valid Entries: Integer  
Missing/Invalid: N/A  
Used By: LANDUSEYEARSUM

---

**EXCPTNSP**  
*Exception species to belt width*
LCTA Data Element/Entity Reference
LCTA System

SQL Data Type: CHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Species database plant code
Missing/Invalid: N/A
Used By: BELTSURV

FAMILY
Species family

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Species database Family
Missing/Invalid: N/A
Used By: HERBRIUM
Used By: PLNTLIST
Used By: VERTLIST

FEDSTAT
Federal status code

SQL Data Type: CHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Valid Federal T&E code
Missing/Invalid: N/A
Used By: FED_STATUS
Used By: HERBRIUM

FEDSTAT_DEF
Federal status code definition

SQL Data Type: VARCHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Valid Federal T&E definition
Missing/Invalid: N/A
Used By: FED_STATUS

FEDSTAT_NOTE
LCTA Data Element/Entity Reference
LCTA System

*Federal status code notes*

**SQL Data Type:** VARCHAR  
**SQL Type Qualifiers:** 100  
**Default Nullity:** NULL  
**Derived Data:** F  
**Valid Entries:** Text  
**Missing/Invalid:** N/A  
**Used By:** FED_STATUS

**FLYOVERS**

*Bird species flyover data*

**SQL Data Type:** char  
**SQL Type Qualifiers:** 3  
**Default Nullity:** NULL  
**Derived Data:** F  
**Valid Entries:** (T)es, (N)o  
**Missing/Invalid:** N/A  
**Used By:** BIRDS

**FOOT**

*Number of plots with foot traffic*

**SQL Data Type:** INTEGER  
**SQL Type Qualifiers:**  
**Default Nullity:** NULL  
**Derived Data:** T  
**Valid Entries:** Integer  
**Missing/Invalid:** N/A  
**Used By:** LANDUSEYEARSUM

**FOREST**

*Number of plots with forestry activity*

**SQL Data Type:** INTEGER  
**SQL Type Qualifiers:**  
**Default Nullity:** NULL  
**Derived Data:** T  
**Valid Entries:** Integer  
**Missing/Invalid:** N/A  
**Used By:** LANDUSEYEARSUM

**FORM1**
LCTA Data Element/Entity Reference
LCTA System

Plant life form 1

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: (G)rass,(T)ree,(T)ree half,(S)hrub,(T)ree (W)oody
Missing/Invalid: N/A
Used By: PLNTLIST

FORM2

Plant life form 2

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: (T)ree,(S)hrub
Missing/Invalid: N/A
Used By: PLNTLIST

FSAND

Soil Analysis of sand

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMPL

FSILT

Soil Analysis of silt

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMPL

GCBARE
LCTA Data Element/Entity Reference
LCTA System

Number of bare ground points

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCSDPLOTSUM

GCBAREMEAN

Mean number of bare ground points

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PCSDYEARSUM

GCBARESTDEV

Standard deviation of number of bare ground points

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: -1
Used By: PCSDYEARSUM

GCLITMEAN

Mean number of points with litter

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PCSDYEARSUM

GCLITSTDEV
LCTA Data Element/Entity Reference
LCTA System

Standard Deviation of points with litter

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: -1
Used By: PCSDYEARSUM

GCLITTER

Standard deviation of number of points with litter

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCSDPLOTHSUM

GCMICRO

Number of points with microphytes

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCSDPLOTHSUM

GCMICROMEAN

Mean number of points with microphytes

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PCSDYEARSUM

GCMICROSTDEV
LCTA Data Element/Entity Reference
LCTA System

*Standard deviation of number of points with microphytes*

**SQL Data Type:** FLOAT

**Default Nullity:** NULL

**Derived Data:** T

**Valid Entries:** Real number

**Missing/Invalid:** -I

**Used By:** PCSDYEARSUM

**GCOBS**

*Total number of ground cover points*

**SQL Data Type:** INTEGER

**Default Nullity:** NULL

**Derived Data:** T

**Valid Entries:** Integer

**Missing/Invalid:** N/A

**Used By:** PCSDPLOTSUM

**GCPLANT**

*Number of points with plants*

**SQL Data Type:** INTEGER

**Default Nullity:** NULL

**Derived Data:** T

**Valid Entries:** Integer

**Missing/Invalid:** N/A

**Used By:** PCSDPLOTSUM

**GCPLANTMEAN**

*Mean number of points with plants*

**SQL Data Type:** FLOAT

**Default Nullity:** NULL

**Derived Data:** T

**Valid Entries:** Real number

**Missing/Invalid:** N/A

**Used By:** PCSDYEARSUM

**GCPLANTSTDEV**
LCTA Data Element/Entity Reference
LCTA System

Standard deviation of number of points with plants

**SQL Data Type:** FLOAT

**Default Nullity:** NULL

**Derived Data:** T

**Valid Entries:** Real number

**Missing/Invalid:** -1

**Used By:** PCSDYEARSUM

**GCROCK**

Number of points with rocks

**SQL Data Type:** INTEGER

**Default Nullity:** NULL

**Derived Data:** T

**Valid Entries:** Integer

**Missing/Invalid:** N/A

**Used By:** PCSDPLOTSUM

**GCROCKMEAN**

Mean number of points with rocks

**SQL Data Type:** FLOAT

**Default Nullity:** NULL

**Derived Data:** T

**Valid Entries:** Real number

**Missing/Invalid:** N/A

**Used By:** PCSDYEARSUM

**GCROCKSTDEV**

Standard deviation of number of points with rocks

**SQL Data Type:** FLOAT

**Default Nullity:** NULL

**Derived Data:** T

**Valid Entries:** Real number

**Missing/Invalid:** -1

**Used By:** PCSDYEARSUM

**GDNONE**
LCTA Data Element/Entity Reference
LCTA System

Number of points with no ground cover

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCSDPLOTSUM

GDNONEMEAN

Mean number of points with no ground cover

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PCSDYEARSUM

GDNONESTDEV

Standard deviation of number of points with no ground cover

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: -1
Used By: PCSDYEARSUM

GDOBS

Number of ground disturbance points

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCSDPLOTSUM

GDOTHER
LCTA Data Element/Entity Reference
LCTA System

Number of points with other disturbance

SQL Data Type: INTEGER  SQL Type Qualifiers:
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCSDPLOTSUM

GDOTHMEAN
Mean number of points with other disturbance

SQL Data Type: FLOAT  SQL Type Qualifiers:
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PCSDYEARSUM

GDOTHSTDEV
Standard deviation of number of points with other disturbance

SQL Data Type: FLOAT  SQL Type Qualifiers:
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: -1
Used By: PCSDYEARSUM

GDPASS
Number of points with vehicle pass disturbance

SQL Data Type: INTEGER  SQL Type Qualifiers:
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCSDPLOTSUM

GDPASSMEAN
LCTA Data Element/Entity Reference
LCTA System

Mean number of points with vehicle pass disturbance

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PCSDYEARSUM

GDPASSSTDEV

Standard deviation of number of points with pass disturbance

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: -1
Used By: PCSDYEARSUM

GDROAD

Number of points with road disturbance

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCSDPLOTSUM

GDROADMEAN

Mean number of points with road disturbance

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PCSDYEARSUM

GDROADSTDEV
LCTA Data Element/Entity Reference
LCTA System

Standard deviation of number of points with road disturbance

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: -I
Used By: PCSDYEARSUM

GDTRAIL
Number of points with foot trail disturbance

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCSDPLOTSUM

GDTRAILMEAN
Mean number of points with foot trail disturbance

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: PCSDYEARSUM

GDTRAILSTDEV
Standard deviation of number of points with foot trail disturbance

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: -I
Used By: PCSDYEARSUM

GENMAP
LCTA Data Element/Entity Reference
LCTA System

General plot location map

SQL Data Type: LONG_VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Bitmap or TIFF format
Missing/Invalid: N/A
Used By: PLOTMAPS

GENUS

Species genus

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Species database Genus
Missing/Invalid: N/A
Used By: HEBRIBRIUM
Used By: PLNTLIST
Used By: VERTLIST

GNDCOV

Monitoring ground cover code

SQL Data Type: CHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: (P)lant,(L)itter,(B)are,(R)ock
Missing/Invalid: N/A
Used By: GNDCOV_CODE
Used By: LINEMON

GNDCOV_DEF

Monitoring ground cover code definition

SQL Data Type: CHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Plant,Litter,Bare,Rock
Missing/Invalid: N/A
Used By: GNDCOV_CODE
LCTA Data Element/Entity Reference
LCTA System

**GNDCOV_NOTE**

*Ground cover category note*

- **SQL Data Type:** VARCHAR
- **SQL Type Qualifiers:** 100
- **Default Nullity:** NULL
- **Derived Data:** F
- **Valid Entries:** Text
- **Missing/Invalid:** N/A
- **Used By:** GNDCOV_CODE

**GRAZING**

*Number of plots with grazing*

- **SQL Data Type:** INTEGER
- **SQL Type Qualifiers:**
- **Default Nullity:** NULL
- **Derived Data:** T
- **Valid Entries:** Integer
- **Missing/Invalid:** N/A
- **Used By:** LANDUSEYEARSUM

**GULLY**

*Number of plots with observed gully erosion*

- **SQL Data Type:** INTEGER
- **SQL Type Qualifiers:**
- **Default Nullity:** NULL
- **Derived Data:** T
- **Valid Entries:** Integer
- **Missing/Invalid:** N/A
- **Used By:** LANDUSEYEARSUM

**HABDIVIS**

*Habitat divisor in USLE calculations*

- **SQL Data Type:** FLOAT
- **SQL Type Qualifiers:**
- **Default Nullity:** NULL
- **Derived Data:** T
- **Valid Entries:** Real number
- **Missing/Invalid:** N/A
- **Used By:** EROSION
HABIT

Habit code, from SCS PLANTS database

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text
Missing/Invalid: N/A
Used By: HERBRUIUM

HAY

Number of plots with hay use

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

HERPNOTE

Plot note for herp survey

SQL Data Type: VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text
Missing/Invalid: N/A
Used By: HERPSURV

HT1TO2

Number of hits in height category 1 to 2 m

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: TACTCONA
LCTA Data Element/Entity Reference
LCTA System

HT2TO3

Number of hits in height category 2 to 3 m

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: TACTCONA

HT3TO4

Number of hits in height category 3 to 4 m

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: TACTCONA

HTG4

Number of hits in height category greater than 4 m

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: TACTCONA

HTMINTO1

Number of hits in height category minimum to 1 m

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: TACTCONA
LCTA Data Element/Entity Reference
LCTA System

IMPACT

Impact on training

SQL Data Type: LONG VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text, number
Missing/Invalid: N/A
Used By: ENVCONST

INLOC

Installation location

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: State and country
Missing/Invalid: N/A
Used By: INSTMAST

INNAME

Installation name

SQL Data Type: CHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Correct installation name
Missing/Invalid: N/A
Used By: INSTMAST

INSIZE

Installation size

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: installation size in acres
Missing/Invalid: N/A
Used By: INSTMAST
LCTA Data Element/Entity Reference
LCTA System

INSTALID

Installation code

SQL Data Type: CHAR
SQL Type Qualifiers: 3
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Three letter installation code

Missing/Invalid: N/A
Used By: AERCOVER
Used By: BASALA
Used By: BELTMON
Used By: BELTSURV
Used By: BELTRAN
Used By: BIRDS
Used By: BIRDSURV
Used By: CLIMATEDATA
Used By: CLIMATESTATIONS
Used By: COMMCCLASSPLOTSUM
Used By: ENVCONST
Used By: EROSEVID
Used By: EROSION
Used By: F.COUNT
Used By: GNDCOVER
Used By: GROUPING
Used By: HERBRUUM
Used By: HERPS
Used By: HERPSURV
Used By: HISTORY
Used By: INSTMAST
Used By: LANDUSE
Used By: LANDUSEYEARSUM
Used By: LINEEMON
Used By: MAINTACT
Used By: MAMMALS
Used By: MAMSURV
Used By: MAPS
Used By: PCSDPLOTSUM
Used By: PCSDYEARSUM
Used By: PCTTYEARSUM
Used By: PLOTMAPS
Used By: PLOTMAST
Used By: PLOTSURV
Used By: SOILS
Used By: SOILSMPL
Used By: TACTCONA

INSTNOTE

Installation note

SQL Data Type: VARCHAR
SQL Type Qualifiers: 254
Default Nullity: NULL
Derived Data: F
Valid Entries: Text or numbers
Missing/Invalid: N/A
LCTA Data Element/Entity Reference
LCTA System

Used By: HISTORY

**INVTYPE**

*Inventory type*

SQL Data Type: **CHAR**

Default Nullity: **NOT NULL**

Derived Data: **F**

Valid Entries: (I)nventory,(M)onitoring,(L)ong term monitoring

Missing/Invalid: **N/A**

Used By: **PLOTSURV**

**KCAL**

*Calculated erodibility (K) value (USLE factor)*

SQL Data Type: **FLOAT**

Default Nullity: **NULL**

Derived Data: **T**

Valid Entries: **SCS K value (calculated)**

Missing/Invalid: **-1**

Used By: **EROSION**

**KCALEROSINDEX**

*Erosion index using calculated erodibility value (K)*

SQL Data Type: **FLOAT**

Default Nullity: **NULL**

Derived Data: **T**

Valid Entries: **Real number**

Missing/Invalid: **-1**

Used By: **EROSION**

**K PUB**

*SCS Published erodibility (K) value (USLE factor)*

SQL Data Type: **FLOAT**

Default Nullity: **NULL**

Derived Data: **F**

Valid Entries: **SCS K value**

Missing/Invalid: **N/A**
LCTA Data Element/Entity Reference
LCTA System

Used By: EROSION

KUBEROSINDEX

Erosion index using published erodibility (K) (USLE factor)

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: EROSION

LABK

Erodibility (K) value calculated with sample data (USLE factor)

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: SCS K value
Missing/Invalid: N/A
Used By: SOILSMPL

LANDUSE

Plot land use code

SQL Data Type: CHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Valid military or non-military use
Missing/Invalid: N/A
Used By: LANDUSE
Used By: LANDUSE_CODE

LANDUSE_DEF

Landuse code definition

SQL Data Type: CHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Valid landuse code definition
LCTA Data Element/Entity Reference
LCTA System

Missing/Invalid: N/A
Used By: LANDUSE_CODE

LANDUSE_NOTE

Note on landuse code

SQL Data Type: VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Alphanumeric
Missing/Invalid: N/A
Used By: LANDUSE_CODE

LEALLOBS

Number of plots with land use showing erosion evidence

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

LEALLVIS

Number of plots with land use other than NONE showing erosion evidence

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

LEWAOBS

Number of plots with land use showing water erosion evidence

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
LCTA Data Element/Entity Reference
LCTA System

Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

LEWAVIS

Number of plots with land use other than NONE showing water erosion evidence

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

LEWIOBS

Number of plots with land use showing wind erosion evidence

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

LEWIVIS

Number of plots with land use other than NONE showing wind erosion evidence

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

LIFE

Plant life pattern

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: (A)nnual,(P)erennial
LCTA Data Element/Entity Reference
LCTA System

Missing/Invalid: N/A
Used By: PLNTLIST

LIFEFORM
Plant life form category

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: (A)nnual,(P)erennial

Missing/Invalid: N/A
Used By: TACTCONA

LOC
Line transect location of herp trap

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: F
Valid Entries: 0 to 100

Missing/Invalid: N/A
Used By: HERPSURV

LOCALITY
Description of geographic area where plant was collected

SQL Data Type: VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text

Missing/Invalid: N/A
Used By: HERBRUIUM

LOCMAP
Specific location map

SQL Data Type: LONG VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Bitmap or TIFF format
LCTA Data Element/Entity Reference
LCTA System

Missing/Invalid: N/A
Used By: PLOTMAPS

LS0

Topographic factor (LS) at transect location 0 m (USLE factor)

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Valid LS value
Missing/Invalid: N/A
Used By: EROSION

LS1

Topographic factor (LS) at transect location 50 m (USLE factor)

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Valid LS value
Missing/Invalid: N/A
Used By: EROSION

LS2

Topographic factor (LS) at transect location 100 m (USLE factor)

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Valid LS value
Missing/Invalid: N/A
Used By: EROSION

LSM

Mean topographic factor (LS) of 3 transects (USLE factor)

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Valid LS value
LCTA Data Element/Entity Reference

LCTA System

Missing/Invalid: N/A
Used By: EROSION

MAINNOTE

Plot maintenance note

SQL Data Type: VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text, numbers
Missing/Invalid: N/A
Used By: MAINTACT

MAINTAIN

Plot maintenance code

SQL Data Type: CHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Valid maintenance activity
Missing/Invalid: N/A
Used By: MAINTACT
Used By: MAINT_CODE

MAINTAIN_DEF

Maintenance code definition

SQL Data Type: CHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Valid maintenance code definition
Missing/Invalid: N/A
Used By: MAINT_CODE

MAINTAIN_NOTE

Maintenance activity code note

SQL Data Type: VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Alphanumeric

SQL Type Qualifiers: 254
SQL Type Qualifiers: 16
SQL Type Qualifiers: 35
SQL Type Qualifiers: 100
LCTA Data Element/Entity Reference
LCTA System

Missing/Invalid: N/A
Used By: MAINT_CODE

MAMNOTE
Plot note for mammal survey

SQL Data Type: VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text
Missing/Invalid: N/A
Used By: MAMSURV

MANONE
Number of plots with no maintenance activity

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

MAOBS
Number of plots with maintenance recorded

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

MAOTHER
Number of plots with "other" maintenance

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
LCTA Data Element/Entity Reference
LCTA System

**MISSING/INVALID**: N/A
**Used By**: LANDUSEYEARSUM

**MAP**

*map image*

**SQL Data Type**: LONGVARCHAR

**SQL Type Qualifiers**:

**Default Nullity**: NOT NULL

**Derived Data**: F

**Valid Entries**: Valid image type

**MISSING/INVALID**: N/A

**Used By**: MAPS

**MAPNAME**

*User supplied map name*

**SQL Data Type**: VARCHAR

**SQL Type Qualifiers**: 32

**Default Nullity**: NOT NULL

**Derived Data**: F

**Valid Entries**: Text

**MISSING/INVALID**: N/A

**Used By**: MAPS

**MATED_STATUS**

*Bird species mated status code*

**SQL Data Type**: CHAR

**SQL Type Qualifiers**: 2

**Default Nullity**: NOT NULL

**Derived Data**: F

**Valid Entries**: (*Singing male, (P)Adult male/female pair, (M)Nonsinging male, (F)Female only

**MISSING/INVALID**: N/A

**Used By**: BIRDS

**Used By**: MATED_STATUS_CODE

**MCCCODE**

*Most common community (MCC) classification code*

**SQL Data Type**: CHAR

**SQL Type Qualifiers**: 8

**Default Nullity**: NULL

**Derived Data**: T

**Valid Entries**: Valid Most Common Classification code
LCTA Data Element/Entity Reference
LCTA System

Missing/Invalid: N/A
Used By: COMMCLASSPLOTSUM

MCCTYPE

Most common community (MCC) classification type

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: T
Valid Entries: Valid Most Common Classification type
Missing/Invalid: N/A
Used By: COMMCLASSPLOTSUM

MEALLOBs

Number of plots with maintenance activities showing erosion evidence

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

MEALLVIS

Number of plots with maintenance activities other than NONE showing erosion evidence

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

MEASURE_PT

Line location of bird survey data location

SQL Data Type: CHAR
Default Nullity: NOT NULL
Derived Data: F
LCTA Data Element/Entity Reference
LCTA System

Missing/Invalid: N/A
Used By: BIRDS
Used By: POINT_CODE

METHOD
Vertebrate collection method

SQL Data Type: CHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: (O)bserved,(S)ighting,(T)rapped

Missing/Invalid: N/A
Used By: HERPS
Used By: MAMMALS
Used By: METHODS_CODE

METHOD_DEF
Vertebrate collection method code definition

SQL Data Type: CHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Observed,Sighting,Trapped

Missing/Invalid: N/A
Used By: METHODS_CODE

METHOD_NOTE
Vertebrate collection notes

SQL Data Type: VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text

Missing/Invalid: N/A
Used By: METHODS_CODE

MEWAOBS
Number of plots with maintenance activities showing water erosion evidence

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
LCTA Data Element/Entity Reference
LCTA System

Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

MEWAVIS

*Number of plots with maintenance activities other than NONE showing water erosion evidence*

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

MEWIOBS

*Number of plots with maintenance activities showing wind erosion evidence*

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

MEWIVIS

*Number of plots with maintenance activities other than NONE showing wind erosion evidence*

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

MISCMAP

*Additional maps*

SQL Data Type: LONG VARCHAR
Default Nullity: NULL
Derived Data: F
LCTA Data Element/Entity Reference
LCTA System

Valid Entries: Bitmap or TIFF format
Missing/Invalid: N/A
Used By: PLOTMAPS

MITIGATION

Mitigation strategies

SQL Data Type: LONGVARCHAR
SQL Type Qualifiers:
Default Nullity: NULL
Derived Data: F
Valid Entries: Text, number
Missing/Invalid: N/A
Used By: ENVCONST

MONE

Number of plots with no military activity

SQL Data Type: INTEGER
SQL Type Qualifiers:
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

MOBS

Number of plots with military activity recorded

SQL Data Type: INTEGER
SQL Type Qualifiers:
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

MOTHER

Number of plots with "other" military activity

SQL Data Type: INTEGER
SQL Type Qualifiers:
Default Nullity: NULL
Derived Data: T
LCTA Data Element/Entity Reference

LCTA System

Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

MOW

Number of plots with mowing

SQL Data Type: INTEGER
Default Nullity: NULL
 Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

MSAND

Soil analysis of medium sand

SQL Data Type: FLOAT
Default Nullity: NULL
 Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMPL

MSTATUS_DEF

Bird species mated status code

SQL Data Type: CHAR
Default Nullity: NOT NULL
 Derived Data: F
Valid Entries: *.PR.M,F.U,Y,FL,C.NR
Missing/Invalid: N/A
Used By: MATED_STATUS_CODE

MSTATUS_NOTE

Mated status code note

SQL Data Type: VARCHAR
Default Nullity: NULL
 Derived Data: F
LCTA Data Element/Entity Reference

LCTA System

Valid Entries: Alphanumeric

Missing/Invalid: N/A
Used By: MATED_STATUS_CODE

NMNONE

Number of plots with no nonmilitary activity

SQL Data Type: INTEGER

Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

NMOBS

Number of plots with nonmilitary activity recorded

SQL Data Type: INTEGER

Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

NMOTHER

Number of plots with nonmilitary "other" activity

SQL Data Type: INTEGER

Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

NUM

Number of bird, mammal, or herp species sighted/trapped

SQL Data Type: INTEGER

Default Nullity: NOT NULL
Derived Data: F
LCTA Data Element/Entity Reference
LCTA System

Valid Entries: Integer
Missing/Invalid: N/A
Used By: BIRDS
Used By: HERPS
Used By: MAMMALS

OBS
Total number of observation per group

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCTYEARSUM

OPT_REAL
Optional real variable, usually DBH

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Real numbers
Missing/Invalid: N/A
Used By: BELTRAN

OPT_TEXT
Optional text variable

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text, numbers
Missing/Invalid: N/A
Used By: GNDCOVER
Used By: LINEMON

OPT_TEXT1
Optional text variable 1

SQL Data Type: CHAR
Default Nullity: NULL

SQL Type Qualifiers: 8
LCTA Data Element/Entity Reference

LCTA System

Derived Data: $I$

Valid Entries: Text, numbers

Missing/Invalid: N/A

Used By: F_COUNT

OPT_TEXT2

Optional variable 2

SQL Data Type: CHAR

SQL Type Qualifiers: 8

Default Nullity: NULL

Derived Data: $I$

Valid Entries: Text, numbers

Missing/Invalid: N/A

Used By: F_COUNT

OPT_TEXT3

Optional variable 3

SQL Data Type: CHAR

SQL Type Qualifiers: 8

Default Nullity: NULL

Derived Data: $I$

Valid Entries: Text, numbers

Missing/Invalid: N/A

Used By: F_COUNT

OPT_TEXT4

Optional variable 4

SQL Data Type: CHAR

SQL Type Qualifiers: 8

Default Nullity: NULL

Derived Data: $I$

Valid Entries: Text, numbers

Missing/Invalid: N/A

Used By: F_COUNT

OPT_TEXT5

Optional variable 5

SQL Data Type: CHAR

SQL Type Qualifiers: 8

Default Nullity: NULL
LCTA Data Element/Entity Reference
LCTA System

Derived Data: F
Valid Entries: Text, numbers
Missing/Invalid: N/A
Used By: F_COUNT

ORDERS
Order of the Species

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Species database Order
Missing/Invalid: N/A
Used By: VERTLIST

ORGCARB
Walkley-Black organic carbon

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMPL

ORGMATT
Soil analysis of organic matter

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMPL

PADB
Presence:Absence (PA) dwarfshrub broadleaf

SQL Data Type: INTEGER
Default Nullity: NULL
LCTA Data Element/Entity Reference
LCTA System

Derived Data: $T$
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCLASSPLOTSUM

PADC

Presence: Absence (PA) dwarfshrub conifer

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: $T$
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCLASSPLOTSUM

PAERCOV

Percent aerial cover

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: $T$
Valid Entries: Integer
Missing/Invalid: N/A
Used By: EROSION

PAFA

Presence: Absence (PA) forb annual

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: $T$
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCLASSPLOTSUM

PAFP

Presence: Absence (PA) forb perennial

SQL Data Type: INTEGER
Default Nullity: NULL
LCTA Data Element/Entity Reference
LCTA System

Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCCLASSPLOTSUM

PAGA
Presence: Absence (PA) gross annual

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCCLASSPLOTSUM

PAGP
Presence: Absence (PA) grass perennial

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCCLASSPLOTSUM

PAH
Presence: Absence (PA) halfshrub

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCCLASSPLOTSUM

PANEVAP
Pan evaporation

SQL Data Type: float
Default Nullity: NULL
LCTA Data Element/Entity Reference

LCTA System

Derived Data: $F$
Valid Entries: Float
Missing/Invalid: N/A
Used By: CLIMATEDATA

PASB

Presence: Absence (PA) shrub broadleaf

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: $T$
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCLASSPLOTSUM

PASC

Presence: Absence (PA) shrub conifer

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: $T$
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCLASSPLOTSUM

PATB

Presence: Absence (PA) tree broadleaf

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: $T$
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCLASSPLOTSUM

PATC

Presence: Absence (PA) tree conifer

SQL Data Type: INTEGER
Default Nullity: NULL
LCTA Data Element/Entity Reference
LCTA System

Derived Data: T

Valid Entries: Integer

Missing/Invalid: N/A
Used By: COMMCLASSPLOTSUM

PCCCODE

Plant community classification code

SQL Data Type: CHAR

SQL Type Qualifiers: 8

Default Nullity: NULL

Derived Data: T

Valid Entries: Valid classification code

Missing/Invalid: N/A
Used By: COMMCLASSPLOTSUM

PCCTYPE

Plant community classification type

SQL Data Type: CHAR

SQL Type Qualifiers: 4

Default Nullity: NULL

Derived Data: T

Valid Entries: (A)nnual,(P)erennial,(B)roadleaf,(C)oniferous,(M)ixed

Missing/Invalid: N/A
Used By: COMMCLASSPLOTSUM

PCTTKCAL

USLE percent of T using Kcal

SQL Data Type: FLOAT

SQL Type Qualifiers:

Default Nullity: NULL

Derived Data: T

Valid Entries: Real number

Missing/Invalid: N/A
Used By: EROSION

PCTTKPUB

USLE percent of T using Kpub

SQL Data Type: FLOAT

SQL Type Qualifiers:

Default Nullity: NULL
**PERIOD**

*Period of measurements (AM or PM)*

- **SQL Data Type:** CHAR
- **Default Nullity:** NULL
- **Derived Data:** F
- **Valid Entries:** AM, PM
- **Missing/Invalid:** N/A
- **Used By:** EROSION

**PERM_CLASS**

*Soil permeability class*

- **SQL Data Type:** INTEGER
- **Default Nullity:** NULL
- **Derived Data:** F
- **Valid Entries:** Integer
- **Missing/Invalid:** N/A
- **Used By:** SOILSMPL

**PGNDCOV**

*Percent ground cover*

- **SQL Data Type:** INTEGER
- **Default Nullity:** NULL
- **Derived Data:** T
- **Valid Entries:** Integer
- **Missing/Invalid:** N/A
- **Used By:** EROSION

**PH1TO1**

*pH, 1:1 Soil-water suspension*

- **SQL Data Type:** FLOAT
- **Default Nullity:** NULL
LCTA Data Element/Entity Reference
LCTA System

Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMPL

PH1TO2
pH, 1:2 Soil-CACl2 Suspension

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMPL

PHOTOS
Plot photos

SQL Data Type: LONG VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Bitmap or TIFF format
Missing/Invalid: N/A
Used By: PLOTMAPS

PLANT
Number of plots with planting

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: 7
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

PLANTHT
Belt transect plant height

SQL Data Type: FLOAT
Default Nullity: NOT NULL
LCTA Data Element/Entity Reference
LCTA System

Derived Data: F
Valid Entries: Real number
Missing/Invalid: -1
Used By: BELTRAN

PLDATE

Initial plot allocation date

SQL Data Type: DATE
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Valid date
Missing/Invalid: N/A
Used By: PLOTMAST

PLOTID

Plot identification number

SQL Data Type: INTEGER
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Integer
Missing/Invalid: N/A
Used By: AERCOVER
Used By: BASALA
Used By: BELTMON
Used By: BELTSURV
Used By: BELTRAN
Used By: BIRDS
Used By: BIRDSURV
Used By: COMCLASSPLOTSUM
Used By: EROSEVID
Used By: EROSION
Used By: P_COUNT
Used By: GNDCOVER
Used By: GROUPING
Used By: HERPS
Used By: HERPSURV
Used By: LANDUSE
Used By: LIMON
Used By: MAINTACT
Used By: MAMMALS
Used By: MAMSP
Used By: PCSDPLOTSUM
Used By: PLOTMAPS
Used By: PLOTMAST
Used By: PLOTSURV
Used By: SOILS
Used By: SOILSMP
Used By: TACTCONA
LCTA Data Element/Entity Reference
LCTA System

PLOTTNOTE

Plot comments

SQL Data Type: LONG VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text, number
Missing/Invalid: N/A
Used By: PLOTSURV

PLOTYPE

Plots core: special use flag

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: (C)ore, (S)pecial use
Missing/Invalid: N/A
Used By: BIRDSURV
Used By: HERPSURV
Used By: MAMSURV
Used By: PCDPLOTSUM
Used By: PLOTSURV

POINT_DEF

Line location code of bird survey data definition

SQL Data Type: CHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Line-out, Line-in, End-point, Combined, Unknown, Not recorded
Missing/Invalid: N/A
Used By: POINT_CODE

POINT_NOTE

Note on measure pt code

SQL Data Type: VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text

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LCTA Data Element/Entity Reference

LCTA System

Missing/Invalid: N/A
Used By: POINT_CODE

PREBURN

Number of plots with prescribed burn

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

PRECIP

Precipitation in inches

SQL Data Type: float
Default Nullity: NULL
Derived Data: F
Valid Entries: Float
Missing/Invalid: N/A
Used By: MAMSSURF

PUBLK

SCS published erodibility value (K) for soil series (USLE factor)

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: SCS K value
Missing/Invalid: N/A
Used By: SOILMAST

RAIN

Weekly rain fall

SQL Data Type: FLOAT
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Real number

168
LCTA Data Element/Entity Reference
LCTA System

Missing/Invalid: N/A
Used By: CLIMATEDATA

REALISM

Loss of training realism

SQL Data Type: LONG VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text, number
Missing/Invalid: N/A
Used By: ENV CONST

RECDATE

Plot survey date

SQL Data Type: DATE
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Valid date
Missing/Invalid: N/A
Used By: AERCOVER
Used By: BASALAE
Used By: BELTMON
Used By: BELTSURV
Used By: BELTRTRAN
Used By: BIRDS
Used By: BIRDSURV
Used By: CLIMATEDATA
Used By: ENV CONST
Used By: EROSKVID
Used By: F_COUNT
Used By: GNDCOVER
Used By: HERPS
Used By: HERPSURV
Used By: HISTORY
Used By: LANDUSE
Used By: LINEMON
Used By: MAINTACT
Used By: MAMMALS
Used By: MAMSURV
Used By: PLOTSURV
Used By: SOILLS

RECDATER

Plot recorder

SQL Data Type: CHAR
Default Nullity: NULL

SQL Type Qualifiers: 35

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LCTA Data Element/Entity Reference
LCTA System

Derived Data: F
Valid Entries: Text
Missing/Invalid: N/A
Used By: HISTORY
Used By: PLOTSURV

RESEARCH
Research needs

SQL Data Type: LONGVARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text, number
Missing/Invalid: N/A
Used By: ENVCONST

RERAINT
Environmental constraint/restraint

SQL Data Type: LONGVARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text, number
Missing/Invalid: N/A
Used By: ENVCONST

RETRAP
Number of retrapped mammals or herps

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: F
Valid Entries: Integer
Missing/Invalid: N/A
Used By: HERPS
Used By: MAMMALS

RVAL
Rainfall erosivity (R) value for recorder

SQL Data Type: FLOAT
SQL Type Qualifiers:
LCTA Data Element/Entity Reference

LCTA System

Default Nullity: NULL
Derived Data: F
Valid Entries: SCS R value
Missing/Invalid: N/A
Used By: EROSION
Used By: PLOTMAST

SCOURING

Number of plots with observed scouring erosion

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

SEED

Number of plots with seeding

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

SEX

Wildlife gender code

SQL Data Type: CHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: (M)ale, (F)emale, (U)known, (C)ombined, (NR)not recorded
Missing/Invalid: N/A
Used By: GENDER_CODE
Used By: HERPS
Used By: MAMMALS

SEX_DEF

Gender code definition
LCTA Data Element/Entity Reference
LCTA System

**SEX_NOTE**

*Note on gender code*

**SHEET**

*Number of plots with observed sheet erosion*

**SIDE**

*Plant belt side location*

**SIDEDIST**

*Plant belt side distance*
LCTA Data Element/Entity Reference
LCTA System

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: BELTRAN

SLOPE
Plot slope

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILLS

SLPLEN
Plot slope length

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Integer
Missing/Invalid: N/A
Used By: SOILLS

SOILCAT
Soil category number for running GRASS output

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: F
Valid Entries: Text, Integer
Missing/Invalid: N/A
Used By: SOILMAST

SOILDPHT
Average plot soil depth
LCTA Data Element/Entity Reference

LCTA System

SOILNAME

Plot soil series name

SOILNOTE

Misc. soil notes

SOILSER

Plot soil series code

SOILTOPO

Geology, soil, topography
LCTA Data Element/Entity Reference

**LCTA System**

**SQL Data Type:** VARCHAR

**Default Nullity:** NULL

**Derived Data:** F

**Valid Entries:** Text

**Missing/Invalid:** N/A

**Used By:** HERBRRIUM

**SPEC**

**Species Name**

**SQL Data Type:** CHAR

**Default Nullity:** NULL

**Derived Data:** F

**Valid Entries:** Species database species

**Missing/Invalid:** N/A

**Used By:** PLNTLIST

**Used By:** VERTLIST

**SPECIES**

*Herbrium table species information (extended)*

**SQL Data Type:** char

**Default Nullity:** NULL

**Derived Data:** F

**Valid Entries:** Valid species information

**Missing/Invalid:** N/A

**Used By:** HERBRRIUM

**STATESTAT**

*Current status as State endangered (SE), other State status*

**SQL Data Type:** CHAR

**Default Nullity:** NOT NULL

**Derived Data:** F

**Valid Entries:** Valid State T&E code

**Missing/Invalid:** N/A

**Used By:** HERBRRIUM

**Used By:** STATE_STATUS

**STATESTAT_DEF**

*State status code definition*
LCTA Data Element/Entity Reference
LCTA System

SQL Data Type: VARCHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Value State T&E code definition
Missing/Invalid: N/A
Used By: STATE_STATUS

STATESTAT_NOTE
State status code notes

SQL Data Type: VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text
Missing/Invalid: N/A
Used By: STATE_STATUS

STATION
Climate station ID

SQL Data Type: INTEGER
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Integer
Missing/Invalid: N/A
Used By: CLIMATEDATA
Used By: CLIMATESTATIONS

STATIONNAME
Climate station name

SQL Data Type: VARCHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Valid climate station name
Missing/Invalid: N/A
Used By: CLIMATESTATIONS

STATION_COMMENT
Comments for climate stations
LCTA Data Element/Entity Reference
LCTA System

SQL Data Type: VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Alphanumeric
Missing/Invalid: N/A
Used By: CLIMATESTATIONS

STATUS

Observed erosion status code

SQL Data Type: CHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Valid erosion status code
Missing/Invalid: N/A
Used By: EROSEVID
Used By: EROS_CODE

STATUS_DEF

Observed erosion code definition

SQL Data Type: CHAR
Default Nullity: NOT NULL
Derived Data: F
Valid Entries: Valid erosion status code definition
Missing/Invalid: N/A
Used By: EROS_CODE

STATUS_NOTE

Note on observed erosion status code

SQL Data Type: VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text
Missing/Invalid: N/A
Used By: EROS_CODE

STRUCT_CODE

Soil structure code used to calculate K-value
**LCTA Data Element/Entity Reference**

**LCTA System**

<table>
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<tr>
<th>SQL Data Type</th>
<th>SQL Type Qualifiers:</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTEGER</td>
<td></td>
</tr>
</tbody>
</table>

Default Nullity: **NULL**
Derived Data: **F**
Valid Entries: **Integer**
Missing/Invalid: **N/A**
Used By: **SOILSMPL**

**SUBFAM**

*Vertebrate subfamily*

<table>
<thead>
<tr>
<th>SQL Data Type</th>
<th>SQL Type Qualifiers:</th>
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</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>

Default Nullity: **NULL**
Derived Data: **F**
Valid Entries: **Species database Subfamily**
Missing/Invalid: **N/A**
Used By: **VERTLIST**

**SUBORDER**

*Vertebrate suborder*

<table>
<thead>
<tr>
<th>SQL Data Type</th>
<th>SQL Type Qualifiers:</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHAR</td>
<td>15</td>
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</tbody>
</table>

Default Nullity: **NULL**
Derived Data: **F**
Valid Entries: **Species database Suborder**
Missing/Invalid: **N/A**
Used By: **VERTLIST**

**SUBSPEC**

*Plant subspecies*

<table>
<thead>
<tr>
<th>SQL Data Type</th>
<th>SQL Type Qualifiers:</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHAR</td>
<td>20</td>
</tr>
</tbody>
</table>

Default Nullity: **NULL**
Derived Data: **F**
Valid Entries: **Species database Subspecies**
Missing/Invalid: **N/A**
Used By: **PLNTLIST**

**SURVEYOR**

*Plot surveyor*
LCTA Data Element/Entity Reference

LCTA System

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text
Missing/Invalid: N/A
Used By: PLOTSURV

SYNAUTH

Author of synonym variety or subspecies

SQL Data Type: VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text
Missing/Invalid: N/A
Used By: HERBRIUM

SYNGENUS

Synonym genus

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text
Missing/Invalid: N/A
Used By: HERBRIUM

SYNSPP

Synonym species

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text
Missing/Invalid: N/A
Used By: HERBRIUM

SYNVARAUTH

Author of synonym variety or subspecies
LCTA Data Element/Entity Reference

LCTA System

SQL Data Type: VARCHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text
Missing/Invalid: N/A
Used By: HERBRIUM

SYNVAR_SSP

Synonym variety or subspecies

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text
Missing/Invalid: N/A
Used By: HERBRIUM

T

Soil series soil loss tolerance (T) value

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: SCS T value
Missing/Invalid: N/A
Used By: EROSION
Used By: SOILMAST

T00TO50

Percent of plots with soil loss tolerance (T) values from 0 to 50

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCTTYEARSUM

T100TO150

Percent of plots with soil loss tolerance (T) values from 100 to 150
LCTA Data Element/Entity Reference
LCTA System

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCTTTYESURS

T150TO200
Percent of plots with soil loss tolerance (T) values from 150 to 200

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCTTTYESURS

T50TO100
Percent of plots with soil loss tolerance (T) values from 50 to 100

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCTTTYESURS

TCDB
Total count dwarfshrub broadleaf

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMACLASSPLOTSUR

TCDC
Total count dwarfshrub conifer
LCTA Data Element/Entity Reference
LCTA System

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCLASSPLOTPSUM

TCFA
Total count forb annual

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCLASSPLOTPSUM

TCFP
Total count forb perennial

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCLASSPLOTPSUM

TCGA
Total count grass annual

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCLASSPLOTPSUM

TCGP
Total count grass perennial
LCTA Data Element/Entity Reference

LCTA System

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCLASSPLOTSUM

TCH
Total count halfshrub

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCLASSPLOTSUM

TCSB
Total count shrub broadleaf

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCLASSPLOTSUM

TCSC
Total count shrub conifer

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCLASSPLOTSUM

TCTB
Total count tree broadleaf

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LCTA Data Element/Entity Reference

LCTA System

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCCLASSPLOTSUM

TCTC
Total count tree conifer

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: COMMCCLASSPLOTSUM

TEMP
Temperature

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: F
Valid Entries: Integer
Missing/Invalid: N/A
Used By: BIRDSURV

TEMPMAX
Maximum temperature

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: F
Valid Entries: Integer
Missing/Invalid: N/A
Used By: CLIMATEDATA
Used By: HERPSURV
Used By: MAMSURV

TEMPMIN
Minimum temperature
LCTA Data Element/Entity Reference
LCTA System

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: F
Valid Entries: Integer
Missing/Invalid: N/A
Used By: CLIMATEDATA
Used By: HERPSURV
Used By: MAMSURV

TGT200
Percent of plots with soil loss tolerance (T) values greater than 200

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: PCTTYEARSUM

TILL
Number of plots with tillage

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

TOTCLAY
Percent total clay

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMPL

TOTSAND
Percent total sand
LCTA Data Element/Entity Reference

LCTA System

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMPL

TOTSILT

Percent total silt

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMPL

TRACK

Percent of plots with evidence of tracked vehicles

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

TRAIN

Plot training area

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text, numbers
Missing/Invalid: N/A
Used By: PLOTSURV

TRANLOC

 Transect location
LCTA Data Element/Entity Reference
LCTA System

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: F
Valid Entries: Real (0.0-100.0)
Missing/Invalid: N/A
Used By: BASALA
Used By: SOILLS

TRAPNIGHTS
Number of trap nights (number of traps * number of nights)

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: F
Valid Entries: Integer
Missing/Invalid: N/A
Used By: MAMSURV

TRAPS
Types of traps used for small mammal survey

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Text
Missing/Invalid: N/A
Used By: MAMSURV

TSTYPE
Broadleaf/coniferous type

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: (B)roadleaf,(C)oniferous
Missing/Invalid: N/A
Used By: PLNTLIST

UNIT
Units affected
LCTA Data Element/Entity Reference

LCTA System

**SQL Data Type:** `LONG VARCHAR`  
**SQL Type Qualifiers:**

Default Nullity: `NULL`  
Derived Data: `F`  
Valid Entries: `Text, number`  
Missing/Invalid: `N/A`  
Used By: `ENVCONST`  

**UPDATENO**

*Update version of information*

**SQL Data Type:** `INTEGER`  
**SQL Type Qualifiers:**

Default Nullity: `NULL`  
Derived Data: `F`  
Valid Entries: `Integer`  
Missing/Invalid: `N/A`  
Used By: `ENVCONST`  

**USENOTE**

*Land use note*

**SQL Data Type:** `VARCHAR`  
**SQL Type Qualifiers:** 254

Default Nullity: `NULL`  
Derived Data: `F`  
Valid Entries: `Text, numbers`  
Missing/Invalid: `N/A`  
Used By: `LANDUSE`  

**USGS**

*USGS quadrangle name*

**SQL Data Type:** `CHAR`  
**SQL Type Qualifiers:** 24

Default Nullity: `NULL`  
Derived Data: `F`  
Valid Entries: `USGS quad name`  
Missing/Invalid: `N/A`  
Used By: `PLOTMAST`  

**USLE0KCAL**

*USLE (at location 0 using calculated K)*
LCTA Data Element/Entity Reference
LCTA System

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: -1
Used By: EROSION

USLE0KPU
USLE (at transect location 0 using pub K)

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: EROSION

USLE1KCAL
USLE (at location 50 using calculated K)

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: -1
Used By: EROSION

USLE1KPU
USLE (at transect location 50 using pub K)

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: EROSION

USLE2KCAL
USLE (at location 100 using calculated K)
LCTA Data Element/Entity Reference
LCTA System

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: -1
Used By: EROSION

USLE2KPU

USLE (at transect location 100 using pub K)

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: EROSION

USLEMKCAL

USLE (mean of 3 transects using calculated K)

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: EROSION

USLEMKPUB

USLE (mean of 3 transects using pub K)

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: T
Valid Entries: Real number
Missing/Invalid: N/A
Used By: EROSION

VRAUTH

Author of variety or subspecies
LCTA Data Element/Entity Reference
LCTA System

SQL Data Type: VARCHAR  SQL Type Qualifiers: 150
Default Nullity: NULL
Derived Data: F
Valid Entries: Text
Missing/Invalid: N/A
Used By: HERBRUM

VARIETY
Plant Variety

SQL Data Type: CHAR  SQL Type Qualifiers: 20
Default Nullity: NULL
Derived Data: F
Valid Entries: Species database variety
Missing/Invalid: N/A
Used By: PLNLIST

VCSAND
Soil analysis of very coarse sand

SQL Data Type: FLOAT  SQL Type Qualifiers:
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMPL

VEGCOND
Plant condition

SQL Data Type: CHAR  SQL Type Qualifiers: 1
Default Nullity: NULL
Derived Data: F
Valid Entries: (L)ive,(D)ead,(S)tag
Missing/Invalid: N/A
Used By: BELTMON
Used By: BELTSURV
Used By: BELTRAN
Used By: GNDCOVER
Used By: TACTCONA

VEGHT
LCTA Data Element/Entity Reference
LCTA System

_Aerial plant height name_

SQL Data Type: _FLOAT_

Default Nullity: _NOT NULL_

Derived Data: _F_

Valid Entries: _Real number_

Missing/Invalid: _N/A_

Used By: _AERCOVER_

---

**VEGID**

_Plant species code_

SQL Data Type: _CHAR_

SQL Type Qualifiers: _8_

Default Nullity: _NULL_

Derived Data: _F_

Valid Entries: _Species database plant code_

Missing/Invalid: _N/A_

Used By: _AERCOVER_

Used By: _BELTMON_

Used By: _BELTRAN_

Used By: _GNDCOVER_

Used By: _HERBRUM_

Used By: _PLNTLIST_

Used By: _TACTCONA_

---

**VEGLOC**

_Transsect location along line_

SQL Data Type: _FLOAT_

SQL Type Qualifiers:

Default Nullity: _NOT NULL_

Derived Data: _F_

Valid Entries: _Real number (0.0-100.0)_

Missing/Invalid: _-1_

Used By: _AERCOVER_

Used By: _BELTRAN_

Used By: _F_COUNT_

Used By: _GNDCOVER_

Used By: _TACTCONA_

---

**VEGTYPE**

_General plot vegetation type_

SQL Data Type: _CHAR_

SQL Type Qualifiers: _30_

Default Nullity: _NULL_
LCTA Data Element/Entity Reference
LCTA System

Derived Data: F
Valid Entries: Text
Missing/Invalid: N/A
Used By: PLOTSURV

VERTID
Vertebrate species code

SQL Data Type: CHAR
Default Nullity: NULL
Derived Data: F
Valid Entries: Species database animal code
Missing/Invalid: N/A
Used By: BIRDS
Used By: HERPS
Used By: MAMMALS
Used By: VERTLIST

VFSAND
Soil analysis of very fine sand

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMPL

WANONE
Number of plots with no water erosion

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

WAOBS
Number of plots with water erosion recorded

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM
LCTA Data Element/Entity Reference
LCTA System

Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

WAPEDPLNT

Number of plots with water pedestal plant erosion

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

WHEEL

Number of plots with wheel traffic

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

WIND

Wind speed

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: F
Valid Entries: Integer
Missing/Invalid: N/A
Used By: BIRDSURV
Used By: HERPSURV

WINONE

Number of plots with no wind erosion

SQL Data Type: INTEGER
LCTA Data Element/Entity Reference
LCTA System

Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

WIOBS
Number of plots with wind erosion recorded

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

WIPEDPLNT
Number of plots with wind pedestal plant erosion

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: T
Valid Entries: Integer
Missing/Invalid: N/A
Used By: LANDUSEYEARSUM

WT20TO75M
20-75 mm weight percentage of soil < 75 mm

SQL Data Type: REAL
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMPL

WT2TO5MM
2-5 mm weight percentage of soil < 75 mm

SQL Data Type: FLOAT
SQL Type Qualifiers:
LCTA Data Element/Entity Reference

LCTA System

Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMLPL

WT5TO20MM

5-20 mm weight percentage of soil < 75 mm

SQL Data Type: FLOAT
Default Nullity: NULL
Derived Data: F
Valid Entries: Real number
Missing/Invalid: N/A
Used By: SOILSMLPL

YR

Sample year

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: F
Valid Entries: Year (yyyy)
Missing/Invalid: N/A
Used By: SOILSMLPL

ZONE

Universal Transverse Mercator zone

SQL Data Type: INTEGER
Default Nullity: NULL
Derived Data: F
Valid Entries: Valid UTM zone
Missing/Invalid: N/A
Used By: CLIMATESTATIONS
Used By: PLOTMAST

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Appendix D: Data Definition Language (DDL)

Data Definition Language (DDL) is used by the database administrator to define tables, columns, column constraints, unique rules, and referential integrity constraints. The user in most cases will have no use for the DDL, it is only presented here for reference. However, this information can be used to construct a new LCTA database, communicate with others who wish to use the data, or create a LCTA database in another relational database system. The format of the DDL presented here is specific to SQLBase but should be similar to other database management systems following SQL standards.

CREATE TABLE AERCOVER (  
    INSTALID CHAR (3) NOT NULL,
    PLOTID INTEGER NOT NULL,
    RECDATE DATE NOT NULL,
    VEGLOC FLOAT NOT NULL,
    VEGID CHAR (8),
    VEGHT FLOAT NOT NULL
);  

CREATE TABLE AERCOV_CODE (  
    AERCOV CHAR (2) NOT NULL,
    AERCOV_DEF CHAR (35) NOT NULL,
    AERCOV_NOTE VARCHAR (100)
);  

CREATE TABLE BASALA (  
    INSTALID CHAR (3) NOT NULL,
    PLOTID INTEGER NOT NULL,
    RECDATE DATE NOT NULL,
    TRANLOC INTEGER,
    BA FLOAT
);
CREATE TABLE BELTMON (  
  INSTALID CHAR (3) NOT NULL,  
  PLOTID INTEGER NOT NULL,  
  RECDATE DATE NOT NULL,  
  VEGID CHAR (8),  
  VEGCOND CHAR (1),  
  CATMINTO1 INTEGER NOT NULL,  
  CAT1TO2 INTEGER NOT NULL,  
  CAT2TO3 INTEGER NOT NULL,  
  CAT3TO4 INTEGER NOT NULL,  
  CATGT4 INTEGER NOT NULL
)

CREATE TABLE BELTSURV (  
  INSTALID CHAR (3) NOT NULL,  
  PLOTID INTEGER NOT NULL,  
  RECDATE DATE NOT NULL,  
  EXCPNSP CHAR (8) NOT NULL,  
  SIDE CHAR (1),  
  VEGCOND CHAR (1),  
  BELTWIDTH FLOAT NOT NULL,  
  BELHT FLOAT NOT NULL
)

CREATE TABLE BELTRAN (  
  INSTALID CHAR (3) NOT NULL,  
  PLOTID INTEGER NOT NULL,  
  RECDATE DATE NOT NULL,  
  VEGID CHAR (8),  
  VEGLOC FLOAT NOT NULL,  
  SIDE CHAR (1),  
  SIDEDIST FLOAT,  
  PLANTHT FLOAT NOT NULL,  
  VEGCOND CHAR (1),  
  CLMPBEGIN FLOAT,  
  CLMPEND FLOAT,  
  AREA FLOAT,  
  OPT_REAL FLOAT
)
CREATE TABLE BIRDS (  
  INSTALID CHAR (3) NOT NULL,
  PLOTID INTEGER NOT NULL,
  RECDATE DATE NOT NULL,
  VERTID CHAR (8),
  PERIOD CHAR (4),
  MATED_STATUS CHAR (8) NOT NULL,
  MEASURE_PT CHAR (2) NOT NULL,
  NUM INTEGER NOT NULL,
  FLYOVERS CHAR (3)
)

CREATE TABLE BIRDSURV (  
  INSTALID CHAR (3) NOT NULL,
  PLOTID INTEGER NOT NULL,
  RECDATE DATE NOT NULL,
  PLOTTYPE CHAR (8),
  COLLECTOR VARCHAR (70),
  CLOUD_COVER INTEGER,
  WIND INTEGER,
  TEMP INTEGER,
  BIRDNSOTE VARCHAR (100)
)

CREATE TABLE CLIMATEDATA (  
  INSTALID CHAR (3) NOT NULL,
  STATION INTEGER NOT NULL,
  RECDATE DATE NOT NULL,
  RAIN FLOAT NOT NULL,
  TEMPMIN INTEGER,
  TEMPMAX INTEGER,
  PANEVAP FLOAT
)

CREATE TABLE CLIMATESTATIONS (  
  INSTALID CHAR (3) NOT NULL,
  STATION INTEGER NOT NULL,
  STATIONNAME VARCHAR (130) NOT NULL,
  DMCE INTEGER,
DMCN | INTEGER,  
ZONE | INTEGER,  
STATION_COMMENT | VARCHAR (100)

CREATE TABLE COMMCLASSPLOTSUM (  
  INSTALID | CHAR (3) NOT NULL,  
  ANALYEAR | INTEGER NOT NULL,  
  PLOTID | INTEGER NOT NULL,  
  PCCTYPE | CHAR (4),  
  PCCCODE | CHAR (8),  
  MCCTYPE | CHAR (4),  
  MCCCODE | CHAR (8),  
  ATGA | INTEGER,  
  ATGP | INTEGER,  
  ATFA | INTEGER,  
  ATFP | INTEGER,  
  ATH | INTEGER,  
  ATDC | INTEGER,  
  ATDB | INTEGER,  
  ATSC | INTEGER,  
  ATSB | INTEGER,  
  ATTC | INTEGER,  
  ATTB | INTEGER,  
  PAGA | INTEGER,  
  PAGP | INTEGER,  
  PAFA | INTEGER,  
  PAFP | INTEGER,  
  PAH | INTEGER,  
  PADC | INTEGER,  
  PADB | INTEGER,  
  PASC | INTEGER,  
  PASB | INTEGER,  
  PATC | INTEGER,  
  PATB | INTEGER,  
  TCGA | INTEGER,  
  TCGBP | INTEGER,  
  TCFA | INTEGER,  
  TCFP | INTEGER,  
  TCH | INTEGER,  
  TCDC | INTEGER,
CREATE TABLE DISTURB_CODE (  
DISTURB CHAR (2) NOT NULL,  
DISTURB_DEF CHAR (35) NOT NULL,  
DISTURB_NOTE VARCHAR (100)
)

CREATE TABLE ENVCONST (  
INSTALID CHAR (3) NOT NULL,  
CASENO INTEGER,  
UNIT LONG VARCHAR,  
RESTRAINT LONG VARCHAR,  
IMPACT LONG VARCHAR,  
REALISM LONG VARCHAR,  
MITIGATION LONG VARCHAR,  
RESEARCH LONG VARCHAR,  
RECDATE DATE NOT NULL,  
UPDATENO INTEGER
)

CREATE TABLE EROSEVID (  
INSTALID CHAR (3) NOT NULL,  
PLOTID INTEGER NOT NULL,  
RECDATE DATE NOT NULL,  
STATUS CHAR (16) NOT NULL
)

CREATE TABLE EROSION (  
INSTALID CHAR (3) NOT NULL,  
ANALYEAR INTEGER NOT NULL,  
PLOTID INTEGER NOT NULL,  
USLEMKPB FLOAT,  
USLE0KPB FLOAT,  
USLE1KPB FLOAT,  
USLE2KPB FLOAT,
USLEMKCAL    FLOAT,
USLE0KCAL    FLOAT,
USLE1KCAL    FLOAT,
USLE2KCAL    FLOAT,
LSM          FLOAT,
LS0          FLOAT,
LS1          FLOAT,
LS2          FLOAT,
PCTTKPUB     FLOAT,
PCTTKCAL     FLOAT,
KPUBEROSINDEX FLOAT,
KCALEROSINDEX FLOAT,
KPU        FLOAT,
KCAL         FLOAT,
RVAL         FLOAT,
C            FLOAT,
C1           FLOAT,
C2           FLOAT,
T            FLOAT,
PGNDCOV      INTEGER,
PAERCOV      INTEGER,
AVEMINHT     FLOAT,
EFFCOVER     FLOAT,
HABDIVIS     FLOAT

CREATE TABLE EROS_CODE (  
  STATUS       CHAR (16) NOT NULL,
  STATUS_DEF   CHAR (35) NOT NULL,
  STATUS_NOTE  VARCHAR (100)
)

CREATE TABLE FED_STATUS (  
  FEDSTAT      CHAR (6) NOT NULL,
  FEDSTAT_DEF  VARCHAR (50) NOT NULL,
  FEDSTAT_NOTE VARCHAR (100)
)
CREATE TABLE F_COUNT (  
  INSTALID CHAR (3) NOT NULL,  
  PLOTID INTEGER NOT NULL,  
  RECDATE DATE NOT NULL,  
  VEGLOC FLOAT NOT NULL,  
  OPT_TEXT1 CHAR (8),  
  OPT_TEXT2 CHAR (8),  
  OPT_TEXT3 CHAR (8),  
  OPT_TEXT4 CHAR (8),  
  OPT_TEXT5 CHAR (8)  
);

CREATE TABLE GNDCOVER (  
  INSTALID CHAR (3) NOT NULL,  
  PLOTID INTEGER NOT NULL,  
  RECDATE DATE NOT NULL,  
  VEGLOC FLOAT NOT NULL,  
  DISTURB CHAR (2) NOT NULL,  
  VEGID CHAR (8),  
  VEGCOND CHAR (1),  
  OPT_TEXT CHAR (8)  
);

CREATE TABLE GNDCOV_CODE (  
  GNDCOV CHAR (2) NOT NULL,  
  GNDCOV_DEF CHAR (35) NOT NULL,  
  GNDCOV_NOTE VARCHAR (100)  
);

CREATE TABLE GROUPING (  
  PLOTID INTEGER NOT NULL,  
  INSTALID CHAR (3) NOT NULL  
);

CREATE TABLE HERBRIUM (  
  INSTALID CHAR (3) NOT NULL,  
  VEGID CHAR (8),  
  FAMILY CHAR (20),  
  GENUS CHAR (20),  
  SPECIES CHAR (35),  
  BAUTHOR VARCHAR (150),
VAR_SSP CHAR (35),
VARAUTH VARCHAR (150),
SYNGENUS CHAR (20),
SYNSPP CHAR (35),
SYNAUTH VARCHAR (150),
SYNVAR_SSP CHAR (35),
SYNVARAUTH VARCHAR (150),
COMMON CHAR (40),
COLLNO INTEGER NOT NULL,
COLLDATE DATE,
COLLECTOR VARCHAR (70),
DETERMIN CHAR (20),
LOCALITY VARCHAR (224),
COUNTY VARCHAR (30),
DMCE INTEGER,
DMCN INTEGER,
ELEV INTEGER,
ASSOSPP VARCHAR (150),
SOILTOPO VARCHAR (150),
HABIT CHAR (6),
ABUNDANCE INTEGER,
FEDSTAT CHAR (6) NOT NULL,
STATESTAT CHAR (6) NOT NULL,
COMMENTS VARCHAR (175)

CREATE TABLE HERPS (  
  INSTALID CHAR (3) NOT NULL,  
PLOTID INTEGER NOT NULL,  
RECDATE DATE NOT NULL,  
VERTID CHAR (8),  
SEX CHAR (1) NOT NULL,  
METHOD CHAR (3) NOT NULL,  
NUM INTEGER NOT NULL,  
RETRAP INTEGER
)

CREATE TABLE HERPSURV (  
  INSTALID CHAR (3) NOT NULL,  
PLOTID INTEGER NOT NULL,  
RECDATE DATE NOT NULL,
PLOTTYPE CHAR (8),
COLLECTOR VARCHAR (70),
AZIMUTH REAL,
LOC INTEGER,
TEMPMAX INTEGER,
TEMPMIN INTEGER,
CLOUD_COVER INTEGER,
WIND INTEGER,
HERPNOTE VARCHAR (100)
);

CREATE TABLE HISTORY (  
INSTALID CHAR (3) NOT NULL,
RECDATE DATE NOT NULL,
RECODER CHAR (35),
INSTNOTE VARCHAR (254)
);

CREATE TABLE INSTMAST (  
INSTALID CHAR (3) NOT NULL,
INNAME CHAR (30) NOT NULL,
INLOC CHAR (40),
INSIZE FLOAT
);

CREATE TABLE LANDUSE (  
INSTALID CHAR (3) NOT NULL,
PLOTID INTEGER NOT NULL,
RECDATE DATE NOT NULL,
LANDUSE CHAR (16) NOT NULL,
USENOTE VARCHAR (254)
);

CREATE TABLE LANDUSEYEARSUM (  
INSTALID CHAR (3) NOT NULL,
ANALYEAR INTEGER NOT NULL,
MOBS INTEGER,
MNONE INTEGER,
WHEEL INTEGER,
TRACK INTEGER,
EXCA INTEGER,  
);
<table>
<thead>
<tr>
<th>Variable</th>
<th>Type</th>
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<tbody>
<tr>
<td>FOOT</td>
<td>INTEGER</td>
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<td>BIV</td>
<td>INTEGER</td>
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<tr>
<td>DEMO</td>
<td>INTEGER</td>
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<tr>
<td>MOTHER</td>
<td>INTEGER</td>
</tr>
<tr>
<td>NMOBS</td>
<td>INTEGER</td>
</tr>
<tr>
<td>NMNONE</td>
<td>INTEGER</td>
</tr>
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<td>GRAZING</td>
<td>INTEGER</td>
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<td>INTEGER</td>
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<td>FOREST</td>
<td>INTEGER</td>
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<td>HAY</td>
<td>INTEGER</td>
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<td>NMOTHER</td>
<td>INTEGER</td>
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<td>MAOBS</td>
<td>INTEGER</td>
</tr>
<tr>
<td>MANONE</td>
<td>INTEGER</td>
</tr>
<tr>
<td>PREBURN</td>
<td>INTEGER</td>
</tr>
<tr>
<td>ACCBURN</td>
<td>INTEGER</td>
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<tr>
<td>TILL</td>
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<tr>
<td>DRIFTING</td>
<td>INTEGER</td>
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<tr>
<td>SCOURING</td>
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<tr>
<td>WIPEDPLNT</td>
<td>INTEGER</td>
</tr>
<tr>
<td>WAOBS</td>
<td>INTEGER</td>
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<td>INTEGER</td>
</tr>
<tr>
<td>SHEET</td>
<td>INTEGER</td>
</tr>
<tr>
<td>GULLY</td>
<td>INTEGER</td>
</tr>
<tr>
<td>WAPEDPLNT</td>
<td>INTEGER</td>
</tr>
<tr>
<td>DEBDAM</td>
<td>INTEGER</td>
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<tr>
<td>MEALLOBS</td>
<td>INTEGER</td>
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<tr>
<td>MEALLVIS</td>
<td>INTEGER</td>
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<tr>
<td>LEALLOBS</td>
<td>INTEGER</td>
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<td>LEALLVIS</td>
<td>INTEGER</td>
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<td>MEWAOBS</td>
<td>INTEGER</td>
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<td>MEWAVIS</td>
<td>INTEGER</td>
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<tr>
<td>LEWAOBS</td>
<td>INTEGER</td>
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<td>LEWAVIS</td>
<td>INTEGER</td>
</tr>
<tr>
<td>MEWIOBS</td>
<td>INTEGER</td>
</tr>
</tbody>
</table>
CREATE TABLE LANDUSE_CODE (  
  LANDUSE CHAR (16) NOT NULL,  
  LANDUSE_DEF CHAR (35) NOT NULL,  
  LANDUSE_NOTE VARCHAR (100)  
);

CREATE TABLE LINEMON (  
  INSTALID CHAR (3) NOT NULL,  
  PLOTID INTEGER NOT NULL,  
  RECDATE DATE NOT NULL,  
  VEGLOC FLOAT NOT NULL,  
  DISTURB CHAR (2) NOT NULL,  
  GNDCOV CHAR (2) NOT NULL,  
  AERCOV CHAR (2) NOT NULL,  
  OPT_TEXT CHAR (8)  
);

CREATE TABLE MAINT_CODE (  
  MAINTAIN CHAR (16) NOT NULL,  
  MAINTAIN_DEF CHAR (35) NOT NULL,  
  MAINTAIN_NOTE VARCHAR (100)  
);

CREATE TABLE MAINTACT (  
  INSTALID CHAR (3) NOT NULL,  
  PLOTID INTEGER NOT NULL,  
  RECDATE DATE NOT NULL,  
  MAINTAIN CHAR (16) NOT NULL,  
  MAINNOTE VARCHAR (254)  
);

CREATE TABLE MAMMALS (  
  INSTALID CHAR (3) NOT NULL,  
  PLOTID INTEGER NOT NULL,  
  RECDATE DATE NOT NULL,  
  VERTID (8),  
  VERTID2 (8)  
)
<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEX</td>
<td>CHAR (1) NOT NULL,</td>
</tr>
<tr>
<td>METHOD</td>
<td>(3) NOT NULL,</td>
</tr>
<tr>
<td>NUM</td>
<td>INTEGER NOT NULL,</td>
</tr>
<tr>
<td>RETRAP</td>
<td>INTEGER</td>
</tr>
</tbody>
</table>

CREATE TABLE MAMSURV (  
<table>
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<tr>
<td>INSTALID</td>
<td>CHAR (3) NOT NULL,</td>
</tr>
<tr>
<td>PLOTID</td>
<td>INTEGER NOT NULL,</td>
</tr>
<tr>
<td>RECDATE</td>
<td>DATE NOT NULL,</td>
</tr>
<tr>
<td>PLOTTYPE</td>
<td>CHAR (8),</td>
</tr>
<tr>
<td>COLLECTOR</td>
<td>VARCHAR (70),</td>
</tr>
<tr>
<td>TRAPS</td>
<td>CHAR (25),</td>
</tr>
<tr>
<td>TRAPNIGHTS</td>
<td>INTEGER,</td>
</tr>
<tr>
<td>BAITS</td>
<td>CHAR (25),</td>
</tr>
<tr>
<td>TEMPMAX</td>
<td>INTEGER,</td>
</tr>
<tr>
<td>TEMPMIN</td>
<td>INTEGER,</td>
</tr>
<tr>
<td>CLOUD_COVER</td>
<td>INTEGER,</td>
</tr>
<tr>
<td>PRECIP</td>
<td>FLOAT,</td>
</tr>
<tr>
<td>MAMNOTE</td>
<td>VARCHAR (100)</td>
</tr>
</tbody>
</table>

CREATE TABLE MAPS (  
<table>
<thead>
<tr>
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<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSTALID</td>
<td>CHAR (3) NOT NULL,</td>
</tr>
<tr>
<td>MAPNAME</td>
<td>VARCHAR (32) NOT NULL,</td>
</tr>
<tr>
<td>DMCELL</td>
<td>INTEGER NOT NULL,</td>
</tr>
<tr>
<td>DMCETR</td>
<td>INTEGER NOT NULL,</td>
</tr>
<tr>
<td>DMCNLL</td>
<td>INTEGER NOT NULL,</td>
</tr>
<tr>
<td>DMCNTR</td>
<td>INTEGER NOT NULL,</td>
</tr>
<tr>
<td>MAP</td>
<td>LONG VARCHAR NOT NULL</td>
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</tbody>
</table>

CREATE TABLE PCSDPLOTSUM (  
<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSTALID</td>
<td>CHAR (3) NOT NULL,</td>
</tr>
<tr>
<td>PLOTID</td>
<td>INTEGER NOT NULL,</td>
</tr>
<tr>
<td>ANALYEAR</td>
<td>INTEGER NOT NULL,</td>
</tr>
<tr>
<td>PLOTTYPE</td>
<td>CHAR (8),</td>
</tr>
<tr>
<td>GDOBS</td>
<td>INTEGER,</td>
</tr>
<tr>
<td>GDNONE</td>
<td>INTEGER,</td>
</tr>
<tr>
<td>GDROAD</td>
<td>INTEGER,</td>
</tr>
<tr>
<td>GDPASS</td>
<td>INTEGER,</td>
</tr>
</tbody>
</table>
GDTRAIL INTEGER,
GDOOTHER INTEGER,
GCOBS INTEGER,
GCBARE INTEGER,
GCLITTER INTEGER,
GCROCK INTEGER,
GCPPLANT INTEGER,
GCMICRO INTEGER,
CCOBS INTEGER,
CCNONE INTEGER,
CCANN INTEGER,
CCPER INTEGER,
CCANNPER INTEGER,
ACOBS INTEGER,
AC4M INTEGER
);

CREATE TABLE PCSDYEARSUM (  
  INSTALID CHAR (3) NOT NULL,  
  ANALYEAR INTEGER NOT NULL,  
  GDNONEMEAN FLOAT,  
  GDNONESTDEV FLOAT,  
  GDROADMEAN FLOAT,  
  GDROADSTDEV FLOAT,  
  GDPASSMEAN FLOAT,  
  GDPASSSTDEV FLOAT,  
  GDTRAILMEAN FLOAT,  
  GDTRAILSTDEV FLOAT,  
  GDOTHMEAN FLOAT,  
  GDOTHSTDEV FLOAT,  
  GCBAREMEAN FLOAT,  
  GCBARESTDEV FLOAT,  
  GCLITMEAN FLOAT,  
  GCLITSTDEV FLOAT,  
  GCROCKMEAN FLOAT,  
  GCROCKSTDEV FLOAT,  
  GCPPLANTMEAN FLOAT,  
  GCPPLANTSTDEV FLOAT,  
  GCMICROMEAN FLOAT,  
  GCMICROSTDEV FLOAT,  
  CCNONEMEAN FLOAT,  
  CCNONESTDEV FLOAT  
);
| CCNONESTDEV | FLOAT  |
| CCANNMEAN | FLOAT  |
| CCANNSTDEV | FLOAT  |
| CCPERMEAN | FLOAT  |
| CCPERSTDEV | FLOAT  |
| CCAPMEAN  | FLOAT  |
| CCAPSTDEV  | FLOAT  |
| ACMEAN | FLOAT  |
| ACSTDEV | FLOAT  |
| AC00 | FLOAT  |
| AC20 | FLOAT  |
| AC40 | FLOAT  |
| AC60 | FLOAT  |
| AC80 | FLOAT  |
| AC100 | FLOAT  |

```sql
CREATE TABLE PCTTYEARSUM (  
    INSTALID CHAR (3) NOT NULL,  
    ANALYEAR INTEGER NOT NULL,  
    OBS INTEGER,  
    T00TO50 INTEGER,  
    T50TO100 INTEGER,  
    T100TO150 INTEGER,  
    T150TO200 INTEGER,  
    TGT200 INTEGER
)
```

```sql
CREATE TABLE PLNTLIST (  
    VEGID CHAR (8),  
    FAMILY CHAR (20),  
    GENUS CHAR (20),  
    SPEC CHAR (25),  
    SUBSPEC CHAR (20),  
    VARIETY CHAR (20),  
    LIFE CHAR (1),  
    ORIGIN CHAR (1),  
    FORM1 CHAR (1),
)
FORM2 CHAR (1),
TSTYPE CHAR (1),
SYNON CHAR (8)
);

CREATE TABLE PLOTMAPS (  
  INSTALID CHAR (3) NOT NULL,
  PLOTID INTEGER NOT NULL,
  GENMAP LONG VARCHAR,
  LOCMAP LONG VARCHAR,
  MISCMAP LONG VARCHAR,
  PHOTOS LONG VARCHAR
);

CREATE TABLE PLOTMAST (  
  INSTALID CHAR (3) NOT NULL,
  PLOTID INTEGER NOT NULL,
  DMCE INTEGER,
  DMCN INTEGER,
  ZONE INTEGER,
  PDATE DATE NOT NULL,
  USGS CHAR (24),
  SOILSER CHAR (8),
  RVAL FLOAT ,
  AZIMUTH REAL,
  DECLIN FLOAT
);

CREATE TABLE PLOTSURV (  
  INSTALID CHAR (3) NOT NULL,
  PLOTID INTEGER NOT NULL,
  RECDATE DATE NOT NULL,
  INVTYPE CHAR (2) NOT NULL,
  PLOTYPE CHAR (8),
  SURVEYOR CHAR (35),
  RECORDER CHAR (35),
  TRAIN CHAR (8),
  VEGTYPE CHAR (30),
  
  COUNCIL CHAR (30),
ASPECT CHAR (2),
SOILDPTH CHAR (3),
PLOTNOTE LONG VARCHAR

CREATE TABLE SOILLS (  
  INSTALID CHAR (3) NOT NULL,
  PLOTID INTEGER NOT NULL,
  RECDATA DATE NOT NULL,
  TRANLOC INTEGER,
  SLOPE FLOAT,
  SLPLEN FLOAT
)

CREATE TABLE SOILMAST (  
  SOILSER CHAR (8),
  SOILNAME CHAR (40),
  PUBLK FLOAT,
  CALCKMEAN FLOAT,
  CALCKSTDEV FLOAT,
  T FLOAT,
  SOILCAT INTEGER
)

CREATE TABLE SOILSMPL (  
  INSTALID CHAR (3) NOT NULL,
  PLOTID INTEGER NOT NULL,
  YR INTEGER,
  LABK FLOAT,
  TOTCLAY FLOAT,
  TOTSLT FLOAT,
  TOTSAND FLOAT,
  CO3CLAY FLOAT,
  FSILT FLOAT,
  CSLT FLOAT,
  VFSAND FLOAT,
  FSAND FLOAT,
  MSAND FLOAT,
  CSAND FLOAT,
  VCSAND FLOAT,
  WT2TO5MM FLOAT,
  WT6TO30MM FLOAT,
  WT31TO50MM FLOAT,
  WT51TO100MM FLOAT,
  WT101TO200MM FLOAT,
  WT201TO400MM FLOAT,
  WT401TO600MM FLOAT,
  WT601TO1000MM FLOAT,
  WT1001TO2000MM FLOAT,
  WT2001TO4000MM FLOAT,
  WT4001TO7000MM FLOAT,
  WT7001TO10000MM FLOAT,
  WT10001TO15000MM FLOAT,
  WT15001TO20000MM FLOAT,
  WT20001TO30000MM FLOAT,
  WT30001TO40000MM FLOAT,
  WT40001TO50000MM FLOAT,
  WT50001TO60000MM FLOAT,
  WT60001TO80000MM FLOAT,
  WT80001TO100000MM FLOAT,
  WT100001TO120000MM FLOAT,
  WT120001TO150000MM FLOAT,
  WT150001TO200000MM FLOAT,
  WT200001TO220000MM FLOAT,
  WT220001TO260000MM FLOAT,
  WT260001TO300000MM FLOAT,
  WT300001TO350000MM FLOAT,
  WT350001TO400000MM FLOAT,
  WT400001TO450000MM FLOAT,
  WT450001TO500000MM FLOAT,
  WT500001TO600000MM FLOAT,
  WT600001TO700000MM FLOAT,
  WT700001TO800000MM FLOAT,
  WT800001TO900000MM FLOAT,
  WT900001TO1000000MM FLOAT,
  WT1000001TO1200000MM FLOAT,
  WT1200001TO1500000MM FLOAT,
  WT1500001TO2000000MM FLOAT,
  WT2000001TO2200000MM FLOAT,
  WT2200001TO2500000MM FLOAT,
  WT2500001TO3000000MM FLOAT,
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  WT3500001TO4000000MM FLOAT,
  WT4000001TO4500000MM FLOAT,
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  WT5000001TO6000000MM FLOAT,
  WT6000001TO7000000MM FLOAT,
  WT7000001TO8000000MM FLOAT,
  WT8000001TO9000000MM FLOAT,
  WT9000001TO10000000MM FLOAT,
  WT10000001TO12000000MM FLOAT,
  WT12000001TO15000000MM FLOAT,
  WT15000001TO20000000MM FLOAT,
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  WT22000001TO25000000MM FLOAT,
  WT25000001TO30000000MM FLOAT,
  WT30000001TO35000000MM FLOAT,
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  WT45000001TO50000000MM FLOAT,
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  WT80000001TO90000000MM FLOAT,
  WT90000001TO100000000MM FLOAT,
  WT10000001TO120000000MM FLOAT,
  WT12000001TO150000000MM FLOAT,
  WT15000001TO200000000MM FLOAT,
  WT20000001TO220000000MM FLOAT,
  WT22000001TO250000000MM FLOAT,
  WT25000001TO300000000MM FLOAT,
  WT30000001TO350000000MM FLOAT,
  WT35000001TO400000000MM FLOAT,
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  WT90000001TO1000000000MM FLOAT,
  WT10000001TO1200000000MM FLOAT,
  WT12000001TO1500000000MM FLOAT,
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  WT40000001TO4500000000MM FLOAT,
  WT45000001TO5000000000MM FLOAT,
  WT50000001TO6000000000MM FLOAT,
  WT60000001TO7000000000MM FLOAT,
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  WT12000001TO15000000000MM FLOAT,
  WT15000001TO20000000000MM FLOAT,
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<td>ORGCARB</td>
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<td>PH1TO2</td>
<td>FLOAT</td>
</tr>
<tr>
<td>PH1TO1</td>
<td>FLOAT</td>
</tr>
<tr>
<td>SOILNOTE</td>
<td>VARCHAR (254)</td>
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<td>STRUCT_CODE</td>
<td>INTEGER</td>
</tr>
<tr>
<td>PERM_CLASS</td>
<td>INTEGER</td>
</tr>
</tbody>
</table>

```
CREATE TABLE STATE_STATUS (  
    STATESTAT CHAR (6) NOT NULL,  
    STATESTAT_DEF VARCHAR (50) NOT NULL,  
    STATESTAT_NOTE VARCHAR (100)  
);
```

```
CREATE TABLE TACTCONA (  
    INSTALID CHAR (3) NOT NULL,  
    ANALYEAR INTEGER NOT NULL,  
    PLOTID INTEGER NOT NULL,  
    VEGID CHAR (8),  
    LIFEFORM CHAR (1),  
    VEGCOND CHAR (1),  
    HTMINTO1 INTEGER,  
    HT1TO2 INTEGER,  
    HT2TO3 INTEGER,  
    HT3TO4 INTEGER,  
    HTGT4 INTEGER  
);
```

```
CREATE TABLE VERTLIST (  
    VERTID CHAR (8),  
    CLASS CHAR (15),  
    ORDERS CHAR (20),  
    SUBORDER CHAR (20),  
    FAMILY CHAR (20),  
    
```
SUBFAM CHAR (15),
GENUS CHAR (20),
SPEC CHAR (25),
COMMON CHAR (40),
AUTHORS CHAR (35),
VERTSTAT CHAR (70),
VERTNOTE VARCHAR (254)

CREATE UNIQUE INDEX AERCOV_CODE_KEY ON AERCOV_CODE (AERCOV);

CREATE UNIQUE INDEX BIRDSURV_KEY ON BIRDSURV (INSTALID,
PLOTID,
RECDATE);

CREATE UNIQUE INDEX CLIMATESTATIONS_KEY ON CLIMATESTATIONS (INSTALID,
STATION);

CREATE UNIQUE INDEX DISTURB_CODE_KEY ON DISTURB_CODE (DISTURB);

CREATE UNIQUE INDEX EROS_CODE_KEY ON EROS_CODE (STATUS);

CREATE UNIQUE INDEX FED_STATUS_KEY ON FED_STATUS (FEDSTAT);

CREATE UNIQUE INDEX GNDCOV_CODE_KEY ON GNDCOV_CODE (GNDCOV);

CREATE UNIQUE INDEX GROUPING_KEY ON GROUPING (PLOTID,
INSTALID);

CREATE UNIQUE INDEX HERPSURV_KEY ON HERPSURV (INSTALID,
PLOTID,
RECDATE);
CREATE UNIQUE INDEX INSTMAST_KEY ON INSTMAST (INSTALID);

CREATE UNIQUE INDEX LANDUSE_CODE_KEY ON LANDUSE_CODE (LANDUSE);

CREATE UNIQUE INDEX MAINT_CODE_KEY ON MAINT_CODE (MAINTAIN);

CREATE UNIQUE INDEX MAMSURV_KEY ON MAMSURV (INSTALID, PLOTID, RECDATE);

CREATE UNIQUE INDEX PLNTLIST_KEY ON PLNTLIST (VEGID);

CREATE UNIQUE INDEX PLOTMAST_KEY ON PLOTMAST (INSTALID, PLOTID);

CREATE UNIQUE INDEX PLOTSURV_KEY ON PLOTSURV (INSTALID, PLOTID, RECDATE);

CREATE UNIQUE INDEX STATE_STATUS_KEY ON STATE_STATUS (STATESTAT);

CREATE UNIQUE INDEX VERTLIST_KEY ON VERTLIST (VERTID);

ALTER TABLE ENVCONST
    PRIMARY KEY ();

ALTER TABLE ENVCONST
    FOREIGN KEY FK_ENVCONST_1 ((INSTALID))
    REFERENCES INSTMAST ON DELETE RESTRICT;

ALTER TABLE INSTMAST
    PRIMARY KEY (INSTALID);
ALTER TABLE HERPSURV
    PRIMARY KEY (INSTALID, PLOTID, RECDATE);

ALTER TABLE HERPSURV
    FOREIGN KEY FK_HERPSURV_1 ((INSTALID))
    REFERENCES INSTMAST ON DELETE RESTRICT;

ALTER TABLE MAMSURV
    PRIMARY KEY (INSTALID, PLOTID, RECDATE);

ALTER TABLE MAMSURV
    FOREIGN KEY FK_MAMSURV_1 ((INSTALID))
    REFERENCES INSTMAST ON DELETE RESTRICT;

ALTER TABLE METHODS_CODE
    PRIMARY KEY (METHOD);

ALTER TABLE HERPS
    PRIMARY KEY ();

ALTER TABLE HERPS
    FOREIGN KEY FK_HERPS_1 ((METHOD))
    REFERENCES METHODS_CODE ON DELETE RESTRICT;
FOREIGN KEY FK_HERPS_2 ((INSTALID, PLOTID, RECDATE))
    REFERENCES HERPSURV ON DELETE RESTRICT;
FOREIGN KEY FK_HERPS_3 ((SEX))
    REFERENCES GENDER_CODE ON DELETE RESTRICT;

ALTER TABLE MAMMALS
    PRIMARY KEY ();

ALTER TABLE MAMMALS
    FOREIGN KEY FK_MAMMALS_1 ((METHOD))
    REFERENCES METHODS_CODE ON DELETE RESTRICT;
FOREIGN KEY FK_MAMMALS_2 ((INSTALID, PLOTID, RECDATE))
    REFERENCES MAMSURV ON DELETE RESTRICT;
FOREIGN KEY FK_MAMMALS_3 ((SEX))
    REFERENCES GENDER_CODE ON DELETE RESTRICT;

ALTER TABLE GENDER_CODE
    PRIMARY KEY (SEX);
ALTER TABLE POINT_CODE
    PRIMARY KEY (MEASURE_PT);

ALTER TABLE BIRDS
    PRIMARY KEY ()

ALTER TABLE BIRDS
    FOREIGN KEY FK_BIRDS_1 ((MEASURE_PT))
    REFERENCES POINT_CODE ON DELETE RESTRICT;
    FOREIGN KEY FK_BIRDS_2 ((MATED_STATUS))
    REFERENCES MATED_STATUS_CODE ON DELETE RESTRICT;

ALTER TABLE MATED_STATUS_CODE
    PRIMARY KEY (MATED_STATUS);

ALTER TABLE PLOTSURV
    PRIMARY KEY (INSTALID, PLOTID, RECDATE);

ALTER TABLE PLOTSURV
    FOREIGN KEY FK_PLOTSURV_1 ((INSTALID, PLOTID))
    REFERENCES PLOTMAST ON DELETE RESTRICT;

ALTER TABLE MAINTACT
    PRIMARY KEY ()

ALTER TABLE MAINTACT
    FOREIGN KEY FK_MAINTACT_1 ((INSTALID, PLOTID, RECDATE))
    REFERENCES PLOTSURV ON DELETE RESTRICT;
    FOREIGN KEY FK_MAINTACT_2 ((MAINTAIN))
    REFERENCES MAINT_CODE ON DELETE RESTRICT;

ALTER TABLE LINEMON
    PRIMARY KEY ()

ALTER TABLE LINEMON
    FOREIGN KEY FK_LINEMON_1 ((DISTURB))
    REFERENCES DISTURB_CODE ON DELETE RESTRICT;
    FOREIGN KEY FK_LINEMON_2 ((AERCOV))
    REFERENCES AERCOV_CODE ON DELETE RESTRICT;
    FOREIGN KEY FK_LINEMON_3 ((GNDICOV))
REFERENCES GNDCOV_CODE ON DELETE RESTRICT;
FOREIGN KEY FK_LINEMON_4 ((INSTALID, PLOTID, RECDATE))
REFERENCES PLOTSURV ON DELETE RESTRICT;

ALTER TABLE DISTURB_CODE
PRIMARY KEY (DISTURB);

ALTER TABLE AERCOV_CODE
PRIMARY KEY (AERCOV);

ALTER TABLE GNDCOV_CODE
PRIMARY KEY (GNDCOV);

ALTER TABLE LANDUSE
PRIMARY KEY ();

ALTER TABLE LANDUSE
FOREIGN KEY FK_LANDUSE_1 ((INSTALID, PLOTID, RECDATE))
REFERENCES PLOTSURV ON DELETE RESTRICT;
FOREIGN KEY FK_LANDUSE_2 ((LANDUSE))
REFERENCES LANDUSE_CODE ON DELETE RESTRICT;

ALTER TABLE LANDUSE_CODE
PRIMARY KEY (LANDUSE);

ALTER TABLE GNDCOVER
PRIMARY KEY ();

ALTER TABLE GNDCOVER
FOREIGN KEY FK_GNDCOVER_1 ((INSTALID, PLOTID, RECDATE))
REFERENCES PLOTSURV ON DELETE RESTRICT;
FOREIGN KEY FK_GNDCOVER_2 ((DISTURB))
REFERENCES DISTURB_CODE ON DELETE RESTRICT;

ALTER TABLE F_COUNT
PRIMARY KEY ();

ALTER TABLE F_COUNT
FOREIGN KEY FK_F_COUNT_1 ((INSTALID, PLOTID, RECDATE))
REFERENCES PLOTSURV ON DELETE RESTRICT;
ALTER TABLE EROSEVID
    PRIMARY KEY ();

ALTER TABLE EROSEVID
    FOREIGN KEY FK_EROSEVID_1 ((INSTALID, PLOTID, RECDATE))
    REFERENCES PLOTSURV ON DELETE RESTRICT;
    FOREIGN KEY FK_EROSEVID_2 ((STATUS))
    REFERENCES EROS_CODE ON DELETE RESTRICT;

ALTER TABLE EROS_CODE
    PRIMARY KEY (STATUS);

ALTER TABLE BELTTRAN
    PRIMARY KEY ();

ALTER TABLE BELTTRAN
    FOREIGN KEY FK_BELTTRAN_1 ((INSTALID, PLOTID, RECDATE))
    REFERENCES PLOTSURV ON DELETE RESTRICT;

ALTER TABLE BELTSURV
    PRIMARY KEY ();

ALTER TABLE BELTSURV
    FOREIGN KEY FK_BELTSURV_1 ((INSTALID, PLOTID, RECDATE))
    REFERENCES PLOTSURV ON DELETE RESTRICT;

ALTER TABLE AERCOVER
    PRIMARY KEY ();

ALTER TABLE AERCOVER
    FOREIGN KEY FK_AERCOVER_1 ((INSTALID, PLOTID, RECDATE))
    REFERENCES PLOTSURV ON DELETE RESTRICT;

ALTER TABLE PLOTMAST
    PRIMARY KEY (INSTALID, PLOTID);

ALTER TABLE PLOTMAST
    FOREIGN KEY FK_PLOTMAST_1 ((INSTALID))
    REFERENCES INSTMAST ON DELETE RESTRICT;
ALTER TABLE PLOTMAPS
  PRIMARY KEY ();

ALTER TABLE PLOTMAPS
  FOREIGN KEY FK_PLOTMAPS_1 ((INSTALID, PLOTID))
  REFERENCES PLOTMAST ON DELETE RESTRICT;

ALTER TABLE HISTORY
  PRIMARY KEY ();

ALTER TABLE HISTORY
  FOREIGN KEY FK_HISTORY_1 ((INSTALID))
  REFERENCES INSTMAST ON DELETE RESTRICT;

ALTER TABLE BELTMON
  PRIMARY KEY ();

ALTER TABLE BELTMON
  FOREIGN KEY FK_BELTMON_1 ((INSTALID, PLOTID, RECDATE))
  REFERENCES PLOTSURV ON DELETE RESTRICT;

ALTER TABLE BASALA
  PRIMARY KEY ();

ALTER TABLE BASALA
  FOREIGN KEY FK_BASALA_1 ((INSTALID, PLOT'D, RECDATE))
  REFERENCES PLOTSURV ON DELETE RESTRICT;

ALTER TABLE MAINT_CODE
  PRIMARY KEY (MAINTAIN);

ALTER TABLE GROUPING
  PRIMARY KEY (PLOTID, INSTALID);

ALTER TABLE SOILSMPL
  PRIMARY KEY ();

ALTER TABLE SOILSMPL
  FOREIGN KEY FK_SOILSMPL_1 ((INSTALID, PLOTID))
  REFERENCES PLOTMAST ON DELETE RESTRICT;
ALTER TABLE CLIMATESTATIONS
  PRIMARY KEY (INSTALID, STATION);

ALTER TABLE CLIMATESTATIONS
  FOREIGN KEY FK_CLIMATESTATIONS_1 (INSTALID)
  REFERENCES INSTMAST ON DELETE RESTRICT;

ALTER TABLE MAPS
  PRIMARY KEY ();

ALTER TABLE MAPS
  FOREIGN KEY FK_MAPS_1 (INSTALID)
  REFERENCES INSTMAST ON DELETE RESTRICT;

ALTER TABLE CLIMATEDATA
  PRIMARY KEY ();

ALTER TABLE CLIMATEDATA
  FOREIGN KEY FK_CLIMATEDATA_1 (INSTALID, STATION)
  REFERENCES CLIMATESTATIONS ON DELETE RESTRICT;

ALTER TABLE PCSDYEARSUM
  PRIMARY KEY ();

ALTER TABLE PCSDYEARSUM
  FOREIGN KEY FK_PCSDYEARSUM_1 (INSTALID)
  REFERENCES INSTMAST ON DELETE RESTRICT;

ALTER TABLE EROSION
  PRIMARY KEY ();

ALTER TABLE EROSION
  FOREIGN KEY FK_EROSION_1 (INSTALID)
  REFERENCES INSTMAST ON DELETE RESTRICT;

ALTER TABLE EROSION
  FOREIGN KEY FK_EROSION_2 (INSTALID, PLOTID)
  REFERENCES PLOTMAST ON DELETE RESTRICT;

ALTER TABLE COMMCLASSPLOTSUM
  PRIMARY KEY ();
ALTER TABLE COMMCLASSPLOTSUM
  FOREIGN KEY FK_COMMCLASSPLOTSUM_1 (INSTALID)
  REFERENCES INSTMAST ON DELETE RESTRICT;
  FOREIGN KEY FK_COMMCLASSPLOTSUM_2 (INSTALID, PLOTID)
  REFERENCES PLOTMAST ON DELETE RESTRICT;

ALTER TABLE PCSDPLOTSUM
  PRIMARY KEY 0;

ALTER TABLE PCSDPLOTSUM
  FOREIGN KEY FK_PCSDPLOTSUM_1 (INSTALID)
  REFERENCES INSTMAST ON DELETE RESTRICT;
  FOREIGN KEY FK_PCSDPLOTSUM_2 (INSTALID, PLOTID)
  REFERENCES PLOTMAST ON DELETE RESTRICT;

ALTER TABLE TACTCONA
  PRIMARY KEY 0;

ALTER TABLE TACTCONA
  FOREIGN KEY FK_TACTCONA_1 (INSTALID)
  REFERENCES INSTMAST ON DELETE RESTRICT;
  FOREIGN KEY FK_TACTCONA_2 (INSTALID, PLOTID)
  REFERENCES PLOTMAST ON DELETE RESTRICT;

ALTER TABLE PCTTYEARSUM
  PRIMARY KEY 0;

ALTER TABLE PCTTYEARSUM
  FOREIGN KEY FK_PCTTYEARSUM_1 (INSTALID)
  REFERENCES INSTMAST ON DELETE RESTRICT;

ALTER TABLE HERBRIUM
  PRIMARY KEY 0;

ALTER TABLE HERBRIUM
  FOREIGN KEY FK_HERBRIUM_1 (FEDSTAT)
  REFERENCES FED_STATUS ON DELETE RESTRICT;
  FOREIGN KEY FK_HERBRIUM_2 (STATESTAT)
  REFERENCES STATE_STATUS ON DELETE RESTRICT;
  FOREIGN KEY FK_HERBRIUM_3 (INSTALID)
  REFERENCES INSTMAST ON DELETE RESTRICT;
ALTER TABLE FED_STATUS
    PRIMARY KEY (FEDSTAT);

ALTER TABLE STATE_STATUS
    PRIMARY KEY (STATESTAT);

Species

CREATE TABLE FOOD_INFO (
    FOOD_TYPE CHAR (4) NOT NULL,
    FOOD_DEF VARCHAR (35) NOT NULL,
    FOOD_NOTE VARCHAR (100)
);

CREATE TABLE GENERAL_HABITAT (
    VERTID CHAR (8),
    GEN_HABITAT CHAR (4) NOT NULL
);

CREATE TABLE HABITAT_INFO (
    GEN_HABITAT CHAR (4) NOT NULL,
    HABITAT_DEF VARCHAR (35) NOT NULL,
    HABITAT_NOTE VARCHAR (100)
);

CREATE TABLE LOC_INFO (
    NEST_LOC CHAR (4) NOT NULL,
    LOC_DEF VARCHAR (35) NOT NULL,
    LOC_NOTE VARCHAR (100)
);

CREATE TABLE MATED_STATUS_CODE (
    MATED_STATUS CHAR (8) NOT NULL,
    MSTATUS_DEF CHAR (8) NOT NULL,
    MSTATUS_NOTE VARCHAR (100)
);
CREATE TABLE NEOTROPICAL (
    VERTID CHAR (8),
    NEOTROP CHAR (4) NOT NULL
)

CREATE TABLE NEOTROPIC_INFO (
    NEOTROP CHAR (4) NOT NULL,
    NEOTROP_DEF VARCHAR (35) NOT NULL,
    NEOTROP_NOTE VARCHAR (100)
)

CREATE TABLE NEST_LOCATION (
    VERTID CHAR (8),
    NEST_LOC CHAR (4) NOT NULL
)

CREATE TABLE PLANTS (
    VEGID CHAR (8),
    FAMILY CHAR (20),
    GENUS CHAR (20),
    SPEC CHAR (25),
    SUBSPEC CHAR (20),
    VARIETY CHAR (20),
    LIFE CHAR (1),
    ORIGIN CHAR (1),
    FORM CHAR (8),
    FORM2 CHAR (1),
    FORM3 CHAR (8),
    FORM4 CHAR (8),
    FORM5 CHAR (8),
    FORM6 CHAR (8),
    HYBRID CHAR (8),
    SYNON CHAR (8),
    VEGSTAT CHAR (8),
    VEGDIST1 CHAR (8),
    VEGDIST2 CHAR (8),
    VEGDIST3 CHAR (8),
    VEGDIST4 CHAR (8),
    VEGDIST5 CHAR (8),
    VEGDIST6 CHAR (8),
    VEGDIST7 CHAR (8),
)
CREATE TABLE SEASON_INFO (  
  SEASON CHAR (4) NOT NULL,
  SEASON_DEF VARCHAR (35) NOT NULL,
  SEASON_NOTE VARCHAR (100)
);

CREATE TABLE SFST (  
  VERTID CHAR (8),
  SEASON CHAR (4) NOT NULL,
  FOOD_TYPE CHAR (4) NOT NULL,
  SUBSTRATE CHAR (4) NOT NULL,
  TECHNIQUE CHAR (4) NOT NULL
);

CREATE TABLE SPP_INFO (  
  VERTID CHAR (8),
  ALPHA_CODE CHAR (8),
  AOU_NUM CHAR (8)
);

CREATE TABLE SUBSTRATE_INFO (  
  SUBSTRATE CHAR (4) NOT NULL,
  SUBSTRATE_DEF VARCHAR (35) NOT NULL,
  SUBSTRATE_NOTE VARCHAR (100)
);
CREATE TABLE TECHNIQUE_INFO (  
TECHNIQUE CHAR (4) NOT NULL,  
TECHNIQUE_DEF VARCHAR (35) NOT NULL,  
TECHNIQUE_NOTE VARCHAR (100)
)

CREATE TABLE TSTYPE (  
VEGID CHAR (8),  
TSTYPE CHAR (1)
)

CREATE UNIQUE INDEX FOOD_INFO_KEY ON FOOD_INFO (  
FOOD_TYPE);

CREATE UNIQUE INDEX GENERAL_HABITAT_KEY ON GENERAL_HABITAT (  
GEN_HABITAT,  
VERTID);

CREATE UNIQUE INDEX HABITAT_INFO_KEY ON HABITAT_INFO (  
GEN_HABITAT);

CREATE UNIQUE INDEX LOC_INFO_KEY ON LOC_INFO (  
NEST_LOC);

CREATE UNIQUE INDEX MATED_STATUS_CODE_KEY ON  
MATED_STATUS_CODE (  
MATED_STATUS);

CREATE UNIQUE INDEX NEOTROPICAL_KEY ON NEOTROPICAL (  
VERTID,  
NEOTROP);

CREATE UNIQUE INDEX NEOTROPIC_INFO_KEY ON NEOTROPIC_INFO (  
NEOTROP);

CREATE UNIQUE INDEX NEST_LOCATION_KEY ON NEST_LOCATION (  
NEST_LOC,  
VERTID);
CREATE UNIQUE INDEX PLANTS_KEY ON PLANTS (VEGID);

CREATE UNIQUE INDEX SEASON_INFO_KEY ON SEASON_INFO (SEASON);

CREATE UNIQUE INDEX SFST_KEY ON SFST (VERTID, SEASON, FOOD_TYPE, SUBSTRATE, TECHNIQUE);

CREATE UNIQUE INDEX SPP_INFO_KEY ON SPP_INFO (VERTID);

CREATE UNIQUE INDEX SUBSTRATE_INFO_KEY ON SUBSTRATE_INFO (SUBSTRATE);

CREATE UNIQUE INDEX TECHNIQUE_INFO_KEY ON TECHNIQUE_INFO (TECHNIQUE);

CREATE UNIQUE INDEX TSTYPE_KEY ON TSTYPE (VEGID);

ALTER TABLE SPP_INFO
PRIMARY KEY (VERTID);

ALTER TABLE SPP_INFO
FOREIGN KEY FK_SPP_INFO_1 ((VERTID))
REFERENCES VERTS ON DELETE RESTRICT;

ALTER TABLE TECHNIQUE_INFO
PRIMARY KEY (TECHNIQUE);

ALTER TABLE SFST
PRIMARY KEY (VERTID, SEASON, FOOD_TYPE, SUBSTRATE, TECHNIQUE);
ALTER TABLE SFST
FOREIGN KEY FK_SFST_1 (TECHNIQUE)
REFERENCES TECHNIQUE_INFO ON DELETE RESTRICT;
FOREIGN KEY FK_SFST_2 (FOOD_TYPE)
REFERENCES FOOD_INFO ON DELETE RESTRICT;
FOREIGN KEY FK_SFST_3 (SEASON)
REFERENCES SEASON_INFO ON DELETE RESTRICT;
FOREIGN KEY FK_SFST_4 (SUBSTRATE)
REFERENCES SUBSTRATE_INFO ON DELETE RESTRICT;
FOREIGN KEY FK_SFST_5 (VERTID)
REFERENCES SPP_INFO ON DELETE RESTRICT;

ALTER TABLE FOOD_INFO
PRIMARY KEY (FOOD_TYPE);

ALTER TABLE SEASON_INFO
PRIMARY KEY (SEASON);

ALTER TABLE SUBSTRATE_INFO
PRIMARY KEY (SUBSTRATE);

ALTER TABLE NEOTROPIC_INFO
PRIMARY KEY (NEOTROP);

ALTER TABLE NEOTROPICAL
PRIMARY KEY (VERTID, NEOTROP);

ALTER TABLE NEOTROPICAL
FOREIGN KEY FK_NEOTROPICAL_1 (NEOTROP)
REFERENCES NEOTROPIC_INFO ON DELETE RESTRICT;
FOREIGN KEY FK_NEOTROPICAL_2 (VERTID)
REFERENCES SPP_INFO ON DELETE RESTRICT;

ALTER TABLE HABITAT_INFO
PRIMARY KEY (GEN_HABITAT);

ALTER TABLE GENERAL_HABITAT
PRIMARY KEY (GEN_HABITAT, VERTID);
ALTER TABLE GENERAL_HABITAT
    FOREIGN KEY FK_GENERAL_HABITAT_1 ((GEN_HABITAT))
    REFERENCES HABITAT_INFO ON DELETE RESTRICT;
FOREIGN KEY FK_GENERAL_HABITAT_2 ((VERTID))
    REFERENCES SPP_INFO ON DELETE RESTRICT;

ALTER TABLE LOC_INFO
    PRIMARY KEY (NEST_LOC);

ALTER TABLE NEST_LOCATION
    PRIMARY KEY (NEST_LOC, VERTID);

ALTER TABLE NEST_LOCATION
    FOREIGN KEY FK_NEST_LOCATION_1 ((NEST_LOC))
    REFERENCES LOC_INFO ON DELETE RESTRICT;
FOREIGN KEY FK_NEST_LOCATION_2 ((VERTID))
    REFERENCES SPP_INFO ON DELETE RESTRICT;

ALTER TABLE TSTYPE
    PRIMARY KEY (VEGID);

ALTER TABLE TSTYPE
    FOREIGN KEY FK_TSTYPE_1 ((VEGID))
    REFERENCES PLANTS ON DELETE RESTRICT;

ALTER TABLE PLANTS
    PRIMARY KEY (VEGID);

ALTER TABLE VERTS
    PRIMARY KEY (VERTID);
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