

Historical Perspectives and Recommendations for revision of the Agricultural Handbook 296

Webinar March 24th 2015

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National Ecological Site Team

Jornada Experimental Range

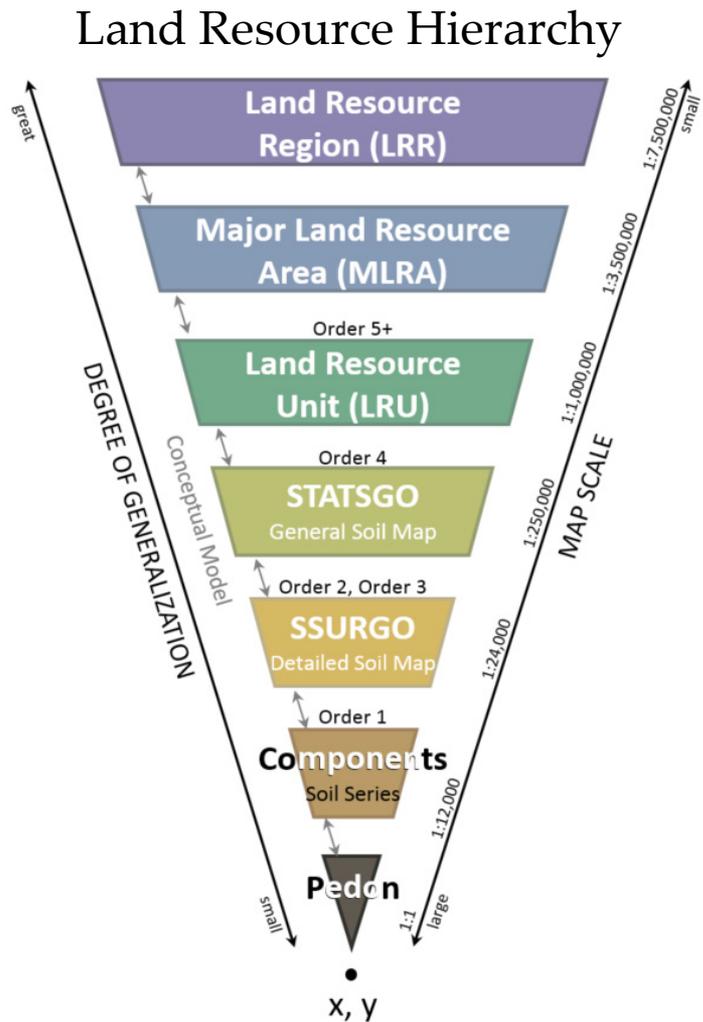


Outline

- Use of MLRA
- Historical sources and development of Major Land Resource Area's since the 1930's
- Data Associated with MLRA
- Recommendations for MLRA



Land Resource Areas are used for:

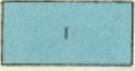
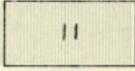
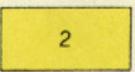


1. As a basis for making decisions about agricultural issues;
2. As a framework for organizing and operating resource conservation programs;
3. For the geographic organization of research and conservation needs and the data derived from these activities;
4. For coordinating technical guides within and between States;
5. For organizing, displaying, and using data in physical resource inventories;
6. For aggregating natural resource data.

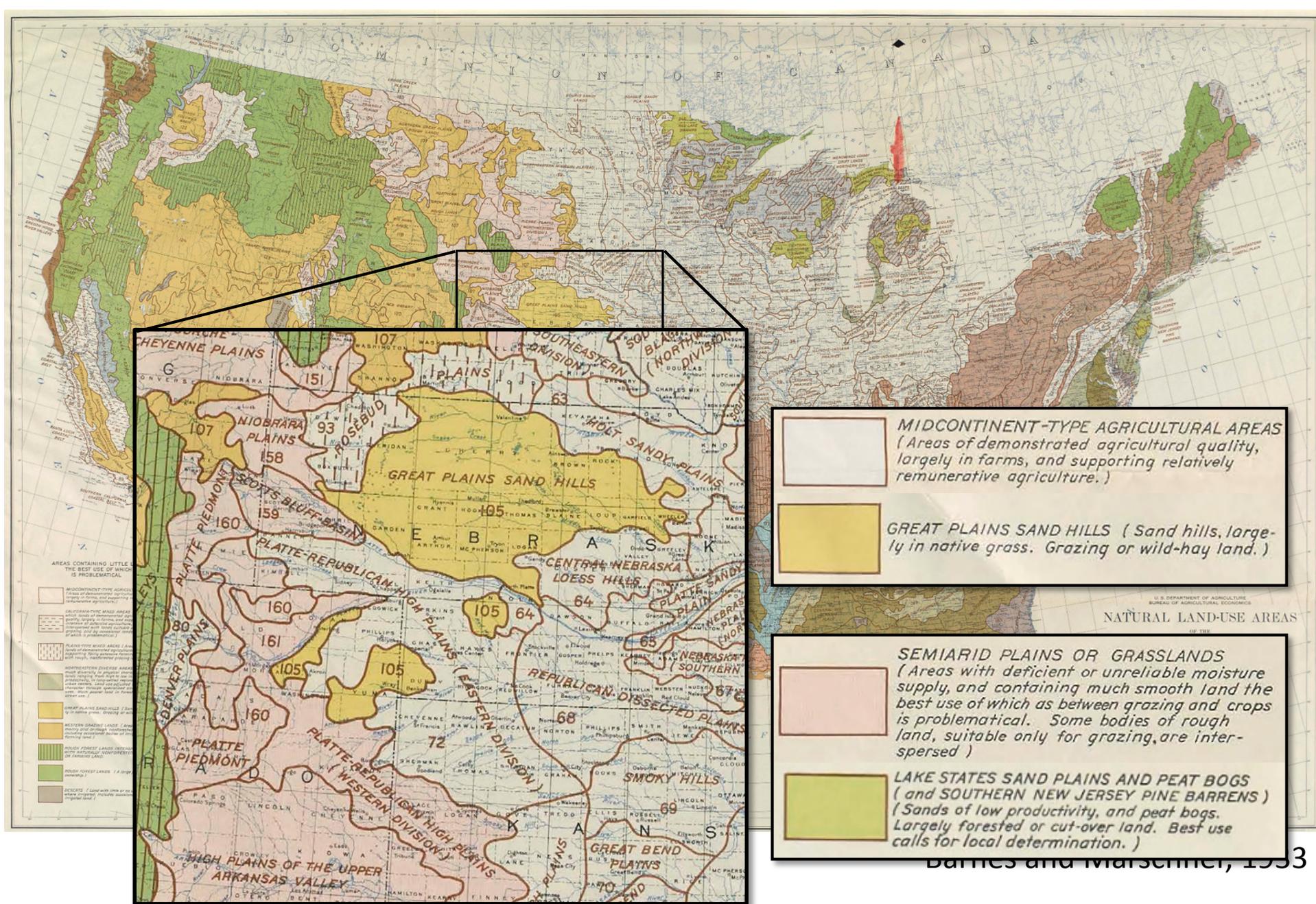
UNITED STATES DEPARTMENT OF AGRICULTURE
 BUREAU OF CHEMISTRY AND SOILS, H. G. KNIGHT, CHIEF
DISTRIBUTION OF THE GREAT SOIL GROUPS
 (SOIL PROVINCES)
 C. F. MARBUT
 WASHINGTON, D. C.
 1931



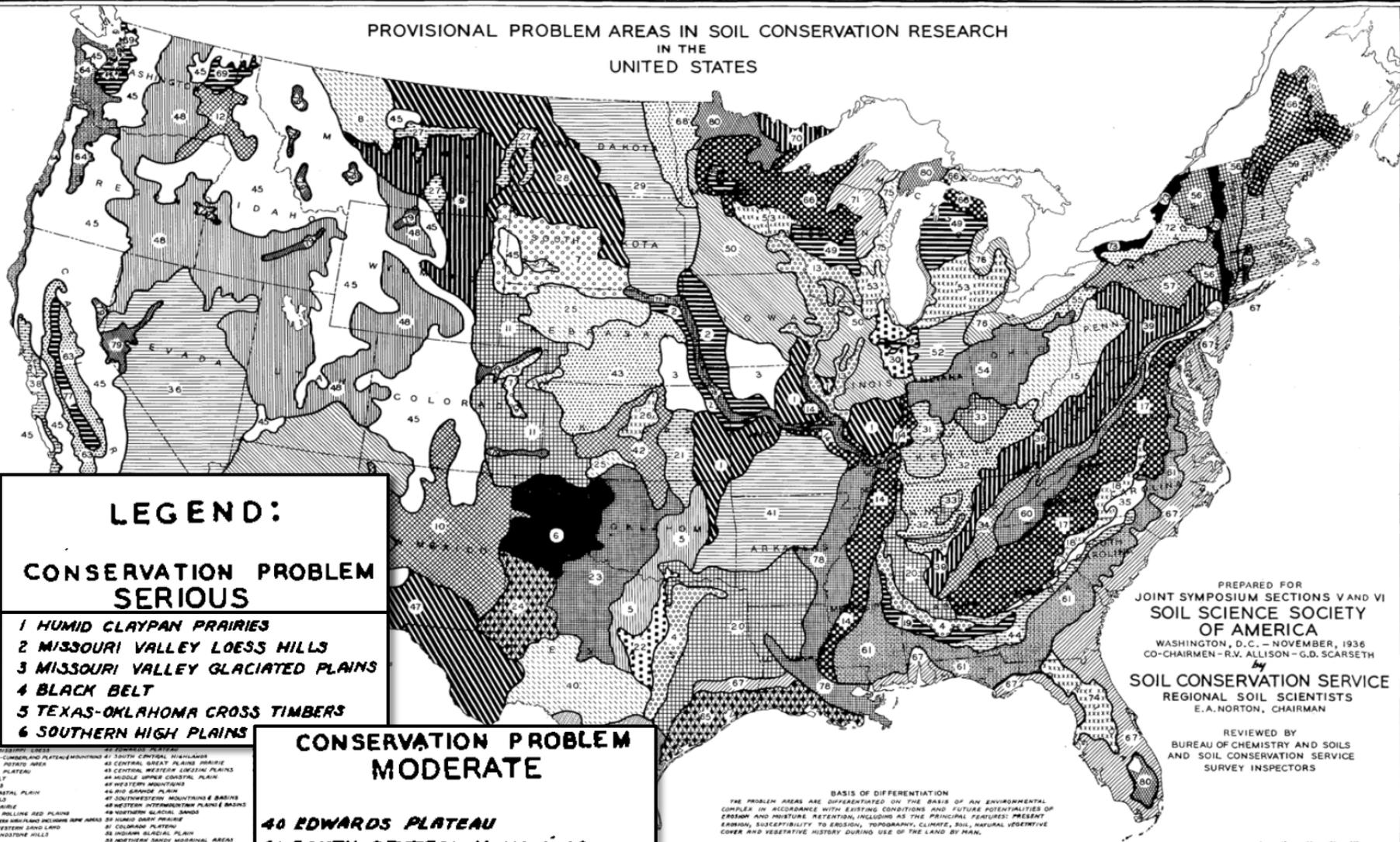
LEGEND

<p>I Podzol Soils</p> 	<p>V Northern Chernozem Soils</p> 	<p>VIII Northern Gray Desert Soils</p> 
<p>II Gray-Brown Podzolic Soils</p> 	<p>V Southern Chernozem Soils</p> 	<p>VIII Southern Gray Desert Soils</p> 

FRANCIS J. MARSENER
 CHARTOGRAPHER, BUREAU OF AGRICULTURAL ECONOMICS
 1931
 Scale 1:800,000
 Kilometers
 Statute Miles



PROVISIONAL PROBLEM AREAS IN SOIL CONSERVATION RESEARCH
IN THE
UNITED STATES



LEGEND:

CONSERVATION PROBLEM SERIOUS

- 1 HUMID CLAYPAN PRAIRIES
- 2 MISSOURI VALLEY LOESS HILLS
- 3 MISSOURI VALLEY GLACIATED PLAINS
- 4 BLACK BELT
- 5 TEXAS-OKLAHOMA CROSS TIMBERS
- 6 SOUTHERN HIGH PLAINS

CONSERVATION PROBLEM MODERATE

- 40 EDWARDS PLATEAU
- 41 SOUTH CENTRAL HIGHLANDS
- 42 CENTRAL GREAT PLAINS PRAIRIE

CONSERVATION PROBLEM SLIGHT

- 65 GULF COAST PRAIRIE
- 66 NORTHERN GRAY TIMBERLANDS
- 67 COASTAL FLATWOODS
- 68 RED RIVER VALLEY

- CONSERVATION PROBLEM AREAS KEYED BY NUMBER ON
- 1 HUMAN CL.
 - 2 MISSOURI
 - 3 BLACK BE.
 - 4 TEXAS-OK.
 - 5 PRAIRIE CL.
 - 6 SOUTHWEST.
 - 7 BROWN M.
 - 8 SOUTHWEST.
 - 9 CENTRAL
 - 10 SOUTHWEST.
 - 11 UPPER MI.
 - 12 LOWER MISSISSIPPI
 - 13 MISSISSIPPI
 - 14 MISSISSIPPI
 - 15 MISSISSIPPI
 - 16 CLAY BELT
 - 17 MISSISSIPPI
 - 18 CLAY BELT
 - 19 UPPER MISSISSIPPI
 - 20 PLANT HILLS
 - 21 SOUTHWEST
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PREPARED FOR
JOINT SYMPOSIUM SECTIONS V AND VI
SOIL SCIENCE SOCIETY
OF AMERICA
WASHINGTON, D.C. - NOVEMBER, 1936
CO-CHAIRMEN - R.V. ALLISON - G.D. SCARSETH

SOIL CONSERVATION SERVICE
REGIONAL SOIL SCIENTISTS
E.A. NORTON, CHAIRMAN

REVIEWED BY
BUREAU OF CHEMISTRY AND SOILS
AND SOIL CONSERVATION SERVICE
SURVEY INSPECTORS

BASIS OF DIFFERENTIATION
THE PROBLEM AREAS ARE DIFFERENTIATED ON THE BASIS OF AN ENVIRONMENTAL
COMPLEX BY ACCORDANCE WITH EXISTING CONDITIONS AND FUTURE POTENTIALITIES OF
EROSION AND MOISTURE RETENTION, INCLUDING AS THE PRINCIPAL FEATURES: PRESENT
EROSION, SUSCEPTIBILITY TO EROSION, TOPOGRAPHY, CLIMATE, SOIL, NATURAL VEGETATIVE
COVER AND VEGETATIVE HISTORY DURING USE OF THE LAND BY MAN.

Norton, 1937

1937: 80 Problem Areas

1938: 10 Regions / 56 Problem Areas, 30 subdivisions

1944: 9 Regions / 67 Problem Areas, 82 Subdivisions

1950: 9 Physiographic Regions / 155 Problem Areas

D – GREAT PLAINS

D12 – Nebraska Sand Hills

D22 – Southern High Plains

F – SOUTHWESTERN BASINS AND MOUNTAINS

F9 – Sonoran Highlands

F12 – Trans-Pecos Basins, Mountains, and Plateaus

LEGEND

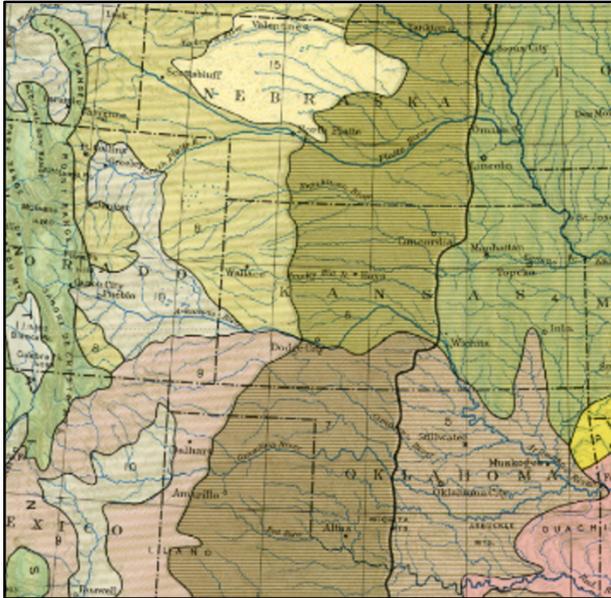
- PHYSIOGRAPHIC REGIONS
- PROBLEM AREAS IN SOIL CONSERVATION

JULY 1950

Names of problem areas shown on back of map

Problem Areas in Soil Conservation, SCS, 1950

Regional Soil Surveys

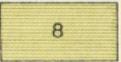


1931

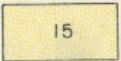
Northern Chernozem Soils



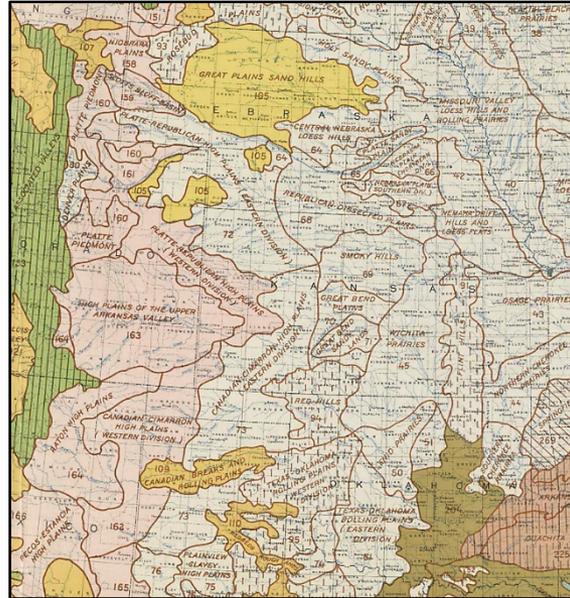
Northern Dark-Brown Soils



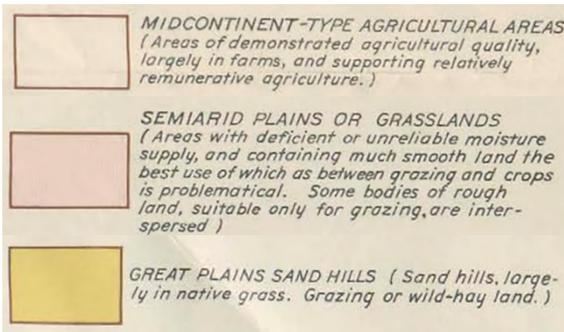
Sandhills of Nebraska



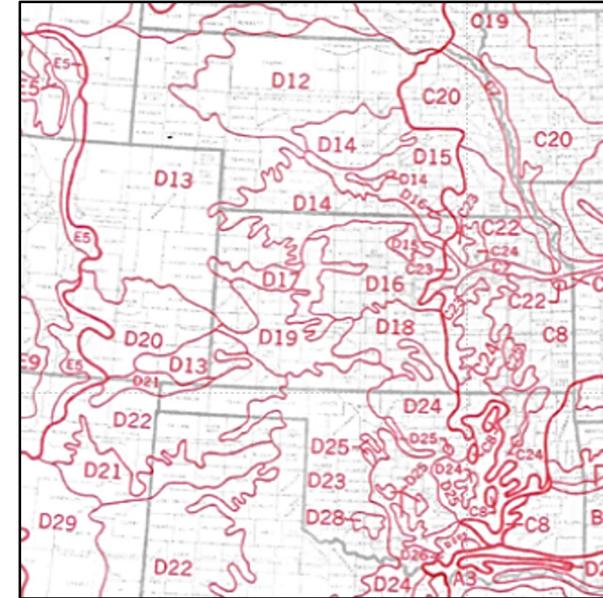
Natural Land Use



1933



Soil Conservation Problem Areas



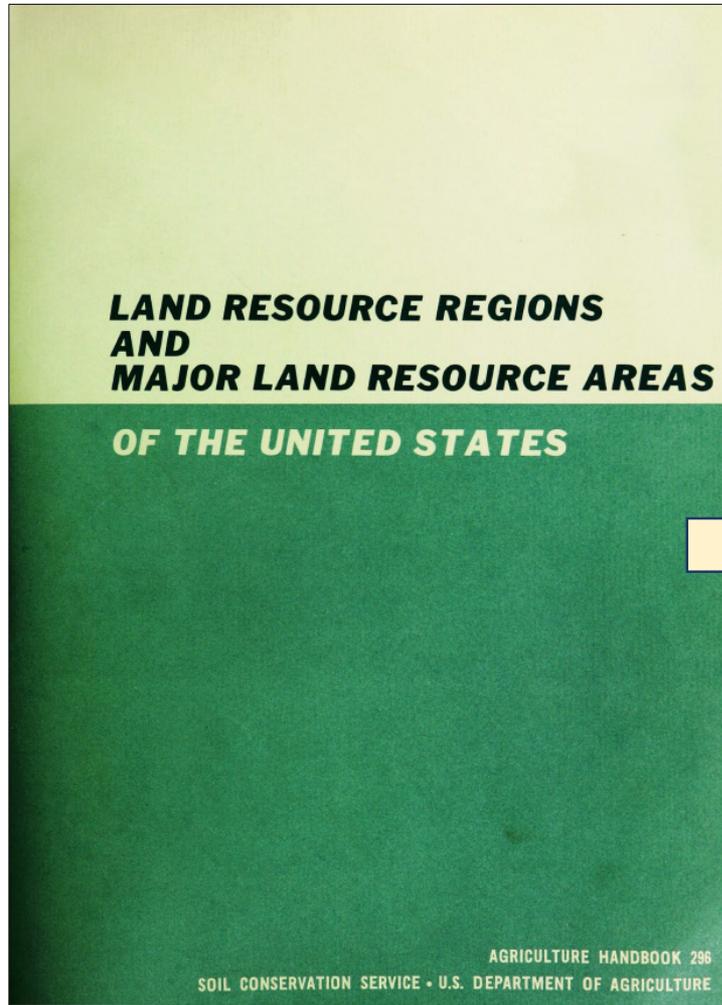
1937/1950

CONSERVATION PROBLEM SERIOUS

- 1 HUMID CLAYPAN PRAIRIES
- 2 MISSOURI VALLEY LOESS HILLS
- 3 MISSOURI VALLEY GLACIATED PLAINS
- 4 BLACK BELT
- 5 TEXAS-OKLAHOMA CROSS TIMBERS
- 6 SOUTHERN HIGH PLAINS
- E5 CENTRAL WESTERN SAND LAND

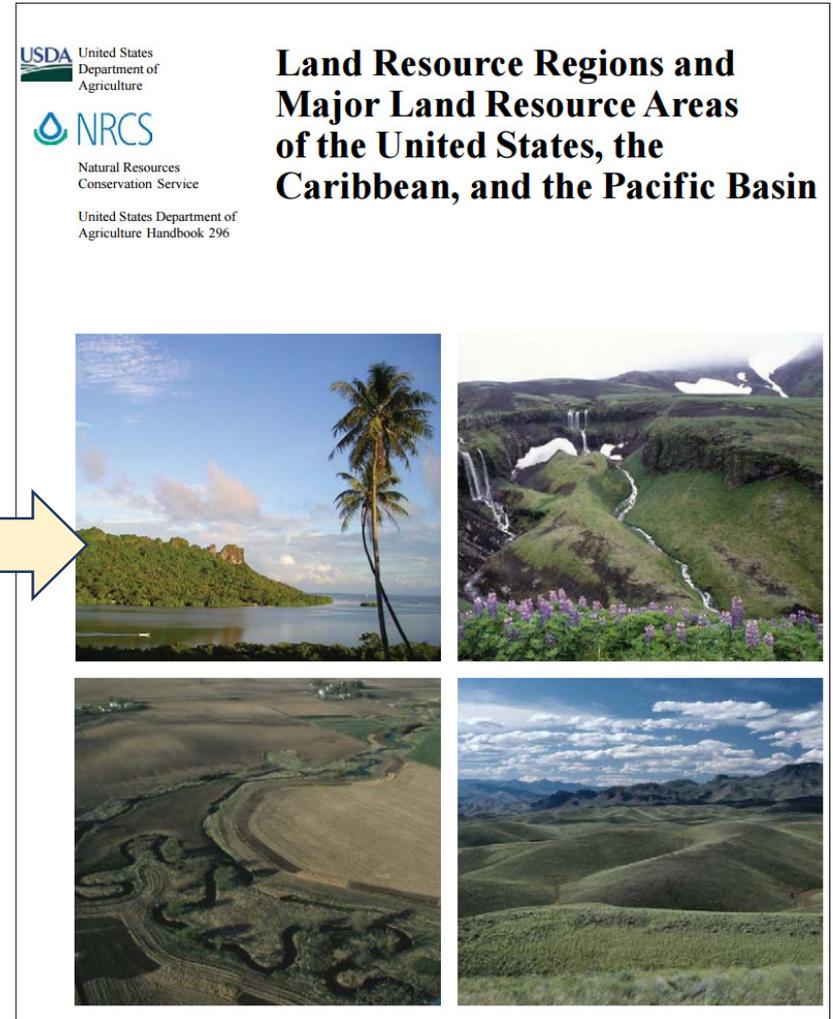
- D12 - Nebraska Sand Hills
- D13 - Northern Brown Plains
- D21 - Cimarron-Canadian Breaks
- D22 - Southern High Plains

Agricultural Handbook #296



1965

Pgs:81



2006

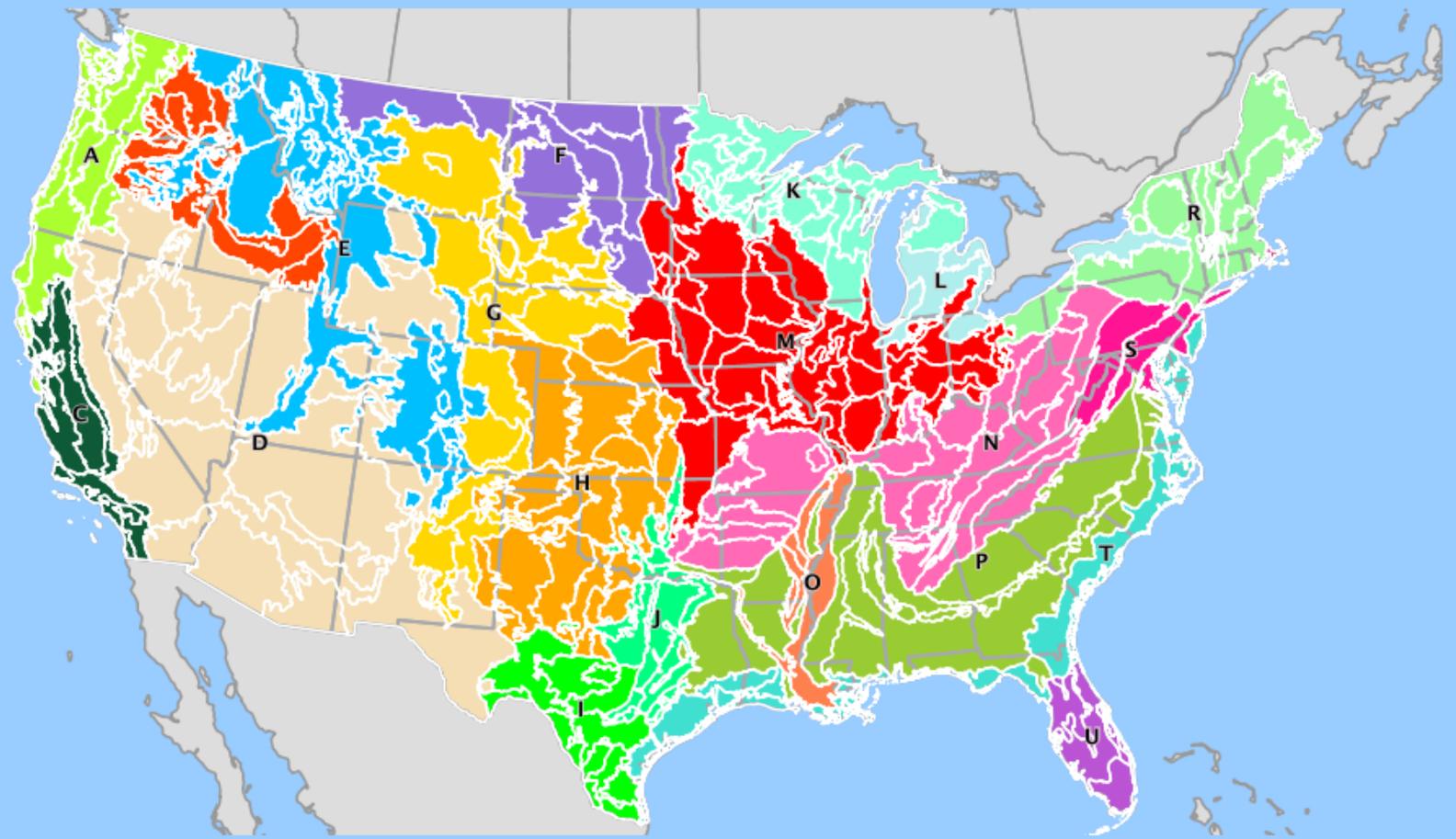
Pgs:669

-- SELECT AN LRR --

Select MLRAs

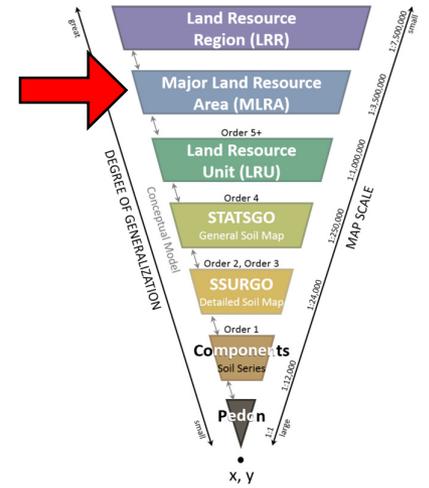
- Check/Clear All
- Physiography Climate
- Geology Water
- Biology Soils
- Land Use LRR Overview

Create report



Data Associated with MLRA

Major Land Resource Areas



Physiography

Geology

Climate

Water

Soils

Biological Resources

Land Use

Historic Maps (1946)

Hydrologic Units (1984)

State & Federal Maps

PRISM

USGS Reports

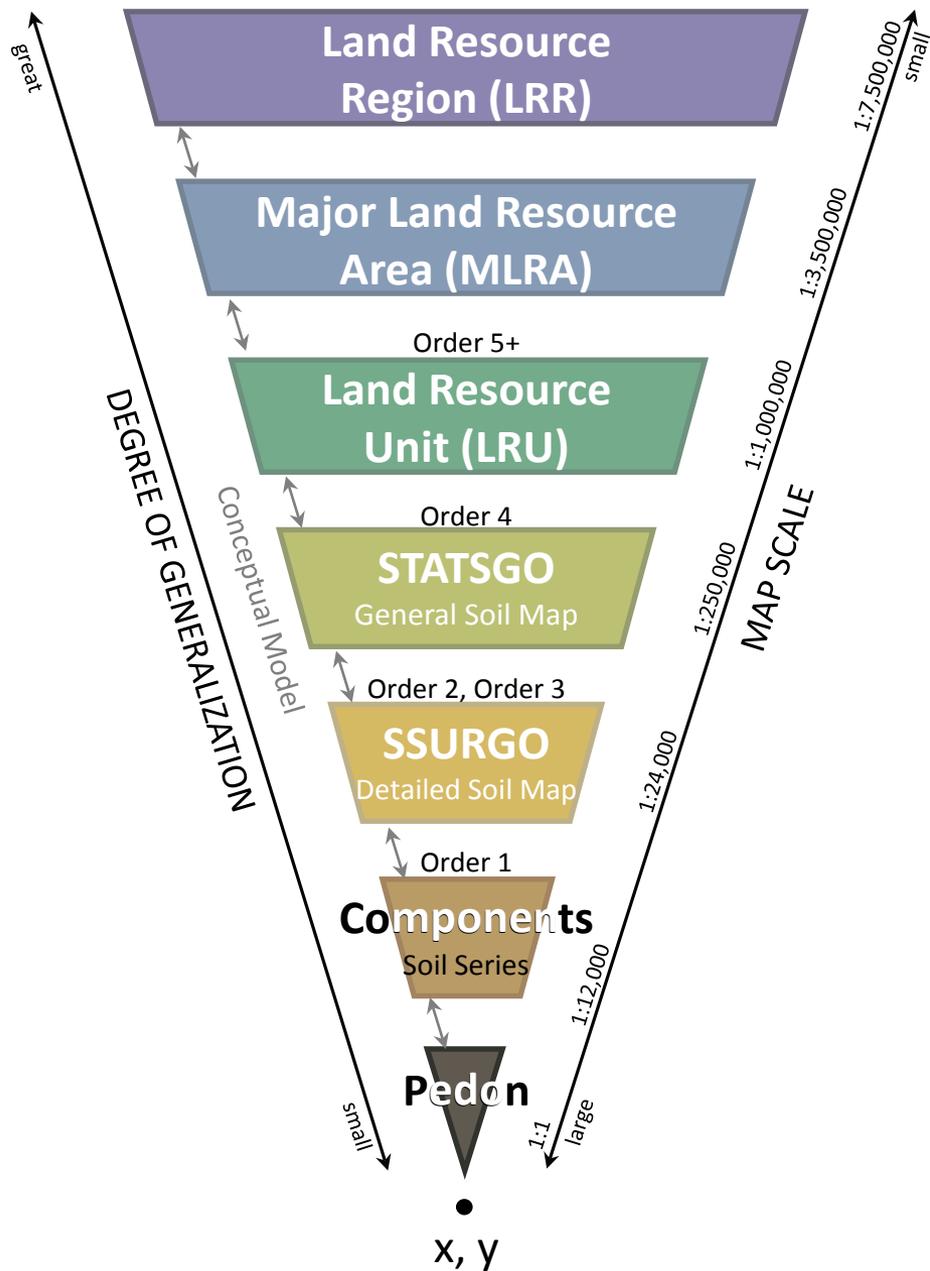
SSURGO

Many NRCS & agency reports

NRI (1997)

Queried GIS Layers

Land Resource Hierarchy



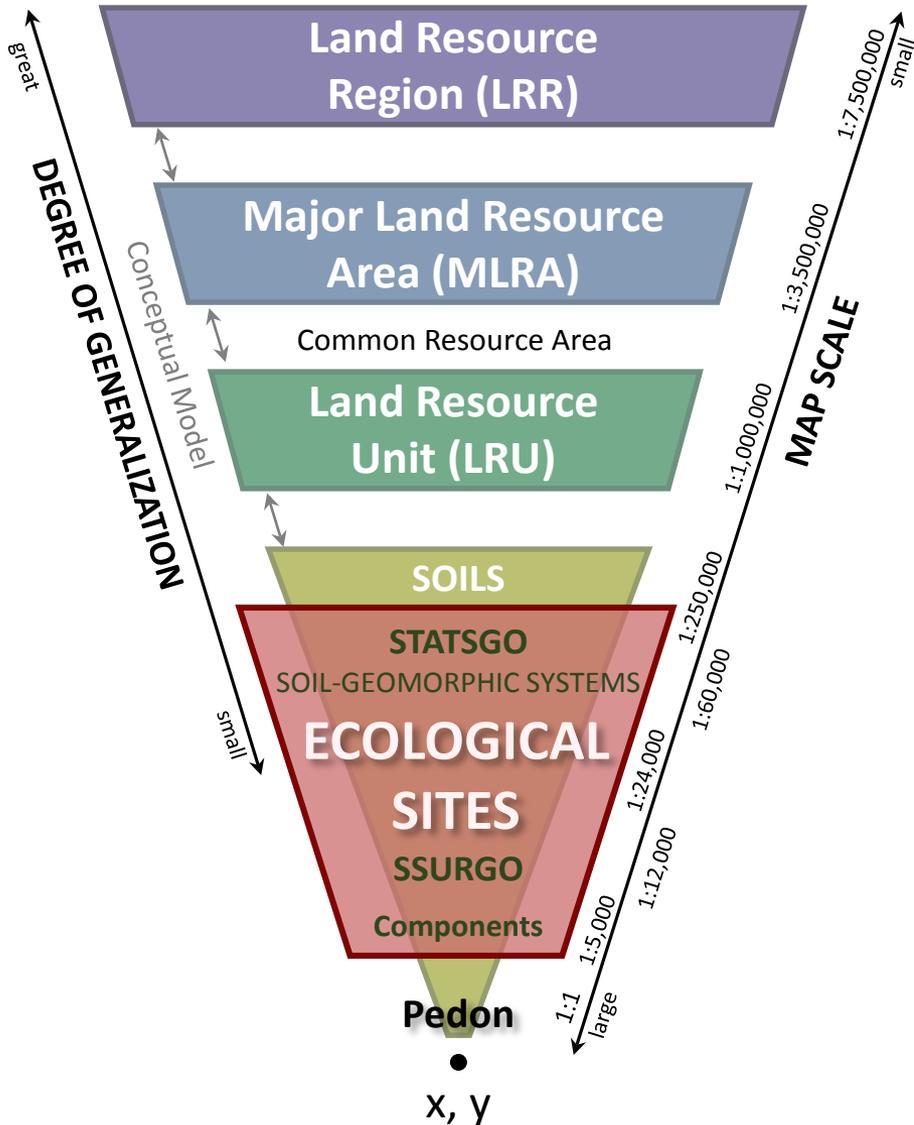
LRR: “geographically associated groups of MLRA’s”

MLRA: “aggregations of geographically associated LRU’s”

LRU: “aggregation of map units of the state soil geographic database.”

SOIL Associations

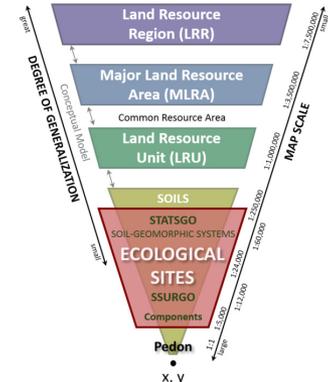
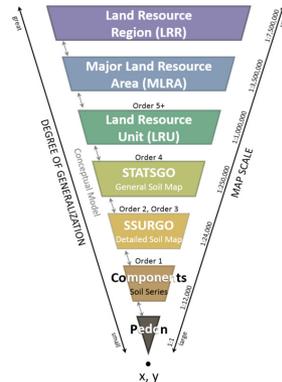
Land Resource Hierarchy



To successfully implement Ecological Sites (and all program and practices associated with MLRA)– MLRA’s and LRU’s have to be meaningful, and have to be connected to other scales of resource areas.

Recommendations for MLRA

- Become more Scientifically Rigorous
 - Repeatable & Testable
- Use the available big resource databases and other technology advances
- Quantitatively integrate across all levels in the hierarchy
- Evaluate concepts of Climate Change, land-use
- Make MLRA's more than lines on a map





A climate, a plant community or a soil, in the sense of an individual, is a ... section of the landscape with a range in characteristics set by our logic, not by nature.

~E.J. Dyksterhuis, 1958

