

North Central Work Planning Conference Report

June 29, 2006

Medora, North Dakota

Helping People Help the Land

**Central Great Plains
Major Land Resource Area
(MLRA) Soil Survey Office
(MO5)**



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Report for the 2006 Soil Survey Work Planning Conference

- Staffing
- Soil Survey Program
- Soil Investigation
- Equipment
- Re-Structure Soil Survey Program

Staffing

- MO Leader
 - Cleveland Watts
- 3 Soil Data Quality Specialist
 - Chad Remley
 - William Wehmueller
 - John Warner
- Office Assistance
 - Susan Picking

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Progress on Goals and Objectives

- Provided un-biased soil survey support to States
- Eliminated English edit and publication backlog
- Provide NASIS support and training to project offices
- Provide interpretation and lab training to project offices
- Complete technical edit and correlation of soil surveys in which field work was completed

MO Responsibilities

- Soil survey quality assurance reviews
- Soil survey technical assistance
- Soil survey investigation
- Provide support to project office in the use of new technology
- Quality assurance review of digitizing, compilation and map finishing
- Provide NASIS support
- Training

Field Staff

- Colorado – 3 Soil Scientists – 2 locations
- Kansas – 8 Soil Scientist – 4 Locations
- Missouri – 3 Soil Scientist – 1 Location
- Nebraska – 7 Soil Scientist – 4 Locations
- Oklahoma – 0
- Wyoming – 0
- Total for the MO 21 Soil Scientists

Projects

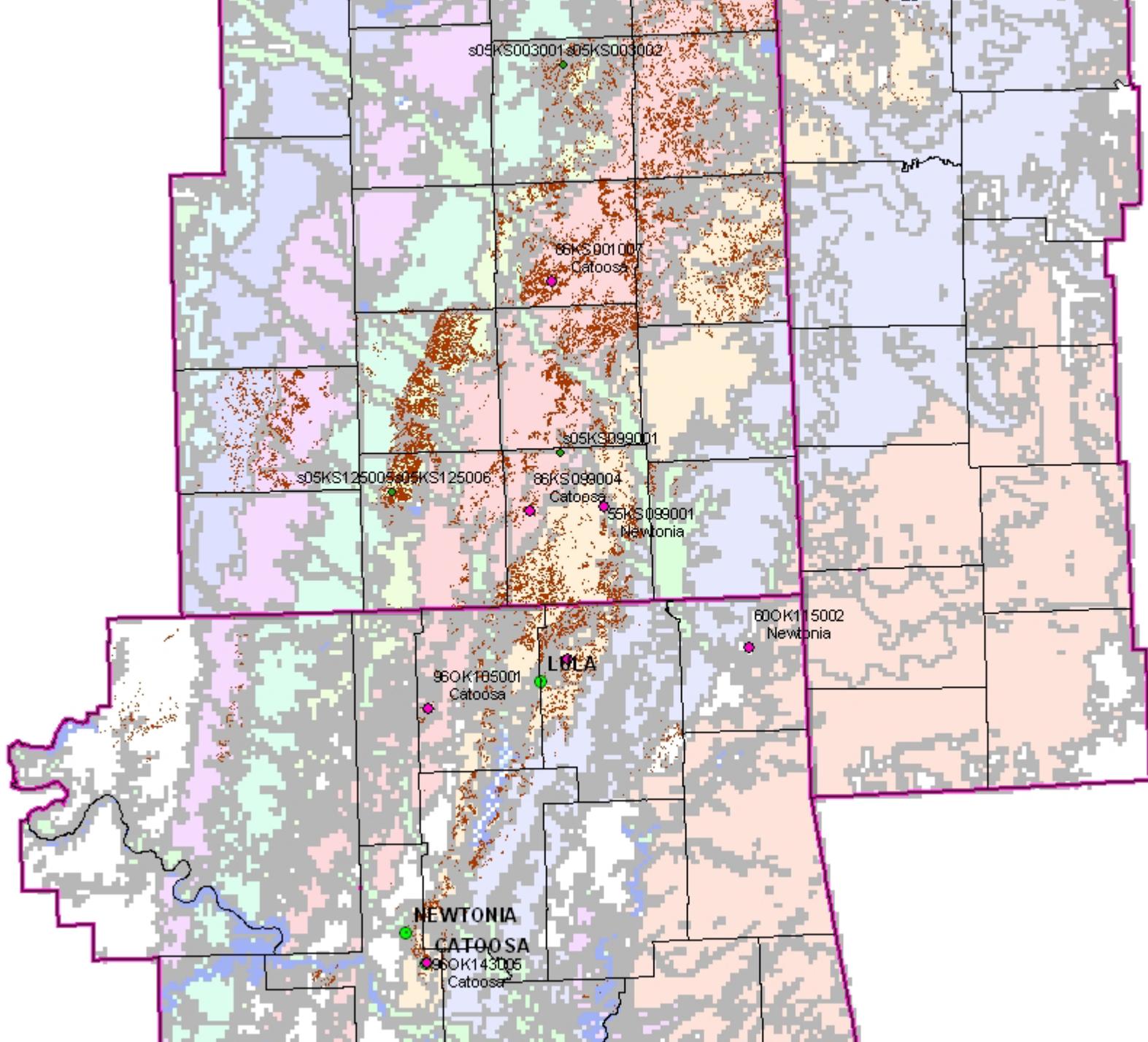
- Continue the update of the Catoosa and associated soils in MLRA 112.
- Continue the soil moisture Study on Playa Lake soil in MLRA 72
- Assisted with the Phase I portion of the Missouri soil survey update project

Project (cont)

- Continue the initial soil survey of Las Animas County, CO
- Update soil Survey of Morgan County, CO (MLRA 67)
- Initiated the update of Scottsbluff County, NE
- Initiated soil survey update in MLRA 65

Projects

- Continue update of soil survey project in the Stranger Creek Watershed (MLRA 106)
- Update Farnum and Naron soils in MLRA 79.
- Update Ulysses, Keith and Drummond soils in MLRA 72
- Update soil in the Republic River Valley



Soil Investigation

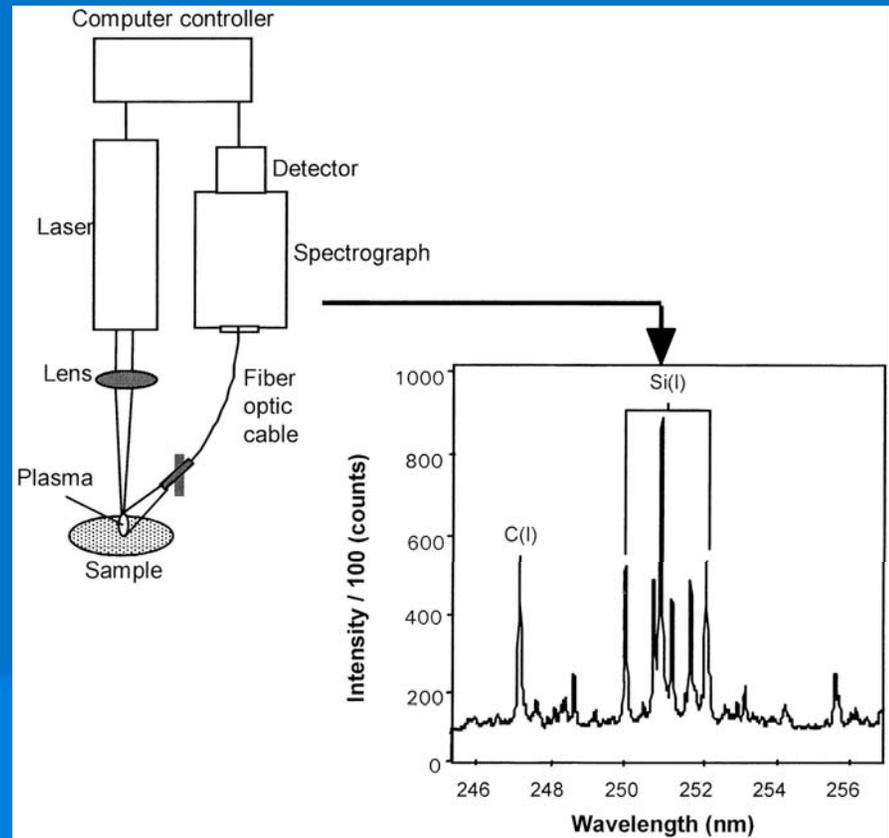
- Benchmark Soils or new Series Characterization – 60 sites
- Water table study on high water table benchmark soil in the Central Plain.
- Deep Core soil characterization on selected soils
- Pedon-transfer study on 6 major soils (KSU)
- Carbon Sequestration Project (KSU)

Equipment

- Griddling or Bull probe for each soil scientists
- At least 4 backhoes in the Region
- 8 Amoozemeters
- 1 EM38 unit
- 5 Global water monitoring station
- 3 Campbell scientist stations
- Cornell infiltrometer

Emerging technologies for measuring soil C:

- Laser Induced Breakdown Spectroscopy (LIBS)
 - Developed at Los Alamos National Laboratory
 - Based on atomic emission spectroscopy
 - Plasma emits light characteristic of elemental composition
 - Minimal sampling volume
 - Analysis time < 1 min
 - Daily throughput > 200 samples
 - Measurements more variable in soil low in organic matter (interference with iron)

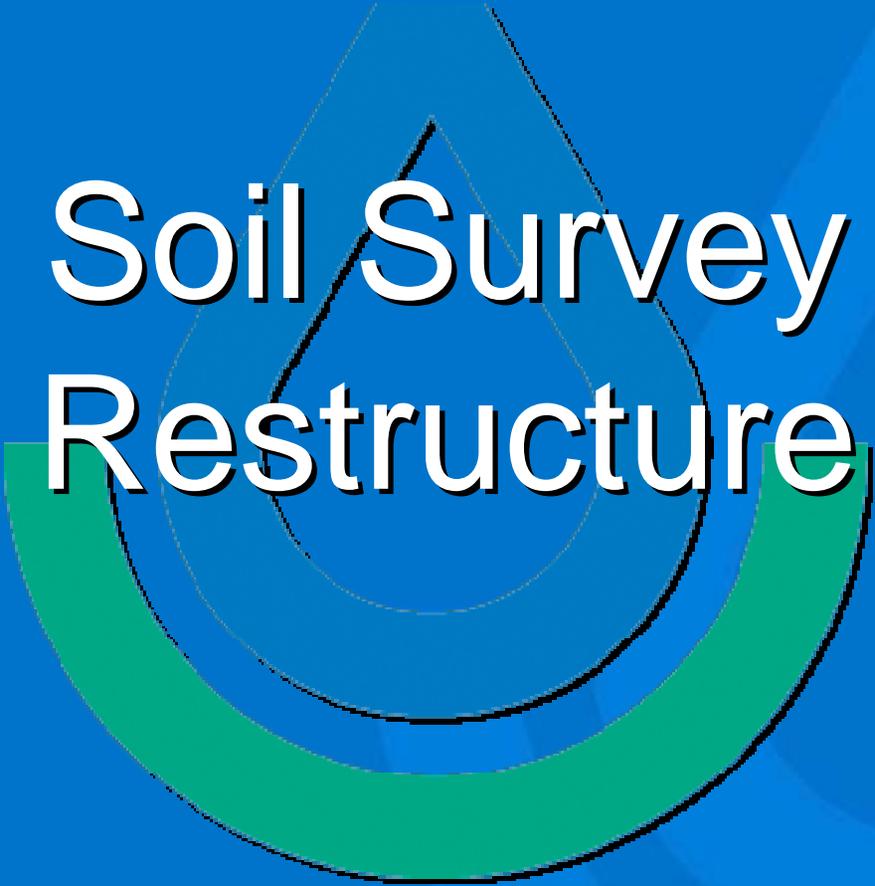


LIBS apparatus and LIBS spectrum of a soil tuned to monitor the carbon emission at 247.8 nm. Source: Cremers et al. (2001)



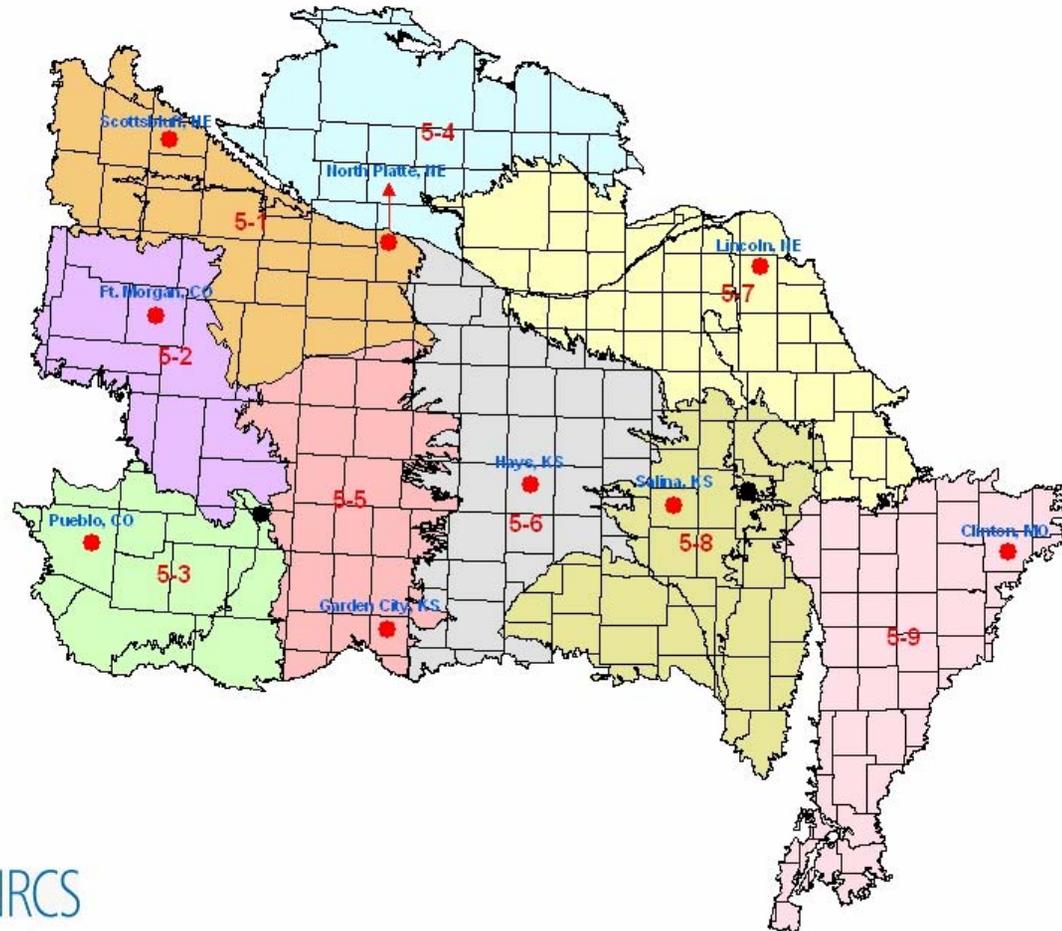


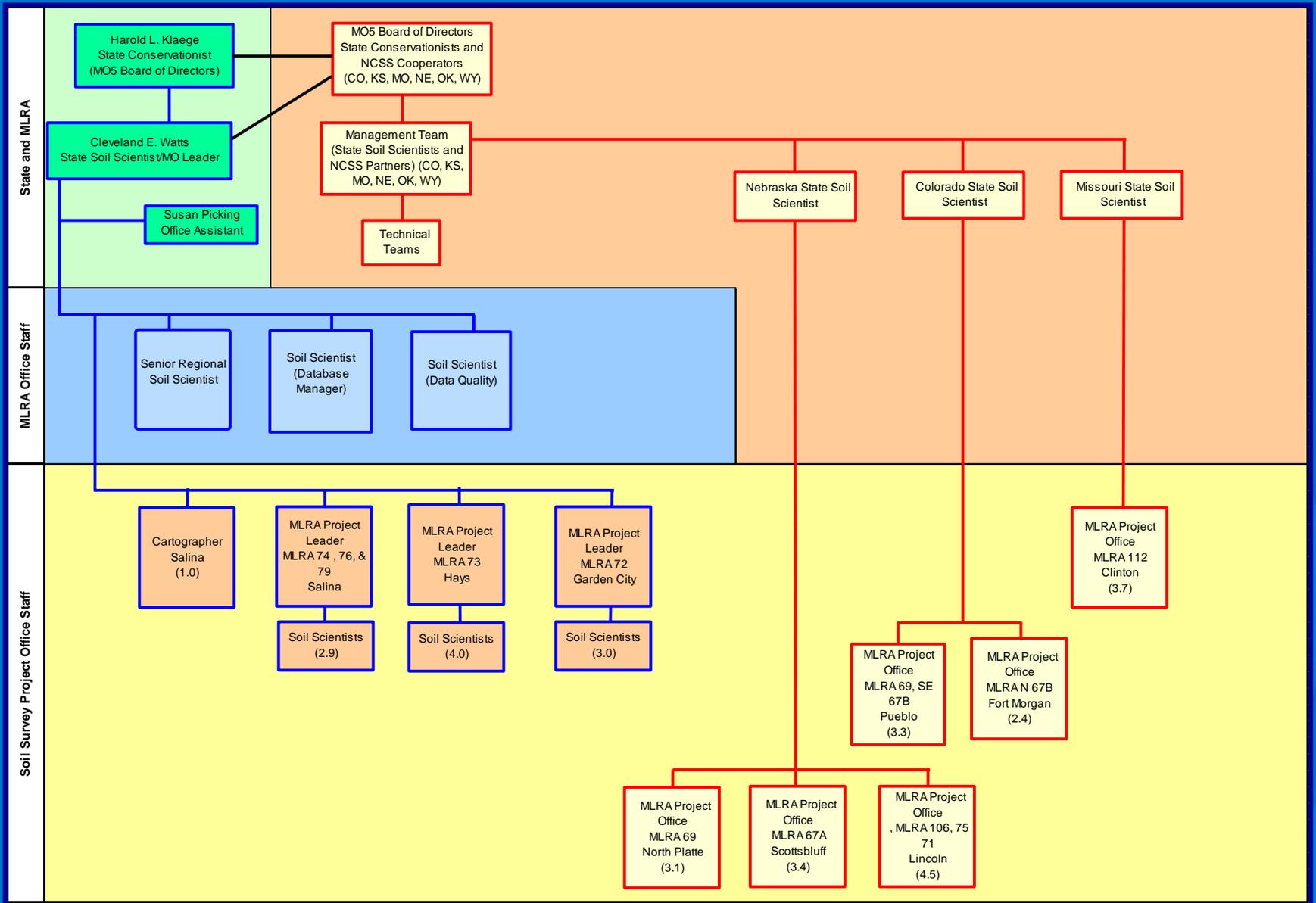
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Soil Survey Restructure

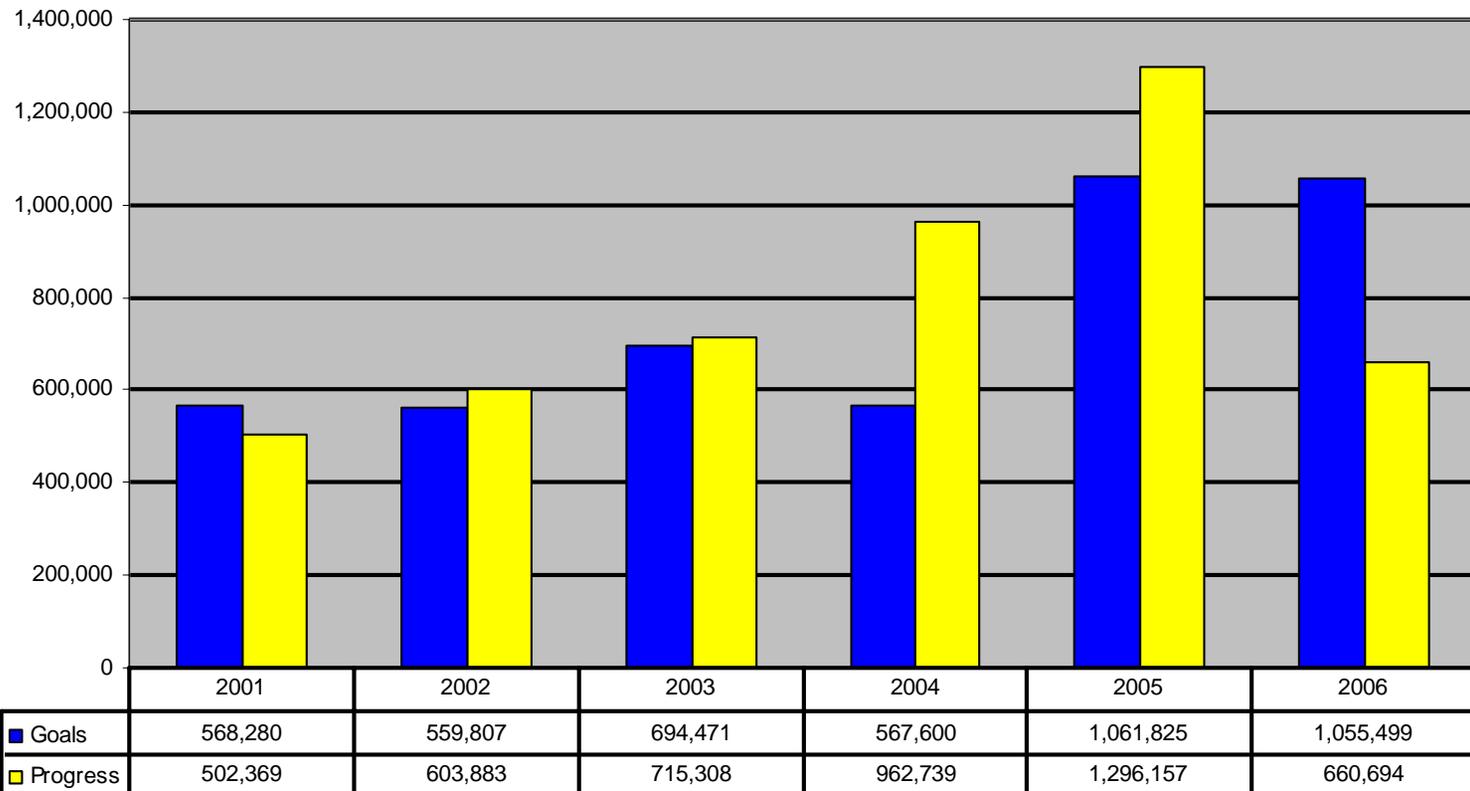
MLRA Region Office 5 MLRA Soil Survey Areas





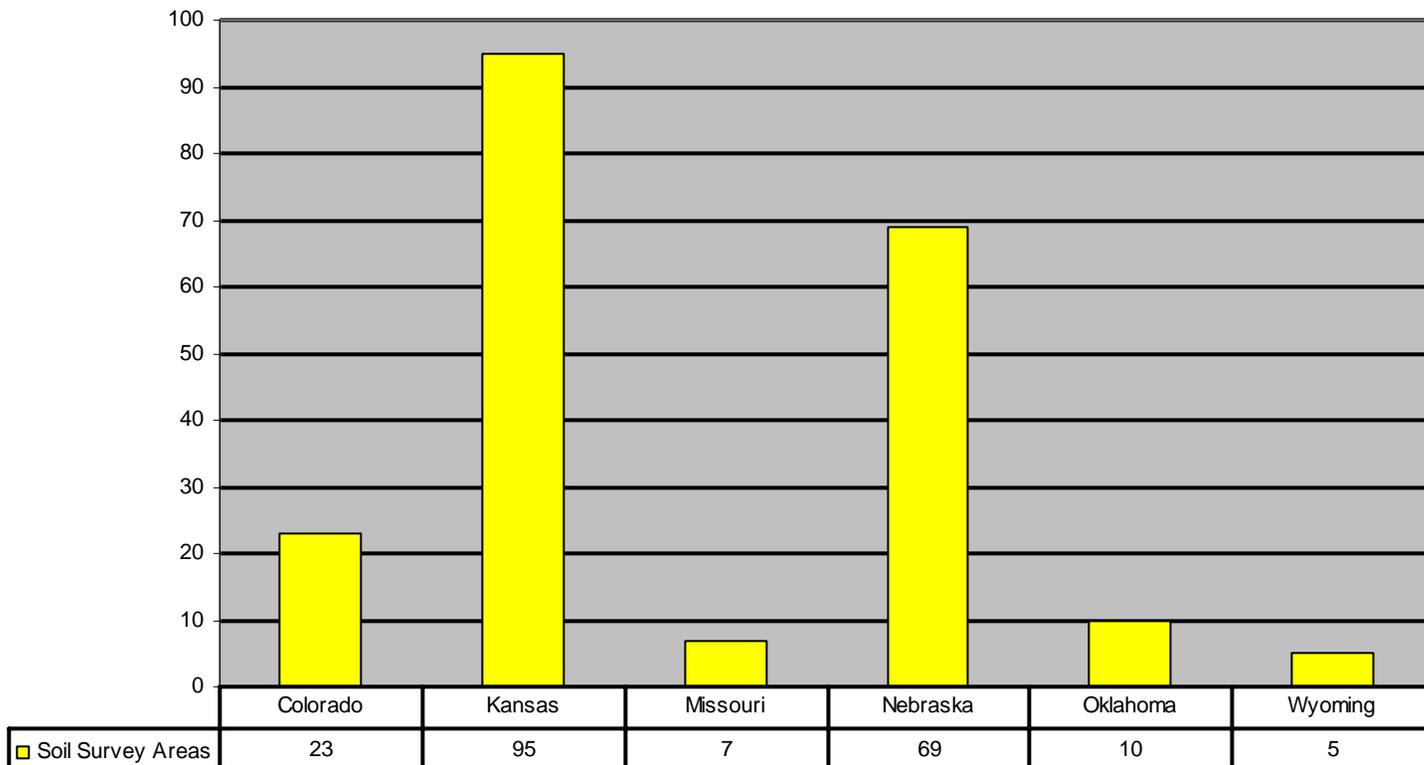
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MO5 Goals vs. Progress

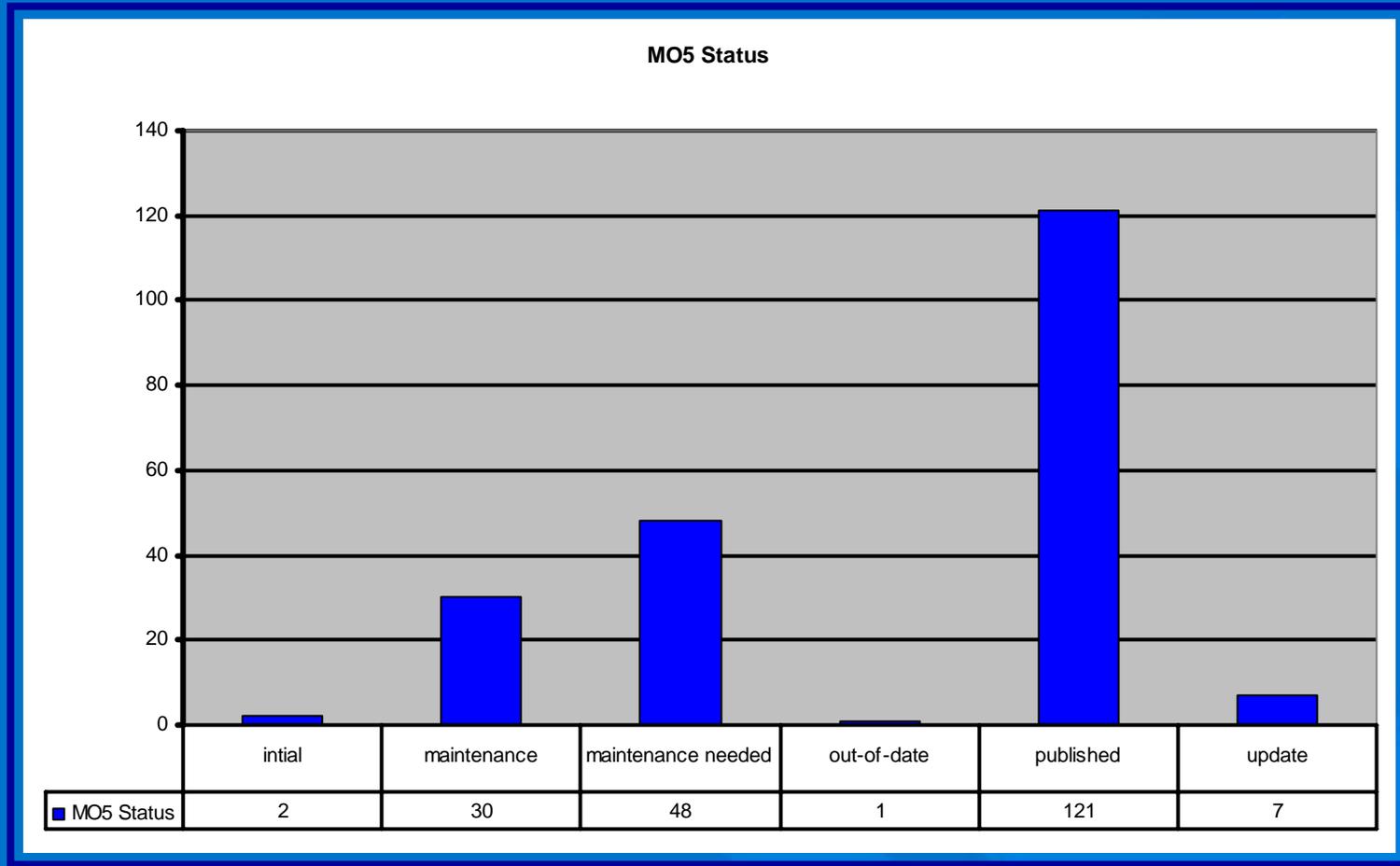


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MO5 - Number of Soil Survey Areas by State



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