Ecological Systems Tool

(Systems.mdb)

Microsoft Access Database

for the

International Ecological Classification Standard:

Terrestrial Ecological Systems of Latin America and the Caribbean

Manual for Interface Version 3.12
(with Data Version 1.01)

May 21, 2003

A Product of the NatureServe Ecology Team

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Citation: NatureServe. 2003. International Ecological Classification Standard: Terrestrial Ecological Systems of Latin America and the Caribbean. Natural Heritage Central Databases. NatureServe, Arlington, VA.

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GETTING STARTED

System and Human Requirements

- Microsoft Access 97 running on Windows 98 or higher, plus Microsoft Word 97 for running reports. Systems.mdb is shipped as an Access 97 database in order to meet The Nature Conservancy's computer system standards, but it was developed in Access 2000 and is available in that format as well. It has not been tested in versions of Access after Access 2000.
- At least a basic level of familiarity with Access (or a decent Access manual to help you along).
- At least 60 MB hard drive space (about 35 MB for the files, plus at least 25 MB virtual memory on your hard drive. Microsoft Access 97 requires a minimum of 12 MB to run in Windows 95 and 16 MB to run on Windows NT Workstation, but additional RAM improves performance. To run the Word mail merges, which use a lot of memory, we recommend *at least* 32 MB of RAM.

Downloading the Ecological Systems Tool

For now we provide only one option:
1. Download from NatureServe web site (http://www.natureserve.org).

Installing the Ecological Systems Tool

The default directory for installing Systems.mdb is c:\esystems, but you may use any directory. To install, first find the **Systems.exe** file you just downloaded. (If you're not sure where it saved, try "c:\My Download Files". Doubleclick on the file to extract it. You'll be prompted for the directory in which you want to save the files. The zipped file contains several databases and Word documents (see APPENDIX A: Components of the Ecological Systems Tool). They should all be unzipped to the same directory.

Once you've downloaded and unzipped, OPEN THE FILE "SYSTEMS.MDB".

The **Switchboard** will appear. (See screenshot on p. **Error! Bookmark not defined.**.)
On the right hand side of the Switchboard are two important utilities:

International Vegetation Classification data (association and alliance data) are provided in a separate database (mini-EcoART[1]) that is linked into Systems.mdb. The links come pointing to the directory "c:\ecol system", and if you use the same directory, you shouldn't need to update the links. Otherwise, if you put the Ecological Systems Tool in c:\mine, enter "c:\mine" under "New directory" and click "Update Links". A "done" message should pop up when it's done.

You should compact "Systems.mdb" after updating the links **and** periodically (weekly to monthly, depending on how much you use it). This button does not compact your databases for you; it only provides instructions. (To compact the current database, go to Tools | Database Utilities | Compact Database.) You should also compact "mini-EcoART.mdb" regularly; you must open that database in order to compact it.

[1] If you have the April/May 2003 full version of EcoART, you may link to that database instead by using the "Link to EcoART" button.

ABOUT THE DATA IN THE ECOLOGICAL SYSTEMS TOOL

Please refer to the companion document, "A Working Classification of Terrestrial Ecological Systems in the Coterminous United States," for information about the meaning and completeness of the data and how they were developed.

The database is designed to accommodate ecological systems from the United States, Canada, Latin America, and the Caribbean, but only data for Latin America and the Caribbean are contained in the current dataset.

The database was designed for both viewing and editing ecological systems. However, the version distributed to The Nature Conservancy is secured as **read-only**, as The Nature Conservancy is not expected to develop any data in the database. Any requests for data revisions or additions should be sent directly to a NatureServe ecologist.

~THE WEIRD THINGS ARE EXPLAINED$

You'll see some odd symbols and abbreviations in the data. Here's a quick key to the most prominent of them. Also see **Error! Reference source not found.** for definitions of terms.

~ and **$** - These are codes for italics that we use for reports to get around BCD's and Access's limitation in that area. They can be automatically converted to real italics in the Word mail merge reports.

^ - This is a code for a carriage return, used to break paragraphs in long text fields. It is not required in Access but is required in BCD and has been retained to facilitate conversion to Biotics Tracker. In Word mail merges it is converted to a carriage return when the italics conversion is run.

ECS - NatureServe's eastern region: Connecticut, Delaware, Maine, Florida, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, West Virginia.

MCS - NatureServe's midwestern region: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin.

SCS - NatureServe's southeastern region: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia.

WCS - NatureServe's western region: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington.

LACD - NatureServe's Latin American and Caribbean region.

C, P, ? – This is our shorthand for confidence of geographic occurrence, used for Ecological Division, Conservation Ecoregion, and Country distribution of ecological systems. This field has not been filled out yet for LACD systems.

C= Confident or Certain, P= Predicted / Probable, ?= Possible, X=Extirpated / presumed extirpated

DATA STRUCTURE

Probably the most important caveat to make about this database is that many things about its structure and content where designed over the assumption that ecological systems are groupings of associations, and a link was needed between association and alliances data of the NVC (National Vegetation Classification) and the data related to ecological systems. Given the fact that no such standard classification exists for Latin American vegetation, several of the associated fields bear no significance for the region and therefore have not been filled out in the LAC database. However, we decided to keep the link because several of the Mexican ecological systems overlap with North American systems for which this link is functional.

1. Data design is intended to facilitate conversion of the data to **Biotics Tracker** (NatureServe's tabular data management system). The Ecological Systems Tool is an interim solution for our Ecological Systems data management needs. In the near future the data will be converted into Biotics Tracker and will no longer be maintained in the Ecological Systems Tool. Classifier data may continue to be maintained external to Biotics Tracker for some time after the conversion.

2. **Ecological systems are Elements**, just as associations are, and in Biotics they will be stored in Element files along with associations. Therefore, the fields available for ecological systems are the same as those for associations. This is also true in the Ecological Systems Tool, except that associations and ecological systems are stored in separate tables.

3. **Association and Alliance data** (not developed for the LACD region) are stored in a separate database (miniEcoART.mdb) and linked into Systems.mdb. These linked tables include Alliance, ETC ("Element Tracking (Communities)"), and related tables. Some lookup tables are also stored in miniEcoART.mdb.

4. All tables with ecological system data begin with the word "*Ecogroup*". The main ecological system table (list of ecological systems with basic data) is called "**Ecogroup National**" (with a space after "Ecogroup") and all related tables begin with "**Ecogroup_**" (with an underscore after "Ecogroup"). Some of the related tables contain distributional or other multivalued data (e.g., Ecogroup_ConsEcoreg), while others are extentions of the Ecogroup National table, with one row per ecological systems (e.g., Ecogroup_CCAG).

   Why "Ecogroup"? The database was initially designed for use with Ecogroups and later adapted for use with Ecological Systems. The table names were not changed. The concept of Ecogroups is different than, and a precursor to, the concept of Ecological Systems. Ecogroups are currently not in use by NatureServe.

5. There are two **unique identifiers** for ecological systems: Elcode and EcoNumber/EcoMaster. When referring to an ecological system, it is best to use **Elcode** (also called "System Code"), which is in the form CES[division code].[unique number]. This code will migrate to Biotics Tracker. However, the database itself employs the combination of two fields, **EcoNumber and EcoMaster**, to identify ecological systems. These were necessary when the data were being developed in several different databases and before Elcodes could be developed. Now, in fact, EcoNumber alone is unique to an ecological system, and EcoMaster is not needed, but it was left in place to avoid an overhaul of the database. EcoNumber and EcoMaster will *not* be migrated to Biotics Tracker; they will be replaced by a computer-assigned "information-free" numeric key.

6. **Multi-valued data** that are used in reports are stored in two places: once in the actual data table (e.g., Ecogroup_ConsEcoreg), and once as a formatted delimited list in the table **Ecogroup_Lists**. If the actual data are changed, then the delimited lists must be regenerated in order to reflect the changes. The reason for this static lists table is that Word merges yield unexpected results when the lists are generated programmatically each time the report is run.

7. **Primary Division** and **NLCD Category** are two important **calculated fields**. Reports are sorted by these two values, and they are displayed at the top of the ecological systems form.

   Ecological systems may occur in more than one Ecological Division (see Appendix B), but each is assigned to a **primary division**, which is stored as part of the Elcode (the three digits after the "CES"). It is pulled out as its own "field" when needed.

   A **Land Cover Data (LCD) Category** (broad-scale map category) is calculated for each ecological system based on the classifiers chosen for that ecological system. The result is stored in the Ecogroup_Lists table and must be regenerated (along with the delimited lists) when the data change. The categories are Forest and Woodland, Shrubland, Steppe/Savanna, Herbaceous, Woody Wetland,

Herbaceous Wetland, Mixed Upland and Wetland, and Barren. (See also the LCD_Category table.) The logic for LCD calculation is as follows:

1. If "Non-vegetated" is checked, the LCD category = "Barren"; other classifiers are ignored.

2. If "Wetland" is checked and "Upland" is *not* checked, the value is one of 2 wetland LCD categories. If "Upland" is checked and "Wetland" is not checked, the value is one of 4 upland LCD categories. Otherwise (both "Wetland" and "Upland" are checked, or neither are checked), the value is "Mixed Upland and Wetland".

3. Major physiognomy classifiers are used to choose among the 2 wetland and 4 upland categories.

   (a) If at least one physiognomy value is checked as *diagnostic*, then only the diagnostic values are evaluated. (Otherwise all values are evaluated.)

   (b) Precedence: If more than one diagnostic physiognomy value is listed (or more than one non-diagnostic physiognomy value if no diagnostic are listed), the LCD category is selected based on the physiognomy value of greatest height. In other words, precedence is given to higher height physiognomic classifiers: Forest and Woodland over Shrubland over Woody-Herbaceous over Herbaceous over Moss/Lichen. (The reasoning behind this is that taller strata are more likely to determine map unit than shorter strata.)

8. **Extension tables** contain the long text fields for describing ecological systems. These are Ecogroup_CCAG ("Community Characterization Abstract Global"), Ecogroup_CCAG_Memo (additional CCAG data), EcoGroup_EGR ("Element Global Ranking"), EcoGroup_EORankSpecs ("Element Occurrence Ranking Specifications"), and EcoGroup_EOSpecs ("Element Occurrence Specifications").

9. Other tables in the database are **lookup tables**. These contain basic information about entities that are related to ecological systems, including Ecological Divisions (called "Biogeographic Divisions" in the database design), Classifiers, and Sources.

Below is a list of the tables. Those used only for Latin America & Caribbean data are marked "[LAC]".

Ecological System data tables
ALLIANCE_EcoGroup
EcoGroup National
EcoGroup_ABIRegions
EcoGroup_BioGeoDivision
EcoGroup_CCAG*
EcoGroup_CCAG_Memo*
EcoGroup_CCAG_Sources
Ecogroup_CCAG_Sources_Additional
Ecogroup_Classifiers
EcoGroup_ConsEcoreg
EcoGroup_EGR*
EcoGroup_EORankSpecs*
EcoGroup_EOSpecs*
EcoGroup_LACRegion
Ecogroup_Lists
Ecogroup_Lists_Alliances
EcoGroup_Province
EcoGroup_Section
EcoGroup_States
EcoGroup_Subsection
ETC_EcoGroup
OtherClassif1_EcoGroup [LAC]
OtherClassif2_EcoGroup
OtherClassif3_EcoGroup

Lookup tables
AssignedTo [users]
BioGeographic_Division
BioGeographic_Domain
ClassificationStatus
Classifier Glossary--misc
Classifiers2--Criteria
Classifiers3--PrimaryValues
Classifiers4--SecondaryValues
ConfLevel
CONSECOREG
LAC Floristic Regions [LAC]
Nation
NLCD_Category
OtherClassif1 [LAC]
OtherClassif2
OtherClassif3
Sources--LAC [LAC]
State
WWF Ecoregions [LAC]
WWF UpperLevel [LAC]

Note: "BioGeographic Division" is the old name for Ecological Division. "Ecogroup" is used instead of "System" for historical reasons, as explained in the text.

MiniEcoART tables
ALLIANCE
ALLIANCE_Historic
ETC
ETC_CONSECOREG
ETC_Historic

MiniEcoART lookup tables
Distribution
Pattern
PROV
SECT
SOURCES
Status
SUBSECT
TNCCsReg [NatureServe region]

*Extension table

QUERIES, FORMS, AND REPORTS

The Systems Database Tool comes with a number of queries, forms, and Word mail merge reports. Those of interest to users are available through the user interface, as described in the next section. The queries and forms are secured to prevent modification by users. Users may develop their own queries, forms, and reports; it is suggested that a naming convention be used so that these may be easily distinguished from those that came with the Tool.

How To Incorporate Selection Capabilities Into Your Own Queries

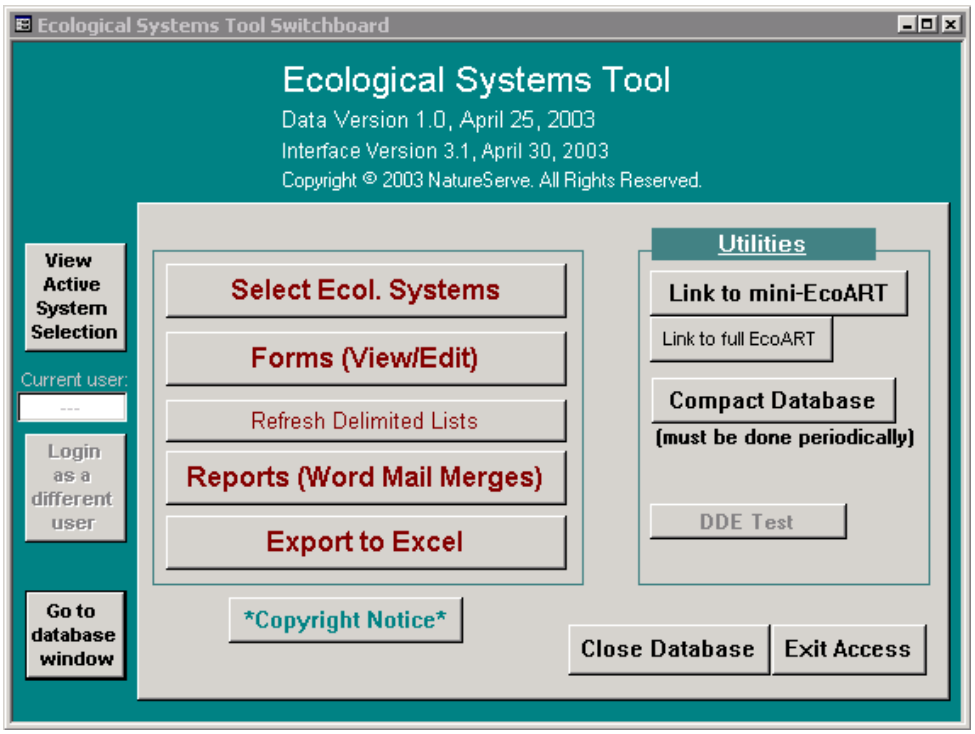
You can easily set up your custom queries so that they, and any forms and reports you base on them, will be affected by the active ecological systems selection (see below). Just add the **"Select"** query into your query and join EcoNumber and EcoMaster to the same fields in your main query table, which will usually be Ecogroup National. This will restrict the results of your query to the active selection, and your results will change with each new selection.

STANDARD FEATURES

THE SWITCHBOARD

The Switchboard is your primary means of navigation in the Ecological Systems Tool. If you lose track of it, go to the Window menu and choose "Ecological Systems Tool Switchboard." The Switchboard page is displayed when you first open the database. It allows you to navigate to all the standard functional "areas" of the Systems Database Tool. Each of the main functional areas is explained below.

(Note: the login feature is disabled in the read-only copy of the database.)

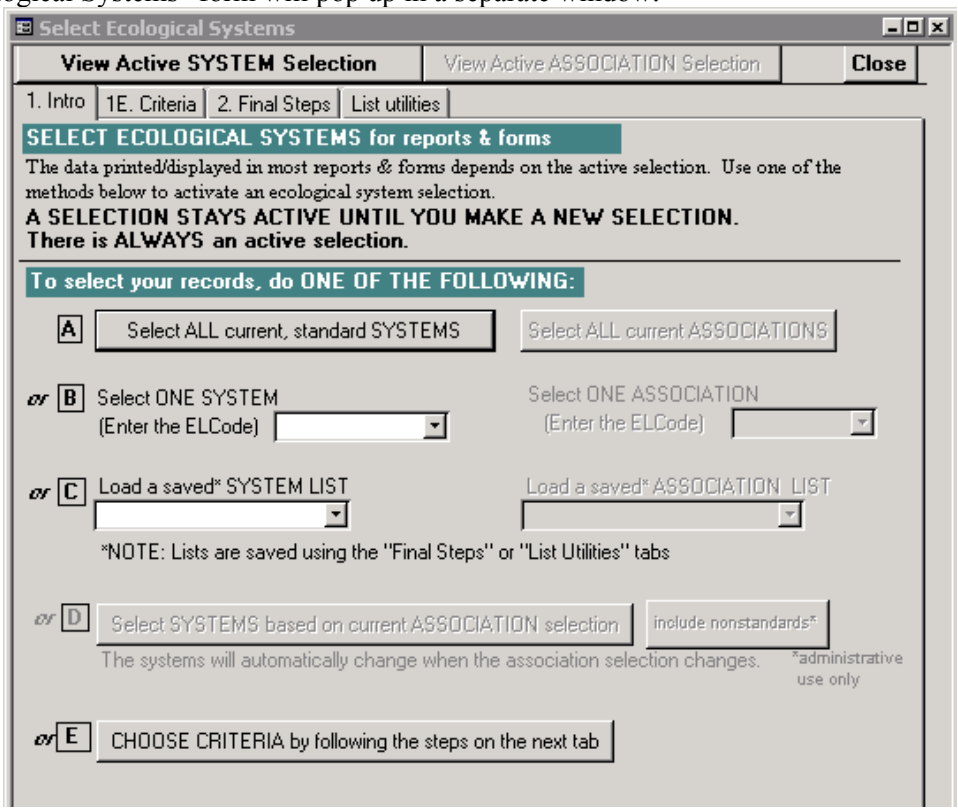


SELECTING RECORDS

A selection of ecological systems is always active. (When you first install the Ecological Systems Tool, the active selection will be *all* ecological systems.) The data printed/displayed in all reports and forms depends on the active selection. This means that if you run a report or a Word merge without first selecting the records you want, you will get the subset of records that was last selected.

To view the current selection, click on the "View Active System Selection" button in the left green Switchboard border area or at the top of the "Select Ecological Systems" form. This button will display a small window showing the query statement that selects the records. The "View Selected Systems" button at the bottom of the window will bring up a table showing the selected ecological systems. At the bottom of this window you can see the total number of ecological systems selected ("Record 1 of x").

To change the active selection, click on the "Select Ecol. Systems" button on the Switchboard. The "Select Ecological Systems" form will pop up in a separate window.



The form has 4 tabs, which are meant to be followed in order:

Tab 1 (Intro) The first tab gives you several choices for selecting ecological systems. (The greyed out buttons are for the unlikely enhancement of associations selections.) You only use 1 option each time you make a selection. Once you have made your choice, a window will pop up to verify your selection.

You may:

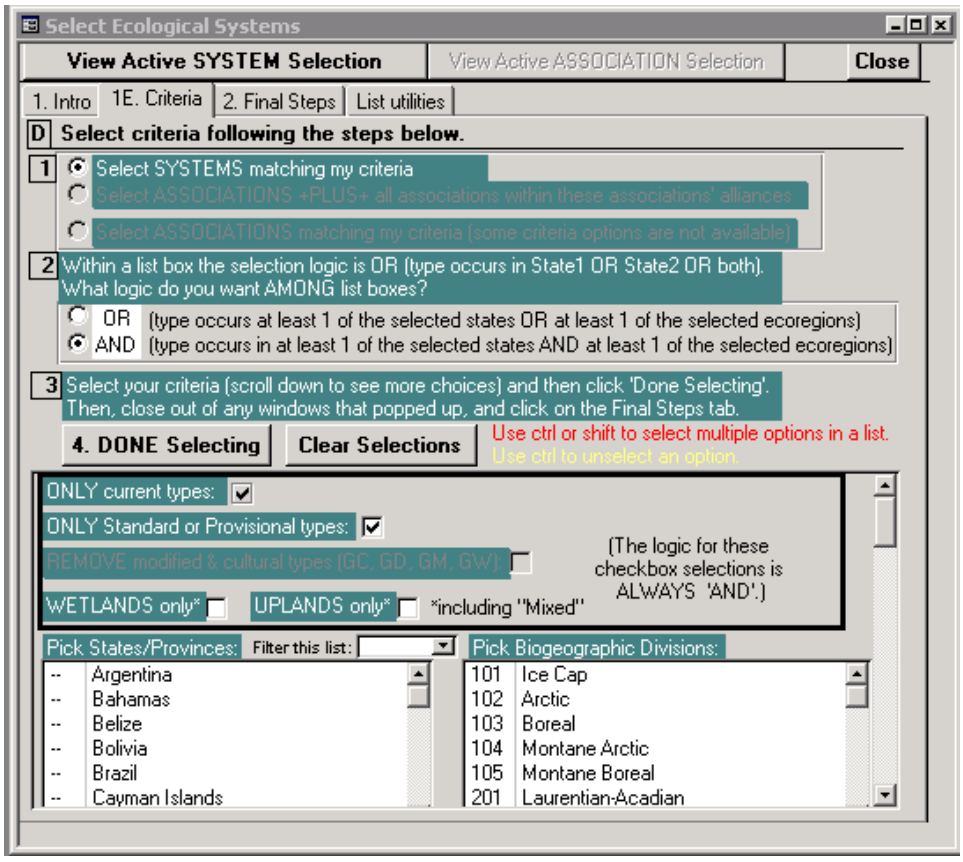
A. select ALL ecological systems,

B. select ONE ecological system using its Elcode,

C. load a saved (static) list of ecological systems (before you can load a saved list, you must have saved it using "Tab 2 (Final Steps)" or the List Utilities tab; see below for instructions), or

E. specify the criteria by which you want to select records. Clicking the button brings you to the next tab where you specify your criteria.

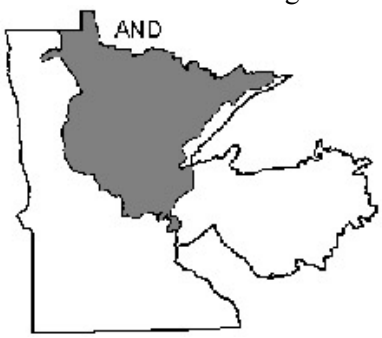
Tab 1E (Criteria) This tab contains option E of the first tab. Use this tab if you want to enter specific selection criteria such as Countries or Ecological Divisions of distribution.



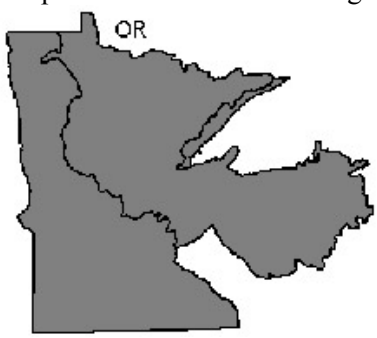
There are 4 steps to choosing your criteria:

1. (Currently there is only one choice for this step.)
2. Choose the selection logic you want to use (*among* list boxes). AND restricts your selection to types that satisfy all criteria, while OR selects types that satisfy 1 or more of your criteria. (*Within* a list box, e.g. Pick States/Provinces, the logic is always OR, the assumption being that you'll almost always want to search for types that occur in Minnesota OR Wisconsin, rather than Minnesota AND Wisconsin. For the latter type of selection, you'll need to create your own query.)

Minnesota **AND**
Superior Mixed Forest ecoregion



Minnesota **OR**
Superior Mixed Forest ecoregion



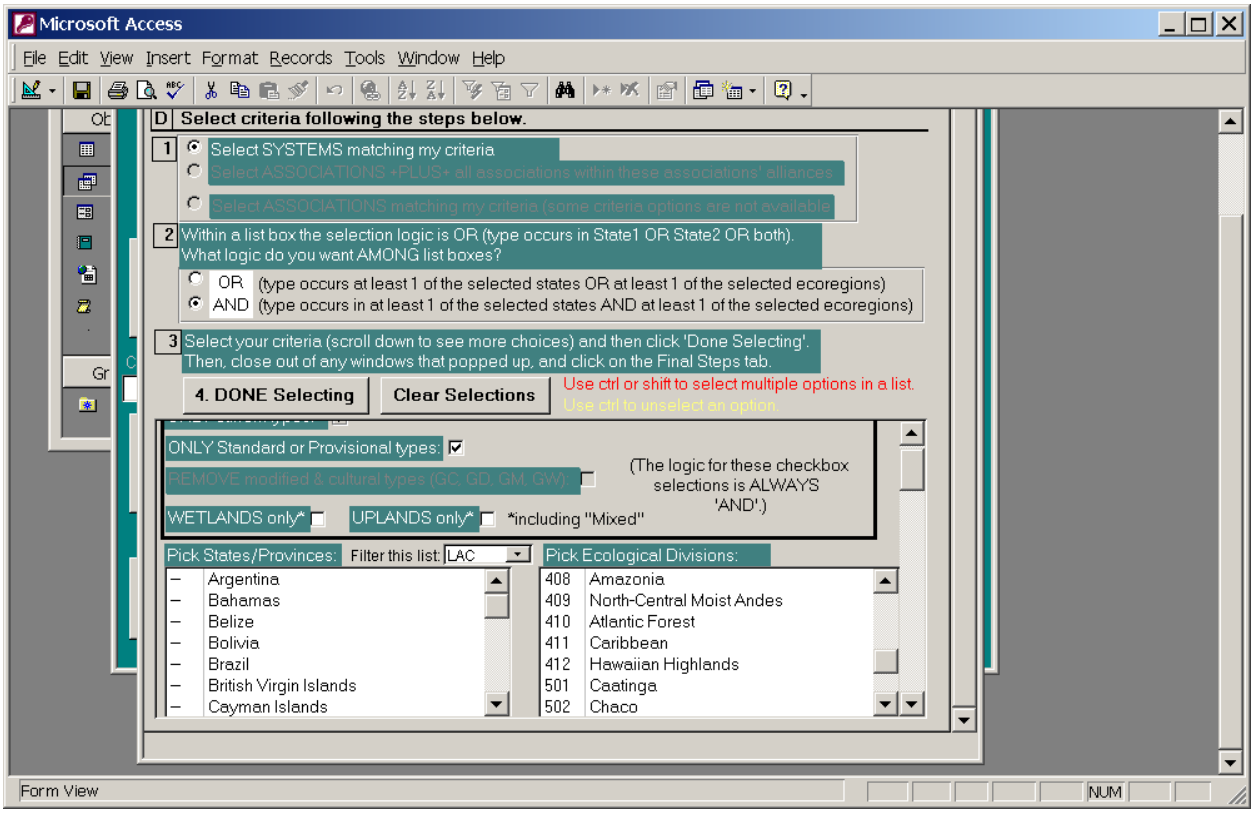
3. Select your criteria.

   ☑ You can only select current types (the "**ONLY current types**" check box is permanently checked).

   ☑ The next check box on the select criteria page is set by default to include **ONLY Standard or Provisional types** in your selection. Currently there are no nonstandard ecological systems.

   ☑ You can select **wetlands** or **uplands** by checking the appropriate box. Some ecological systems are both wetland and upland ("mixed"); these are selected by either choice.

   The other criteria are selected by choosing **one or more** items in a list. (To choose more than one item, hold down Ctrl or Shift while clicking (use Ctrl best, and also use Ctrl to unselect an option.) **Scroll down** to see all the choices. The remaining criteria are mostly geographical, *i.e.* they are related to the distribution of the system. To select by country go to Pick States/Provinces and on the Filter box to the right, choose LAC to have the complete list of LAC countries, as shown here:



You can also select after Ecological Division and if you scroll down, under TNC Conservation Ecoregions, you will find the complete list of WWF Ecoregions. Be aware though, that selecting after ecoregion will result in an incomplete selection because the majority of ecological systems have not been assigned yet to an ecoregion.

4. Click the "DONE selecting" button when you finish your selection. 

Clicking on this button will activate your selection. A window will pop up displaying the query statement that will be used to select records. Clicking the "View Selected Systems" button will display your selected ecological systems.

Tab 2 (Final Steps) This tab contains optional final steps of saving your list (A), closing the selection form (B), or viewing the full query statement you have created (C).

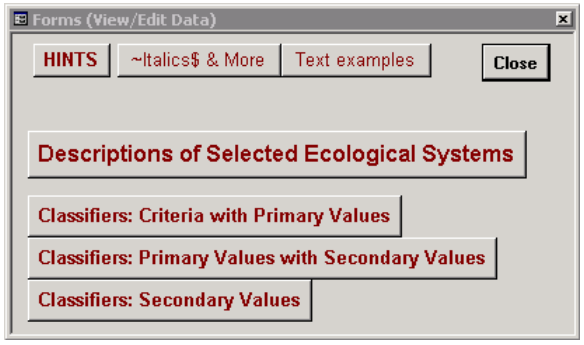
(A) A **saved list**[2] is usually a **table** of the 2 ecological system identifiers EcoNumber and EcoMaster (see Data Structure for an explanation of these fields), but it can also be a **query** that selects systems and returns their EcoNumber and EcoMaster combinations. There are several methods of creating saved lists:

1. Use **Tab 1E (Criteria)** to select your types. When you're done, go to **Tab 2 (Final Steps)** and save the list using option A. You can then load this saved list using the first tab.
2. Use the button on the **List Utilites** tab to create a new list table, then paste or type in the specific EcoNumber and EcoMaster combinations that you want.
3. Import a text file, Excel spreadsheet, or other file into Systems.mdb, or manually create a table or query. You must adhere to the **requirements for saved lists**: the table or query name must begin with "lst" (short for "list"), and it should have a field called "EcoNumber" and a field called "EcoMaster". (It can have additional fields, too.)

List Utilities Tab Use this tab to manage your saved lists. You may create new lists, view and edit existing lists, and delete lists. To view a saved list, double-click on one of the lists displayed. If it's a table you can edit the list of EcoNumber and EcoMaster combinations; if it's a query you can go to View | Design View to edit the query.

FORMS (VIEW/EDIT)

There is one form for viewing ecological systems data, and three forms for viewing definitions of classifiers. The classifier forms ("glossaries") are also accessible from the ecological systems form. Each form is described below.



"Descriptions of Selected Ecological Systems" form

When you open the form, only the types in the active selection will be available. Only one ecological system is visible at a time, and you must click on the tabs to see all the data for that system. To move from type to type, use the record selectors at the bottom of the form, use the "Search" button, or manually search for a type by placing your cursor in the field of interest and using Edit | Find.

CLASSIF. tab: Basic classification of the ecological system, including associations and alliances that are related to the ecological system. As explained above, this field is not developed for the LAC region.

OtherClassif tab: Other classification units (aside from associations and alliances) related to the ecological system. In the LAC systems database, this field is populated for several systems [Classif1 LAC], with local terms given to similar communities or other classification correspondent with the concept of the system.

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[2] Not to be confused with a *delimited* list, which is actual data stored in list form for reporting purposes.

[The third tab (Classifiers) is described below]

DISTRIB. tab: Distribution of the ecological system by Ecological Division, Conservation Ecoregion, (WWF Ecoregion), Nation, and also by LAC-specific floristic regions (by clicking the radio button on the right side of the window to select the LAC Floristic Regions).

DESCRIP. tab: Summary description of the ecological system, characteristic plant species, plus more detailed descriptions of environment, vegetation, and dynamics.

Spatial tab: Only the min. and max. elevation fields were filled out under this tab.

Comm. tab: No data.

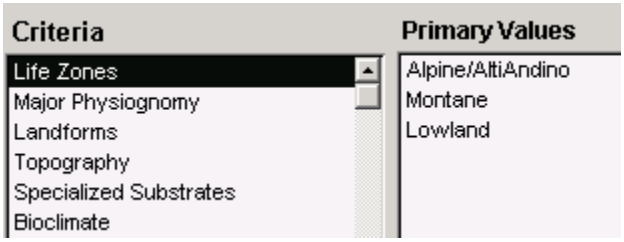
EO SPECS tab: Specifications for defining Element Occurrences for the ecological system. Only filled out for some systems under the Mapping Guidance field, and usually as a reference to a map or mapped unit similar or partially similar in concept to the ecological system.

EO RANK SPECS, Condition, Size, & Landscape tabs: No data. These four tabs will contain the specifications for ranking Element Occurrences of this ecological system.

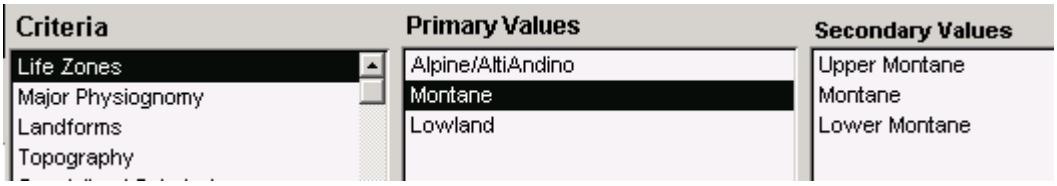
Classifiers tab: Required, Diagnostic, and Non-diagnostic classifiers for this ecological system.

Required classifiers are in the left center of the window. These are the spatial scale and pattern for the ecological system, a choice of Natural/Semi-Natural vs. Planted/Cultivated, a choice of Vegetated vs. Non-vegetated – Nonvascular, and check boxes for upland and wetland. An ecological system can be both an upland and a wetland. (In the editable database, checking either upland or wetland filters the choices available in the Criteria box.)

The *choices* for Diagnostic and non-diagnostic classifiers are shown in the three list boxes in the top half of the window. The first list box, Criteria, contains the list of criteria that one may choose for evaluating an ecological system. When a criterion is chosen (by clicking on it), the possible *values* for that criterion are shown in the Primary Values list box. For example, there are three possible values for the Life Zones criterion.



More detailed information may be provided for some criteria, in the form of Secondary Values. The choice of Secondary Values is dependent on the choice for Primary value. In the Life Zones example, if Montane is chosen as the Primary Value, there are then three choices for Secondary Value: Upper Montane, Montane, and Lower Montane.

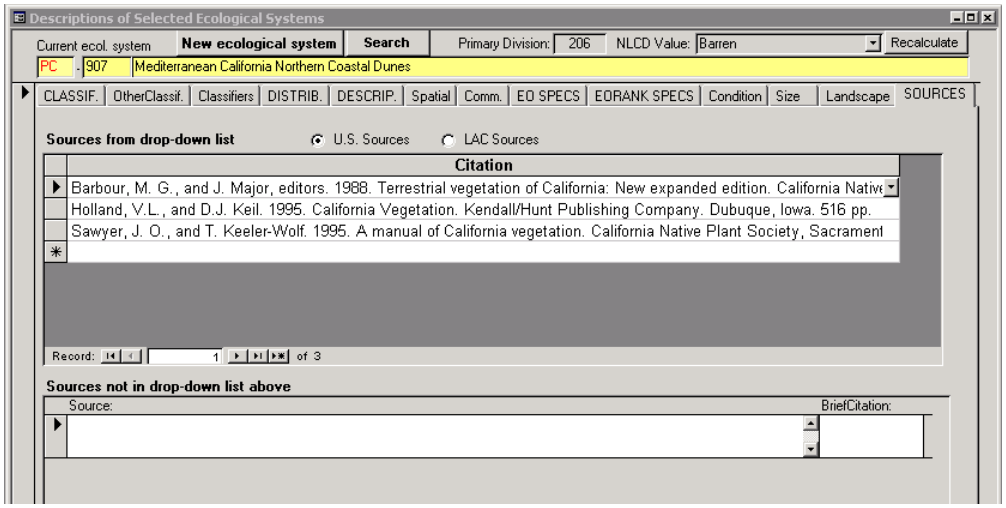


For more information about a classifier, double-click its name in one of the three list boxes, or browse the full list at each level by clicking one of the "Glossary" buttons. These "glossaries" are also available directly from the Switchboard; see Classifiers "Glossary" forms below for more information.

The Diagnostic and non-diagnostic classifiers *selected for an ecological system* are shown in the grid at the bottom of the window. The checkbox indicates if the classifier is diagnostic of the ecological system. (A non-diagnostic classifier is used to describe rather than define the ecological system.) The next column shows the selected criterion, followed by the primary value and optional secondary value. Comments about the choice may be entered in the last column. For a given criterion, more than one primary value (and secondary value) may be chosen; they are shown on separate lines.

How to select classifiers for an ecological system: [not available in the read-only copy of the database] There are two ways. 1) Highlight your choice(s) in the list boxes and click the down-arrow button. Then check the results in the grid below, and click the diagnostic checkbox where applicable. 2) Enter data directly in the grid, using the drop-down boxes in the primary value and secondary value columns. (You must click in the cell to see the drop-down arrow.) The criterion should automatically fill in. **User-defined classifiers** may be added by choosing a classifier that is preceded by a plus sign (+). User-defined classifiers that have already been added appear in the list boxes directly *below* the classifier-preceded-by-a-plus-sign. They are also marked as user-defined in the "glossary".

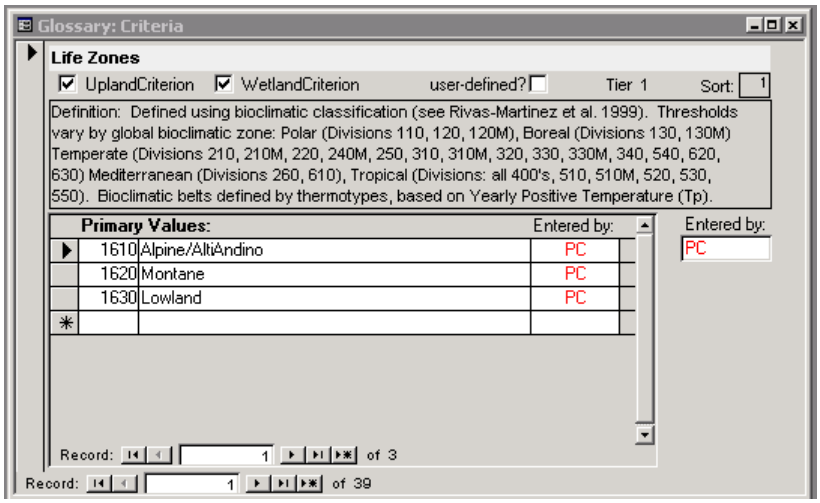
SOURCES tab: References used in defining and describing the ecological system. In the top box sources are selected from a drop-down list (either a U.S. list or an LAC list; select LAC Sources to see the references used for the classification of LAC Systems). The bottom box is for typing in references that are missing from the drop-down list.



Classifiers "Glossary" forms

There is one form each for Criteria, Primary Values, and Secondary Values. The Criteria form includes the list of the primary value options for each criterion, and the Primary Value form includes a list of secondary value options (if any).

Another place to review classifiers is in the queries "Classifiers3--Primary

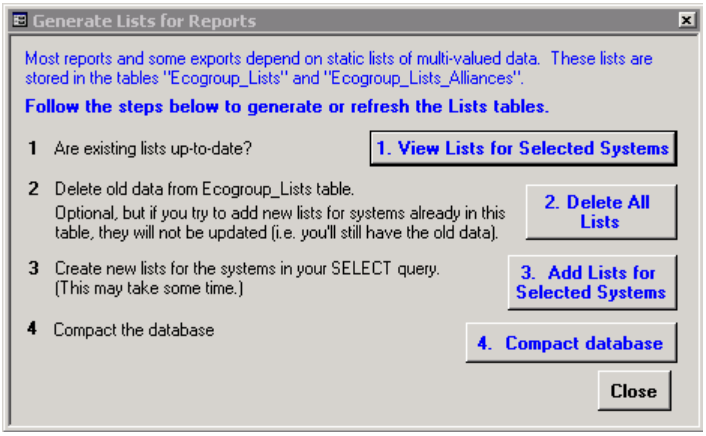


for review" and "Classifiers4--Secondary for review".

REPORTS (WORD MAIL MERGES)

There are several report options; all employ a Word mail merge, and all report only those ecological systems in your active selection. A Table of Contents and Bibliography can easily be appended to your reports (see Text Report Instructions below).

Generating Delimited Lists



[*You will not need to generate lists in the read-only copy of the database.*] Before running your report, you may need to generate the delimited lists[3] for your selected ecological systems. (See "multivalued-data" under Data Structure above.) You do this using the Refresh Lists form that is accessible from the Switchboard and from the Reports form. There are four steps on this form: 1) View lists for selected systems, in order to determine whether or not the lists need to be refreshed or generated for the first time. 2) Delete all (old) lists. 3) Add lists for selected systems. (This is the step that actual calculates the lists and adds them to the Ecogroup_Lists table. No lists will be added for ecological systems that have not been deleted from the Ecogroup_Lists table.) 4) Compact the database. Clicking this button gives you instructions on how to compact the database. It is important to do so because deleting and adding lists leaves a lot of "gaps" in the database.

About the Reports

The reports are run by clicking a button. The buttons are in 2 columns: reports in the left column omit the field headings where there are no data, for a more compact and cleaner report; those in the right column display all field headings so that data gaps are more easily seen.

Report button says….	Description	query name	Word doc
Streamlined report	Summary descriptions	MergeReport_Streamlined	mrgSystemsStreamlined.doc
Streamlined report editing			mrgSystemsStreamlined_Editing.doc
Mid-sized report	Descriptions, most fields	MergeReport_Midsize	mrgSystemsMidsize.doc
Mid-sized report for editing			mrgSystemsMidsize_Editing.doc
Mid-sized with alliances only	Mid-sized report with alliances rather than associations listed	MergeReport_Midsize Alliances only	mrgSystemsMidsizeOnlyAlliances.doc
Mid-sized with alliances + assoc	Mid-sized report with alliances *and* associations listed	MergeReport_Midsize plus Alliances	mrgSystemsMidsizePlusAlliances.doc
EO & EO Rank Specifications report	EO Specs and EO Rank Specs	MergeReport_EOSpecsAndRankSpecs	mrgSystemsEOSpecsAndRankSpecs.doc
EO & Rank Specs for editing			mrgSystemsEOSpecsAndRankSpecs_Editing.doc
Bibliography	Bibliography	MergeReport_Bibliography	mrgBibliography.doc

Given that there are no data on alliances, associations, EO and EO Rank Specifications for LAC Systems, reports linked with these tables are not available in this database. In the Reports, distribution by

[3] Not to be confused with saved lists, which can be used for selecting ecological systems.

ecoregion , when available, is displayed with the WWF Ecoregions code, to find the corresponding ecoregions names go to the WWF Ecoregions Table.

On the next pages are examples of the two main types of reports.

Sample streamlined report

CES408.557 Sabana estacional del S de la Amazonia transicional con el Cerrado

Upland

Spatial Scale & Pattern: Large Patch CJ.557

Required Classifiers: Natural/Semi-natural, Vegetated (>10% vasc.), Upland

Concept: Este sistema incluye las sabanas abiertas y de cobertura leñosa variable que se encuentran en las pendientes y piedemontes de las Sierras que forman el límite norte del Escudo Precámbrico o Planalto del Brasil. En general estas sabanas tienen mucha afinidad florística y fisonómica con las sabanas del Cerrado, pero generalmente se encuentran rodeadas de tipos de bosque que se consideran de afinidad Amazónica.The following list of species is diagnostic for this system: ~Curatella americana, Anacardium microcarpum, Salvertia convallariodora, Hancornia speciosa, Qualea grandiflora, Byrsonima crassifolia, B. verbasifolia, Antonia ovata, Trachypogon spp., Leptocoryphium lanatum.$.

Comments:

Divisions: 408

TNC/WWF Ecoregions: NT0135:, NT0140:

Subnations/Nations: Bolivia:, Brazil:

References: Nelson 1999

CES408.517 Bosque abierto de lianas del S de la Amazonia

Upland

Spatial Scale & Pattern: Large Patch CJ.517

Required Classifiers: Natural/Semi-natural, Vegetated (>10% vasc.), Upland

Concept: Este sistema agrupa los bosques abiertos distintivamente dominados por lianas. Se encuentran en tierra firme y generalmente sobre depósitos minerales, de modo que los suelos son ricos. Ocupa grandes extensiones aunque en un mosaico complejo con bosques húmedos altos y densos. La presencia de abundantes y grandes lianas leñosas a través de los diferentes estratos del bosque es lo que le da una apariencia particular al ecosistema. Las palmas, especialmente, Attalea speciosa, pueden ser también un componente importante en estos bosques abiertos.The following list of species is diagnostic for this system: ~Apuleia molaris, Bagassa guianensis, Caryocar villosum, Hymenaea parvifolia, Tetragastris altissima, Astronium graveolens, A. le-cointei, Apuleia leiocarpa var. molaris, Sapium marmieri, Acacia polyphylla, Elizabetha sp., Bertholletia excelsa, Swietenia macrophylla, Cenostigma tocantinum, Ziziphus itacaiunensis, Bauhinia bombaciflora, Zollernia paraensis, Cordia goeldiana$.

Comments:

Divisions: 408

TNC/WWF Ecoregions: NT0135:, NT0140:, NT0168:, NT0173:

Subnations/Nations: Brazil:

References: Nelson 1999, Pires 1985, WWF 2003

CES408.519 Bosque bien drenado de terrazas de ríos de aguas blancas del NW de la Amazonía

Upland

Spatial Scale & Pattern: Linear CJ.519

Required Classifiers: Natural/Semi-natural, Vegetated (>10% vasc.), Upland

Concept: Sistema de los bosques pluviales altos, de las terrazas bien drenadas de los ríos de aguas blancas de la Amazonía NW.The following list of species is diagnostic for this system: ~Goupia glabra, Clathrotropis macrocarpa, Dacryodes cf. roraimensis, Sloanea aff. macroana, Pouteria sp., Scleronema micranthum, Virola calophylloidea, Swartzia schomburgkii, Protium grandifolium, Mezilaurus itauba, Tachigali aff. paniculata.$.

Comments:

Divisions: 408

TNC/WWF Ecoregions: NT0107:, NT0163:

Subnations/Nations: Brazil:, Colombia:

References: Etter 1998

CES408.520 Bosque bien drenado de terrazas de ríos de aguas claras del NW de la Amazonia

Upland

Spatial Scale & Pattern: Linear CJ.520

Required Classifiers: Natural/Semi-natural, Vegetated (>10% vasc.), Upland

Concept: Sistema formado por comunidades de bosques bien drenados de terrazas medias de los ríos de aguas claras de la Amazonia NW. Se incluyen también las comunidades bien drenadas de la llanura aluvial que crecen sobre los diques y están representadas por bosques altos con la palma Euterpe precatoria.The following list of species is diagnostic for this system: ~Goupia glabra, Clathrotropis macrocarpa, Dacryodes cf. roraimensis, Sloanea aff. macroana, Pouteria sp., Scleronema micranthum, Virola calophylloidea, Euterpe precatoria, Didymocistus chrysadenius, Licania longistyla, Micropholis guyanensis, Micranda spruceana, Eschweilera rufifolia$.

Comments:

Divisions: 408

TNC/WWF Ecoregions: NT0107:, NT0163:

Subnations/Nations: Brazil:, Colombia:

References: Duivenvoorden 1995, Etter 1993

CES408.521 Bosque de la planicie sedimentaria de la Amazonia Central

Upland

Spatial Scale & Pattern: Matrix CJ.521

Required Classifiers: Natural/Semi-natural, Vegetated (>10% vasc.), Upland

Concept: Sistema de bosques tropicales húmedos siempreverdes, con el dosel de 30m en promedio y emergentes de más de 40m de alto; tienen unos 4 estratos más por debajo del dosel incluyendo el herbáceo que es relativamente disperso. Presentan numerosas hemiepífitas y epífitas y muchos de los árboles grandes tienen raíces tablares. Se desarrollan sobre los suelos bien drenados de las planicies sedimentarias y en las laderas de los valles de las redes de drenaje. La topografía es ligeramente ondulada y los suelos son de tipo arcilloso (latosoles) provenientes de sedimentos del Terciario y pobres en nutrientes. Debido a la riqueza de la Amazonia y a que el sistema ocupa una región muy extensa, hay variaciones en la composición que se expresan sobre todo de este a oeste, aunque también las diferentes cuencas tributarias del Amazonas parecen presentar características específicas.The following list of species is diagnostic for this system: ~Las familias más importantes son Leguminosae, Lecythidaceae, Chrysobalanaceae, Sapotaceae, Moraceae, Vochysiaceae, Moraceae$.

Comments:

Divisions: 408

TNC/WWF Ecoregions: NT0132:, NT0133:, NT0135:, NT0157:, NT0168:, NT0173:, NT0180:

Subnations/Nations: Brazil:

References: Nelson 1999, Pires 1985, Valle Ferreira 1998, WWF & IUCN 1997

SAMPLE Midsize Report

CES408.517 Bosque abierto de lianas del S de la Amazonia

Division 408

Spatial Scale & Pattern: Large Patch

Required Classifiers: Natural/Semi-natural, Vegetated (>10% vasc.), Upland

Diagnostic Classifiers: Forest and Woodland (Treed), Udic

Non-Diagnostic Classifiers: Lowland [Lowland], Tropical/Subtropical [Tropical Pluviseasonal]

Concept Summary: Este sistema agrupa los bosques abiertos distintivamente dominados por lianas. Se encuentran en tierra firme y generalmente sobre depósitos minerales, de modo que los suelos son ricos. Ocupa grandes extensiones aunque en un mosaico complejo con bosques húmedos altos y densos. La presencia de abundantes y grandes lianas leñosas a través de los diferentes estratos del bosque es lo que le da una apariencia particular al ecosistema. Las palmas, especialmente, Attalea speciosa, pueden ser también un componente importante en estos bosques abiertos.The following list of species is diagnostic for this system: ~Apuleia molaris, Bagassa guianensis, Caryocar villosum, Hymenaea parvifolia, Tetragastris altissima, Astronium graveolens, A. le-cointei, Apuleia leiocarpa var. molaris, Sapium marmieri, Acacia polyphylla, Elizabetha sp., Bertholletia excelsa, Swietenia macrophylla, Cenostigma tocantinum, Ziziphus itacaiunensis, Bauhinia bombaciflora, Zollernia paraensis, Cordia goeldiana$.

DISTRIBUTION

Ecological Divisions: 408

TNC Ecoregions: NT0135:, NT0140:, NT0168:, NT0173:

Subnations/Nations: Brazil:

CONCEPT

Environment: Ocurren en terreno elevado u ondulado en zona de interfluvios disectados por pequeños ríos de aguas negras. Suelos ricos con alto contenido de minerales.

Vegetation: Bosques siempreverdes de dosel abierto o irregularmente cerrado y de máximo 25 m de alto, aunque hay árboles emergentes dispersos. Los distingue además la presencia de muchas lianas dispuestas a través de los diferentes estratos leñosos.

Dynamics: Late successional

SOURCES

References: Nelson 1999, Pires 1985, WWF 2003

Last updated: 10 Jul 2003

Stakeholders:

LeadResp: LAC

CES408.520 Bosque bien drenado de terrazas de ríos de aguas claras del NW de la Amazonia

Division 408

Spatial Scale & Pattern: Linear

Required Classifiers: Natural/Semi-natural, Vegetated (>10% vasc.), Upland

Diagnostic Classifiers: Lowland [Lowland], Forest and Woodland (Treed), Udic, Riverine / Alluvial [Blackwater]

Non-Diagnostic Classifiers: Tropical/Subtropical [Tropical Pluvial]

Concept Summary: Sistema formado por comunidades de bosques bien drenados de terrazas medias de los ríos de aguas claras de la Amazonia NW. Se incluyen también las comunidades bien drenadas de la llanura aluvial que crecen sobre los diques y están representadas por bosques altos con la palma Euterpe precatoria.The following list of species is diagnostic for this system: ~Goupia glabra, Clathrotropis macrocarpa, Dacryodes cf. roraimensis, Sloanea aff. macroana, Pouteria sp., Scleronema

micranthum, Virola calophylloidea, Euterpe precatoria, Didymocistus chrysadenius, Licania longistyla, Micropholis guyanensis, Micranda spruceana, Eschweilera rufifolia$.

DISTRIBUTION

Ecological Divisions: 408

TNC Ecoregions: NT0107:, NT0163:

Subnations/Nations: Brazil:, Colombia:

CONCEPT

Environment: Terrazas entre 10-30 m sobre el nivel promedio del agua de los ríos, con una topografía mayormente plana o levemente disectada. Se incluyen también los diques bien drenados.

Vegetation: Bosques altos 17-35 m, densos y con un sotobosque denso también.

Dynamics: La influencia de la dinámica fluvial está atenuada por lo esporádico de las inundaciones.

SOURCES

References: Duivenvoorden 1995, Etter 1993

Last updated: 10 Jul 2003 **Stakeholders:**

LeadResp: LAC

CES408.557 Sabana estacional del S de la Amazonia transicional con el Cerrado

Division 408

Spatial Scale & Pattern: Large Patch

Required Classifiers: Natural/Semi-natural, Vegetated (>10% vasc.), Upland

Diagnostic Classifiers: Lowland [Foothill], Lowland [Lowland], Grassland, Savanna, Steppe (graminoid-dominated), Ustic

Non-Diagnostic Classifiers: Tropical/Subtropical [Tropical Pluviseasonal]

Concept Summary: Este sistema incluye las sabanas abiertas y de cobertura leñosa variable que se encuentran en las pendientes y piedemontes de las Sierras que forman el límite norte del Escudo Precámbrico o Planalto del Brasil. En general estas sabanas tienen mucha afinidad florística y fisonómica con las sabanas del Cerrado, pero generalmente se encuentran rodeadas de tipos de bosque que se consideran de afinidad Amazónica.The following list of species is diagnostic for this system: ~Curatella americana, Anacardium microcarpum, Salvertia convallariodora, Hancornia speciosa, Qualea grandiflora, Byrsonima crassifolia, B. verbasifolia, Antonia ovata, Trachypogon spp., Leptocoryphium lanatum.$.

DISTRIBUTION

Ecological Divisions: 408

TNC Ecoregions: NT0135:, NT0140:

Subnations/Nations: Bolivia:, Brazil:

CONCEPT

Environment: Pendientes de inclinación variable, desde menos de 8% hasta 30% con suelos lateríticos, ácidos, bien drenados. En esta región la topografía es irregular por la presencia de Sierras y colinas que forman las cuencas altas de ríos como el Xingu, afluente del Amazonas.

Vegetation: Por tratarse de ocurrencias de menor superficie y disyuntas de la distribución continua de los diferentes tipos de sabanas del Cerrado, se incluyen por ahora en este sistema las varias formas o cerrado sensu lato, desde sabana abierta con arbustos muy dispersos y enanos hasta sabana arbolada.

Dynamics: Sistema influenciado por quemas.

SOURCES

References: Nelson 1999

Last updated: 10 Jul 2003

Stakeholders:

LeadResp: LAC

Text Report Instructions

Clicking on your choice of these reports will run the appropriate merge, creating a new Word document called "Catalog1" that you can save with any name you like. (Word may ask you if you want to save the changes you made to the basic merge document. It doesn't much matter, but just say 'yes' and save it.)

The merge may take a long time. Make sure that Word isn't blinking at you with a question, and then just wait. (Look at the bottom left corner of your Word window for progress.) You may even get a "this is taking longer than expected" error message. This does not mean it is not working. Tips for faster merges include: making smaller selections of records, increasing your hard drive space (to increase virtual memory), increasing your RAM (real memory), and working with the database on your hard-drive rather than over a network.

Converting ~ and $ to italics and ^ to carriage return

To convert italics and carriage return symbols:

1. First save and close the document resulting from the merge,
2. then reopen it. (Don't ask us why you have to do this—ask Microsoft!)

There should now be a floating toolbar with a button that says, "Convert italics." (Despite the button name, it also converts the carriage return symbols.) Click on this button to perform the conversion.

If the toolbar doesn't show up after doing steps 1 and 2, try one of the following:

3. Check to see that macros are enabled in your copy of Word, and answer "enable macros" if asked. The italics conversion utility is a Word macro, so it will not work if macros are disabled.
4. Go to View | Toolbars and activate the "Ecological Systems Tool" toolbar if it is listed.
5. Go to Tools | Templates and Add-Ins and set the Document Template to "Systems template.dot", which should be in your Ecological Systems Tool directory. If the toolbar still doesn't show up, go back to step 3, and try 1 and 2 again if you have to!
6. See FAQs & Troubleshooting below for instructions on manually converting these special characters.

Adding a Table of Contents

To add a table of contents (list of ecological systems with page numbers):

1. If the floating toolbar is not already displaying, follow the instructions above under Converting ~ and $ to italics and ^ to carriage return.
2. Once the toolbar is displayed, click on the "Insert TOC" button and a table of contents will automatically be added. If you see an odd code rather than the table of contents, click the {a} button.
3. To update a table of contents, put your cursor in the table and hit F9, or use the right-click menu.

You can also insert your own table of contents (Insert | Index and Tables... | Table of Contents) using the Heading Styles that are automatically set up in each merged report.

Creating a Bibliography

With the same active ecological systems selection, click on the Bibliography button. Append the resulting document to your report.

Items to include when you distribute Ecological Systems Tool reports

These documents are provided with the Ecological Systems Tool in Microsoft Word format.

You must include all text from Systems title page.doc.

Systems title page.doc contains information that must be included when distributing an ecological systems report, and also provides a framework for your report.

1. First open Systems title page.doc and *save it under a different filename*.
2. On the first and second pages of the document, fill in the grey fields with your specific information.

3. Then copy the two pieces of your report (ecological system descriptions with table of contents + bibliography) into the appropriate slots.

The required text from Systems title page.doc includes:

1. The actual title page
2. Acknowledgements,
3. Citation (how to cite the report),
4. Copyright notice, and
5. The Executive Summary from "Ecological Systems of Latin America and the Caribbean: A Working Classification of Terrestrial Systems."

You may include additional items if desired:

1. Bibliography (see Creating a Bibliography above)
2. Appendix B from this document (map of Latin American and Caribbean Ecological Divisions). Paste it at the end of your document. They should appear in the overall table of contents when you update it (use F9).
3. The full ecological systems report (Josse, C., G. Navarro, P. Comer, R. Evans, D. Faber-Langendoen, M. Fellows, G. Kittel, S. Menard, M. Pyne, M. Reid, K. Schulz, K. Snow, and J. Teague. 2003. *Ecological Systems of Latin America and the Caribbean: A Working Classification of Terrestrial Systems.* NatureServe, Arlington, VA.)
4. Appendix C from this document (annotated bibliography/web site list).

Custom text reports (Word mail merges)

You can copy any of the Word merge documents, give them a new name, and edit them for your specific purposes. To edit, you will need to view the field codes in your Word doc (Tools | Options, View tab, check the Field codes box). Then you can remove and add fields, and move stuff around, change headings, and so on. Note that the Word merge "If..Then" statement is used to suppress field headings where there is no data.

To add fields that do not already appear in the report, you will first need to add the field to the underlying query. [In the read-only copy you must save the query under a different name in order to edit it. You'll need to link your report to this new query.] To determine the query used for the report, refer to the table under About the Reports above. You will need to run your custom report manually from Word (as described in the next section).

Warning: There is a limit of 16,295 characters *per record* when running Word merges; if this limit is exceeded, the merge stops with no error message. (This is why there is not much basic information at the beginning of the EO Specs report.) To determine the maximum number of characters per record in your custom report, select the ecological systems for the report and run the DDE test available in the Utilities section of the Switchboard. Remove fields from your underlying query to correct the problem.

Manually Running Word Merge Reports

You will need to run a merge report manually if (1) the report is not running properly from the Ecological Systems Tool switchboard, or (2) you want to use your own modified reports.

1. Use the database to change the active ecological system selection, if needed. If the Word document is open as you do this, you need to close and reopen the Word document for the change to take effect.
2. Open the Word merge document (in the same directory as Systems.mdb) directly in Word.
3. Click on Tools | Mail Merge. The mail merge helper should open and say, "The main document and the data source are ready to merge…" at the top.
4. Click the Merge button (#3).

See FAQs & Troubleshooting below for instructions if Word gives you error messages, such as "can't find data source", or if you get unexpected results.

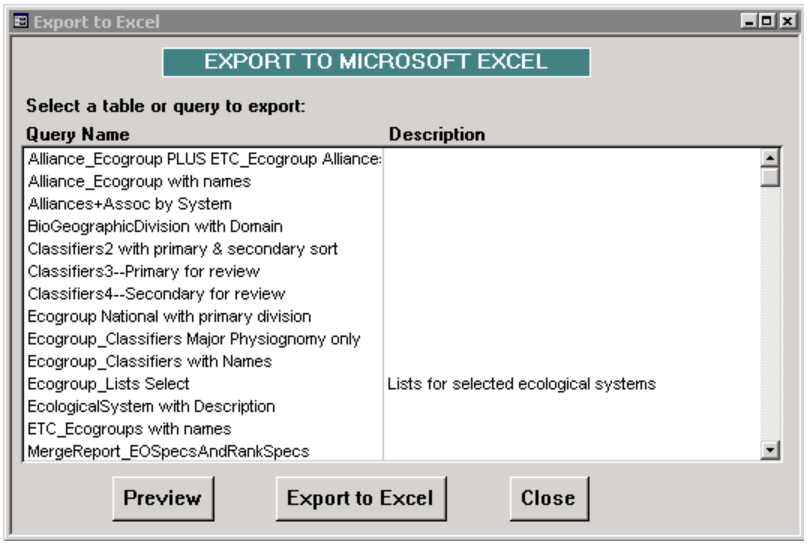
EXPORT TO EXCEL (AND OTHER FORMATS)

The Word mail merges described above are a way to export text data from Access to Microsoft Word.

You can also export any table or query to Excel, delimited text, or other delimited, editable formats, as described in this section. For some exports, you will need to generate lists for your selection before running the export (see Generating Delimited Lists above).

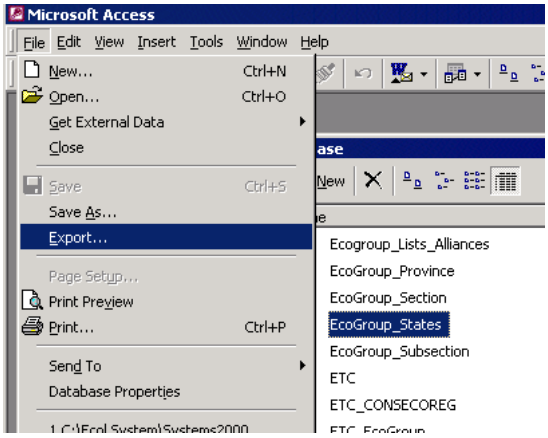
Built-in Tabular Exports

There are several exports to Excel built in to the Ecological Systems Tool. On the Switchboard click "Export to Excel". Here you may select a query and click a button to preview or export to Excel 5.0. You may also double-click a query to preview.



Manual Tabular Exports

Access allows you to export any table or query to a variety of formats. There is also the ability to export forms and reports, but the results are less predictable. (NOTE: Access allows you to export to rich text (.rtf) files that can be opened in Word. However, we have found that data can be lost or inexplicably relocated if you export long records or long descriptive fields.)



To manually export a table, query, form, or report:

1. Open the table, query, form, or report or select it in the database window.
2. On the File menu, click Save As/Export
3. Choose "To an External File or Database" and click OK.
4. Choose the file type, name, and location for your new file and click "Export."

If the format you want is not available, you will need to reinstall some Access components. For more information on exporting from Access, search Access help for "Exporting data; Export data to another database or file format".

FAQS & TROUBLESHOOTING

SELECTION ISSUES

Q: My selection is choosing many more records than I thought I selected.
A: One of the following may be the problem:
1. Make sure you have the correct LOGIC (AND or OR) selected. OR will always select at least as many records as AND; usually a lot more.
2. Try closing & reopening the table, query, form, report, or Word merge in which you are seeing your selection. If you make a selection while one of these is open, the view is not automatically refreshed.

WORD MAIL MERGE ISSUES

Q. I tried to run a merge and got a message (in Word) that Word couldn't find the data source.
A. This can happen for several reasons:
1. You are not correctly linked to mini-EcoART. (See INSTALLING THE ECOLOGICAL SYSTEMS TOOL.)
2. You have not generated delimited lists for your selection, and all the blank fields have tricked Word into thinking there are no data at all. Generate the lists for your systems selection.
3. Your selection isn't valid (e.g., the saved list you chose no longer exists).
4. You have a memory problem. Try selecting fewer records.
5. The link between the Word document and the database was broken. Follow the following steps:
   a. Click on "Get Data", and choose "Open Data Source".
   b. At the bottom of the Open Data Source window set "Files of Type" to "MS Access Databases (*.mdb)". Make sure the "Select Method" box is UNCHECKED. Open "Systems.mdb".
   c. A Microsoft Access box with 2 tabs should open up. Click on the "Queries" tab and select the appropriate query as shown in the table under About the Reports. Make sure "Link to query" is checked, and click OK.
   d. Click on "Merge" to run the merge, or close the Mail Merge Helper.
   e. SAVE THE MERGE DOCUMENT (e.g., mrgSystemsMidsize.doc) so that you don't have to go through these steps again.

Q. I got the message "File name or class name not found during Automation operation."
A. Access can't find the Word document. Make sure it's in the same directory as the database. See the table under About the Reports for the name of the Word document for each report.

Q. There are data missing from my reports, e.g., stakeholders, the list of associations, the NLCD category. What happened?
A. These data are delimited lists (with the exception of the NLCD category, which is stored in the lists table) and must be generated from the actual data tables. Generate the lists for your selected systems.

Q. I tried running a Word Merge for a large number of selected records and nothing seemed to happen for a really looooooong time.
A. First, switch to Word or Access to make sure neither program is waiting for a response from you. (Often, Word will ask if you want to enable the macros in the document, which you do if you want to be able to convert italics and add a table of contents.) If that's not the problem, realize that Word merges take up a lot of system resources. If your computer is limited in memory, speed, or hard drive space, you may have difficulties. Obviously, the more system resources you have, the faster the Word merges will run. Rule number one is BE PATIENT. Just because it's taking a long time, doesn't mean it's not working. Other things to try: close all other programs, clear off hard drive space by deleting unneeded files and defragmenting, restart your computer for a fresh start on memory, and run merges on smaller selections (you can put them together after the merges are done).

Q. Instead of my Table of Contents and page numbers I see strange stuff in brackets.
A. You need to turn off display of field codes. Got to Tools | Options , show the View tab, and uncheck the Field Codes box.

Q. I need to manually convert italics (~$) and carriage returns (^).
A. You need to do 4 search & replaces:

I. Add italics formatting.
1. With your cursor at the beginning of the document, choose Edit | Replace.
2. Click on "More" and check the "Use Wildcards" box.
3. In the "Find what" box enter the following: ~*$
4. With your cursor in the "Replace what" box choose Format | Font and select "Italic" under "Font Style" and choose OK. Make sure the box is empty.
5. Click on "Replace All".

II. Remove the ~ symbol.
6. Uncheck the "Use Wildcards" box.
7. In the "Find what" box enter the following: ~
8. With your cursor in the "Replace what" box choose "No Formatting". The box must be empty.
9. Click on "Replace All".

III. Remove the $ symbol.
10. In the "Find what" box enter the following: $
11. "Use Wildcards" box must be unchecked and the "Replace what" box empty with "No formatting"
12. Click on "Replace All".

IV. Convert the ^ symbol to a carriage return (or whatever you like).
13. "Use Wildcards" box must be unchecked and the "Replace what" box with "No formatting."
14. In the "Find what" box enter the following: ^
15. In the "Replace what" box enter the following: ^p (or whatever you'd like)
16. Click on "Replace All".

Q: The Word merge document is not showing the records I thought I selected.
A: Things to try, in this order:
1. View your ecological systems selection to make sure it's correct. If not, try the selection again.
2. If the Word merge document was open *before* you made your selection, close and reopen it.
3. Check the maximum record length using the DDE Test available in the Utilities section of the Switchboard. You may need to reduce the number of fields in your query.
4. Try reopening the data source ("Get Data Source" in Word), in case it's not pointing to the right place.

Q. I keep getting lots of instances of Access open.
A. Although Word sometimes opens more than one instance of Access, it is only using the last opened version which should close automatically. You can close the older instances at any time.

Q. Word asks me if I want to save the merge file even if I didn't make any changes.
A. It usually does this, so don't worry. Just choose Yes or No, whichever you think is safer. (Do save the file if you've fixed the link to Access, so that you don't have to do it each time you run a merge.)

WEIRD ACCESS ISSUES

Q: When I make my own queries, Access won't let me sort on the CITATION field.
A: "Citation" is a memo field, and Access does not allow you to sort on memo fields. The work-around is to sort by the first 255 characters in the citation field. To do this, type the following expression into your query: **Left(Citation,255)**. Uncheck the "Show" box to hide the sorting field in your results.

Q: In some tables with long text data, the text looks all garbled and/or my computer locks up.
The problem is probably a miscommunication between Access and the computer's video card. It only happens with especially long text fields (more than 2212 characters long). Try reducing the video acceleration of the computer: right-click on My Computer (on your desktop), choose "Properties", go to the "Performance" tab, Click on the "Graphics" button, and reduce your "Hardware acceleration" to 33% (i.e. 2nd notch from the left). Then say OK and reboot your computer. Good luck!

APPENDIX A: COMPONENTS OF THE ECOLOGICAL SYSTEMS TOOL

Databases Files:

Systems.mdb	the database you actually use
miniEcoART.mdb	database containing International Vegetation Classification data

Word merge files:

mrgBibliography.doc	Bibliography for any Systems report
mrgSystemsEOSpecsAndRankSpecs.doc	EO Specs and EO Rank Specs for Systems
mrgSystemsEOSpecsAndRankSpecs_Editing.doc	Same as previous but field names always displayed
mrgSystemsMidsize.doc	Systems descriptions, most fields
mrgSystemsMidsize_Editing.doc	Same as previous but field names always displayed
mrgSystemsMidsizeOnlyAlliances.doc	mrgSystemsMidsize.doc with alliances rather than associations listed
mrgSystemsMidsizePlusAlliances.doc	mrgSystemsMidsize.doc with alliances *and* associations
mrgSystemsStreamlined.doc	Summary Systems descriptions
mrgSystemsStreamlined_Editing.doc	Same as previous but field names always displayed

Word merge accessory file:

Systems template.dot	Word template for merge documents. Contains the "convert italics" and "Add TOC" macros.

Required Addition to reports:

Systems title page.doc	Title page, copyright notice, acknowledgements, and executive summary to "A Working Classification of Terrestrial Ecological Systems in the Coterminous United States."

Optional Additions to reports:

US_Ecological_Systems.pdf	"A Working Classification of Terrestrial Ecological Systems in the Coterminous United States" (full ecological systems report)
appendix.doc	Contains a map of North American Ecological Divisions, a map of TNC ecoregions, and a glossary

Miscellaneous Files:

Systems database manual.doc	this manual
Systems title page.bac	Extra copy of "Systems title page.doc" in case it's overwritten

APPENDIX B: ECOLOGICAL DIVISIONS

APPENDIX C: A SHORT ANNOTATED BIBLIOGRAPHY

General information about the IECS, NatureServe, and The Nature Conservancy:

http://www.natureserve.org/

NatureServe's website, with links to NatureServe documents, to the Natural Heritage Network Directory, and to NatureServe Explorer

http://www.natureserveexplorer.org

Direct address for NatureServe Explorer, the public website that provides data on communities and organisms tracked by NatureServe and the Heritage network

http://www.natureserve.org/ecology

The NatureServe Ecology website, where you can download the Ecological Systems Tool and EcoART

http://nature.org/

The Nature Conservancy's website.

Grossman, D. H., D. Faber-Langendoen, A. W. Weakley, M. Anderson, P. Bourgeron, R. Crawford, K. Goodin, S. Landaal, K. Metzler, K. D. Patterson, M. Pyne, M. Reid, and L. Sneddon. 1998. International classification of ecological communities: Terrestrial vegetation of the United States. Volume I. The National Vegetation Classification System: development, status, and applications. The Nature Conservancy, Arlington, VA.

A comprehensive explanation of the classification, especially its development. Available at http://www.natureserve.org/publications/library.jsp.

Maybury, K. P., editor. 1999. Seeing the forest and the trees: Ecological classification for conservation. The Nature Conservancy, Arlington, VA.

A shorter overview of the classification and its uses, written for a not-necessarily-scientific audience. Available at http://www.natureserve.org/publications/library.jsp.

Information about ecoregions:

http://www.worlwildlife.org/ecoregions

Provides WWF biogeographic regionalization of the Earth's terrestrial biodiversity "a map of terrestrial biodiversity that gives enough detail to be useful in global and regional conservation priority-setting and planning efforts". These ecoregions were adopted by TNC as well as their standard planning units in LAC.

http://www.fs.fed.us/institute/ecolink.html

Provides a map of the U.S. Forest Service's ecoregions of the United States to the Section level. Also has an electronic version of the National Hierarchical Framework of Ecological Units, which describes how the Forest Service classifies and maps areas based on various ecological factors at different geographic scales.

Bailey, R. G. 1995. Description of the ecoregions of the United States. U.S. Forest Service Miscellaneous Publication 1391 (revised), with separate map at a scale of 1:7,500,000, Washington, D.C.

Bailey, R.G. 1998. Ecoregions map of North America: Explanatory note. U.S. Forest Service Miscellaneous Publication 1548. Washington, D.C.

McNab, W.H., and P.E. Avers, editors. 1994. Ecological subregions of the United States: Section descriptions. U.S. Forest Service Administrative Publication WO-WSA-5, Washington, D.C.

Help Using Access 97 (*Website and a few Access manuals recommended by some of our staff*)**:**

http://support.microsoft.com/support/help/gs.asp *Microsoft's support website*

Kaufeld, John. 1996. Access 97 for Windows for Dummies. IDG Books Workdwide. Foster City, CA

Prague C. N. and M. R. Irwin. 1997. Access 97 Bible. IDG Books Worldwide. Foster City, CA

Tinney, Diane. 1998. Learn Access on a weekend. Prima Publishing. Rocklin, CA