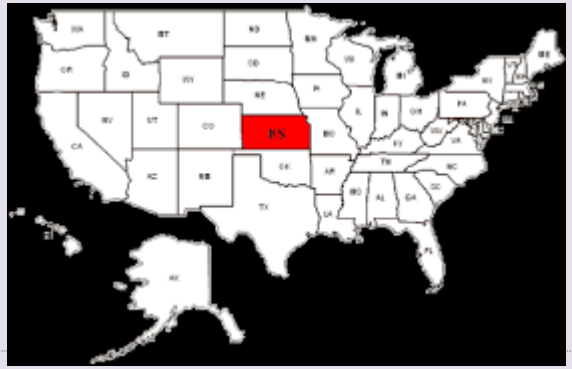
State Specific Training Module for Kansas

Purpose of this Module

This module will provide some general information that Technical Service Providers (TSPs) need in order to conduct conservation planning in **Kansas**.

This information is general in nature, so the TSP may need to follow-up with additional reading or training to ensure they have the knowledge, skill, licenses, and certifications to conduct conservation planning in Kansas.



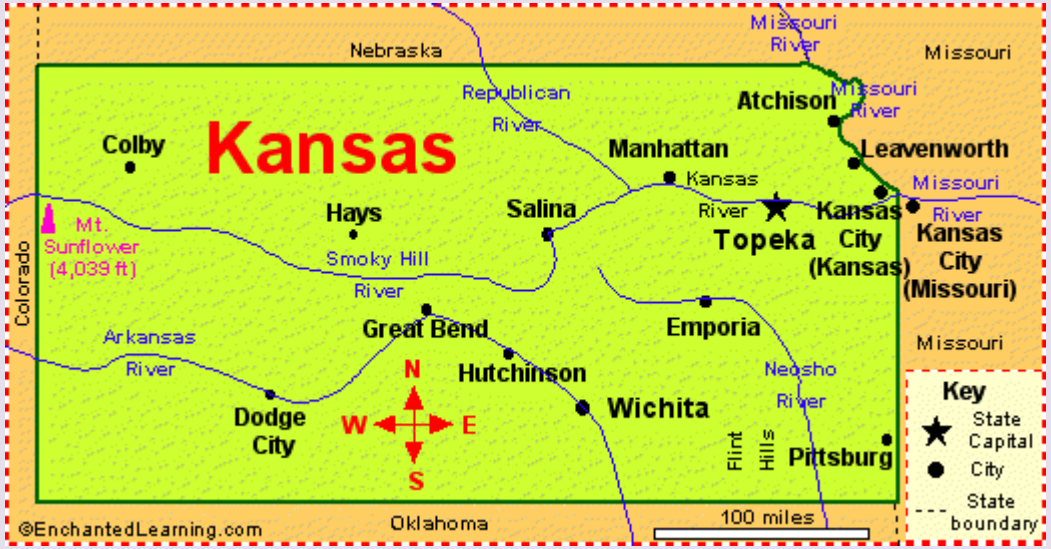
OVERVIEW OF KANSAS

Kansas is the 34th state in the U.S.A. It became a state on January 29, 1861.

- **State Capital** – Topeka
- **Largest City** – Wichita (390,566 as of 2020).
- **Area** – 82,282 square miles (Kansas is the 15th largest state in the U.S.A.)
- **Population** – 2,913,000 (as of 2020). Kansas is the 35th most populous state in the U.S.A.
- **Name for Residents** – Kansans
- **Major Industries** – Agriculture (wheat and other grains), aircraft manufacturing, and automobile manufacturing.

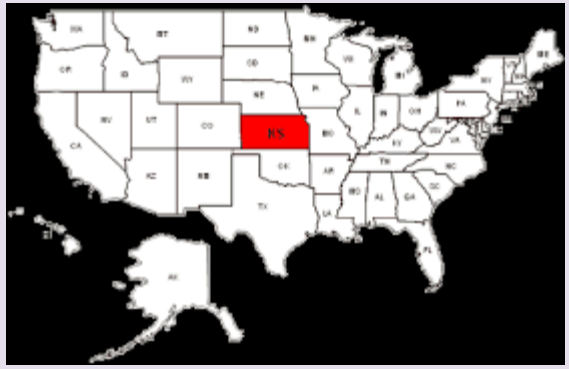
OVERVIEW OF KANSAS

- **Major Rivers** – Kansas River, Republican River, Smoky Hill River, Arkansas River, Missouri River.
- **Major Lakes** – Tuttle Creek Reservoir, Cheney Reservoir, Waconda Lake.
- **Highest Point** – Mt. Sunflower, at 4,039 feet (1,231 m) above sea level.
- **Lowest Point** – Verdigris River, at 680 feet (270 m) above sea level.
- **Number of Counties** – 105
- **Bordering States** – Colorado, Missouri, Nebraska, and Oklahoma



Review of Major Land Ownership

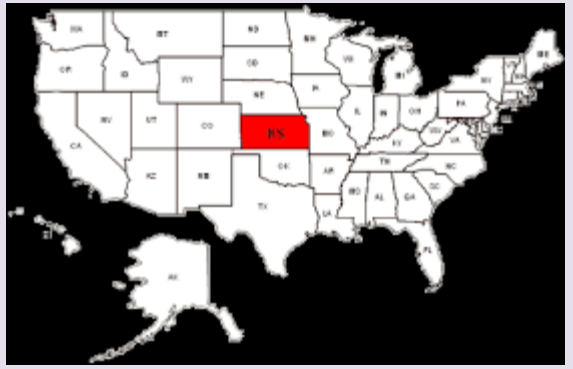
Over 97% of land is privately owned in Kansas.
Conservation planning on private land may include a public component. However, the opportunity for private individuals to construct permanent conservation practices on public lands is limited.



Review of Major Land Uses or Agronomic Practices 1/

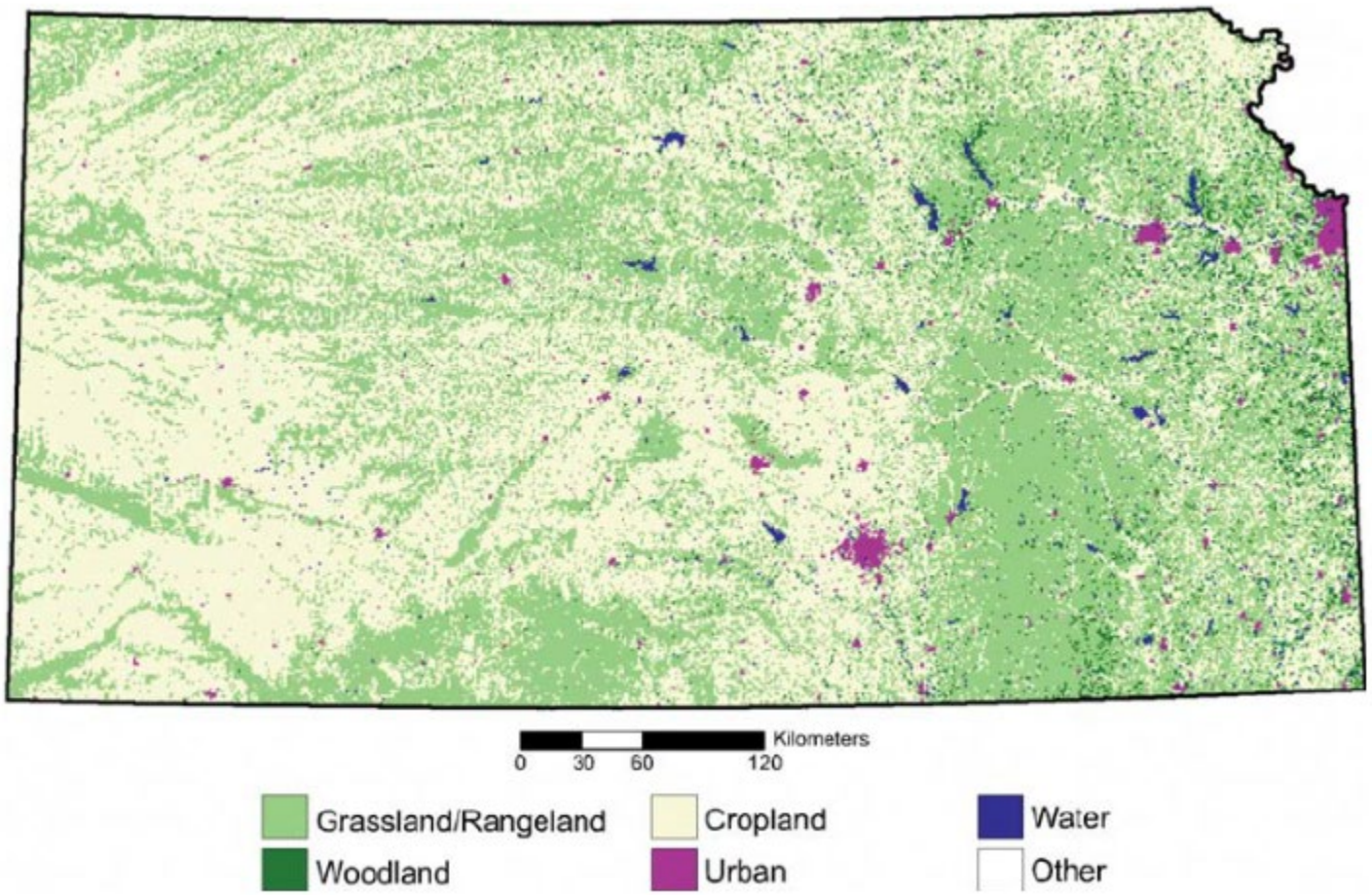
- Kansas has approximately 45.8 million acres of farmland:
  - 63% Cropland
  - 33% Pasture and Rangeland
  - 4% Other Uses

- Statewide, the primary grain crops produced include:
  1. Wheat (7,000,000 acres)
  2. Corn (5,200,000 acres)
  3. Soybeans (5,100,000 acres)
  4. Sorghum (2,400,000 acres)

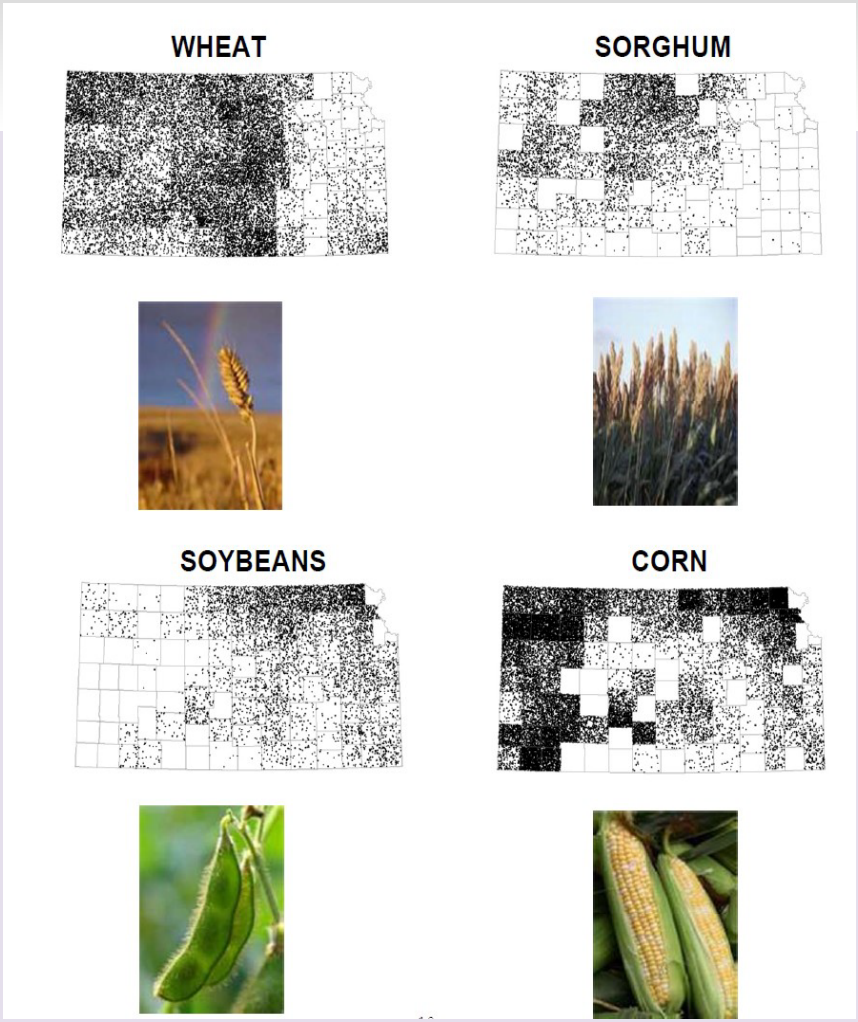


1/ Source: KS 2021 STATE AGRICULTURE OVERVIEW

LAND USE


Kilometers
0 30 60 120
Grassland/Rangeland
Woodland
Cropland
Urban
Water
Other

KANSAS CROPS

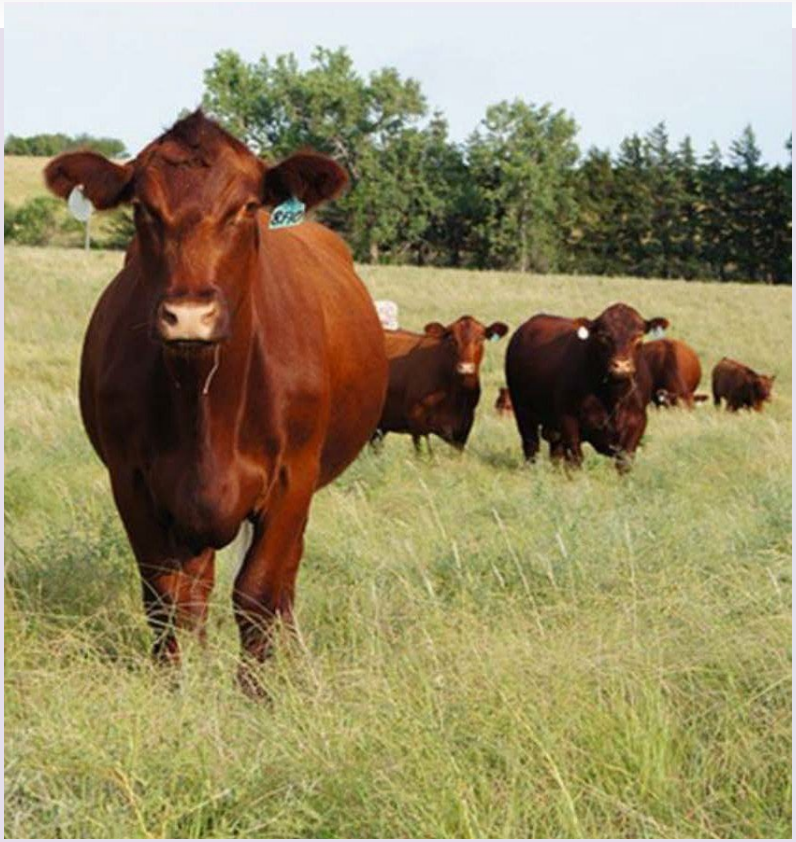


KANSAS AGRICULTURE RANKINGS in US
Grain Crop Production, 2018

Crop	Production Total	Kansas Ranking	Kansas as a Percent of US Total
Wheat	319,200,000 bu.	1	19.2
Sorghum	200,900,000 bu.	1	55.2
Soybeans	189,070,000 bu.	10	4.3
Corn	686,400,000 bu.	7	4.7

Kansas Farm Facts, Kansas Department of Agriculture

KANSAS LIVESTOCK

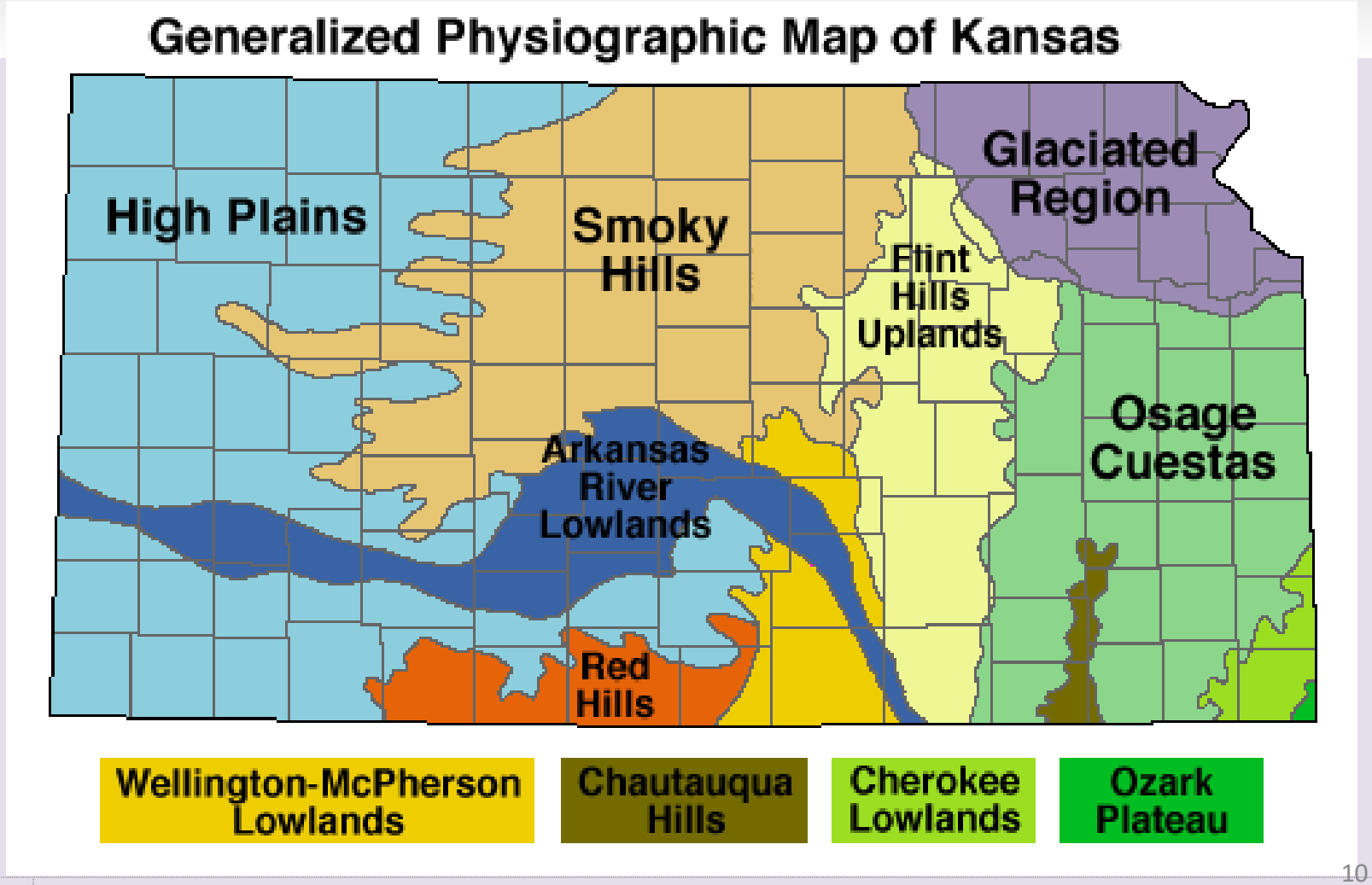


KANSAS AGRICULTURE RANKINGS in US
Livestock Related Production, 2018

Livestock Related	Production Total	Kansas Ranking	Kansas as a Percent of US Total
Cattle and Calves	6,300,000 head	3	6.7
All Hay Produced	6,042,000 tons	3	4.6
Hogs on Farms	2,110,000 head	10	2.9
Dairy-Milk Cows	153,000 head	16	1.6
All Sheep and Lambs	25,000 head	12	1.8
All Goats	41,000 head	12	2.0

Kansas Farm Facts, Kansas Department of Agriculture

PHYSIOGRAPHIC REGIONS



Climates of Kansas

The borders of Kansas extend 400 miles from the moderate elevations and rather humid conditions of the lower Missouri Basin to the high plains lying along the eastern slope of the Rockies. As a result, **it has three rather distinct climates**, outlined roughly by its **eastern**, **central**, and **western thirds**.

Climates of Kansas
Eastern Third

The eastern third (rising gradually from an elevation of less than 800 feet in the southeastern part to near 1,200 feet along its western line) has an average annual precipitation of over 35 inches, a higher relative humidity, less sunshine, and less range between day and night temperatures than other parts of the State. The winters are somewhat milder and its growing season longer than areas to the west and north. Corn and soybeans are the dominant crops in this area. Wheat is a comparatively minor crop. The famous native grassland pastures (known as "The Bluestem Hills" or “Flint Hills”) are located in the western part of this region.

Climates of Kansas
Central Third

The central third (with an elevation generally between 1,200 feet and 2,000 feet) has an average annual precipitation of approximately 27 inches. It has drier and more bracing air, more sunshine, a better wind movement, and a greater range between day and night temperatures than the eastern third. Spring and the advancement of crops (including harvest dates) are often earlier in the south-central counties than in the southeastern part of the State. This is the heart of the hard winter wheat belt.

Climates of Kansas
Western Third

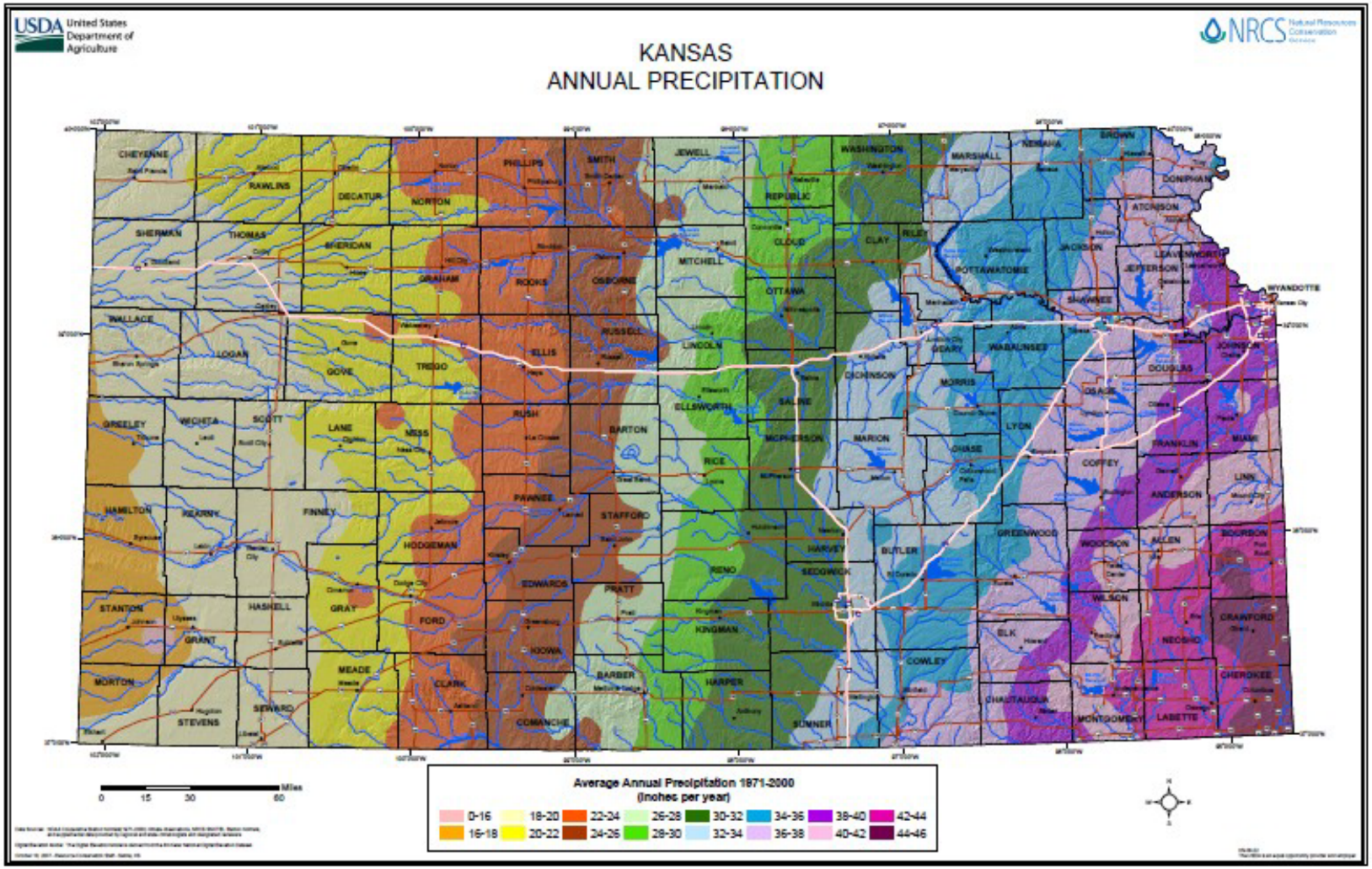
The western third (sometimes referred to as " short grass country") has an elevation rising from approximately 2,000 feet at its eastern border to near 4,000 feet in some northwestern counties. Its average annual precipitation is less than 20 inches. The air here is almost as dry as that of the Rocky Mountains. The amount of sunshine exceeds that of almost any part of the country, except the Southwest. The wind movement is rather high. The range between day and night temperatures is considerably greater than at points farther east. Winter wheat and irrigated corn are the dominate crops of this area.

Precipitation in Kansas

The amount of precipitation (rain and snow) is one of the most important factors in determining the agricultural productivity of Kansas.

- About 70–75% of all precipitation falls during the six crop-growing months from April to September, typically in the form of small, but intense **thunderstorms**.
- Annual precipitation **varies greatly from west to east**:
  - Average annual rainfall ranges from 16 inches in western Kansas to 45 inches in eastern Kansas.
  - Average annual snowfall ranges from 40 inches in western Kansas to 11 inches in eastern Kansas.

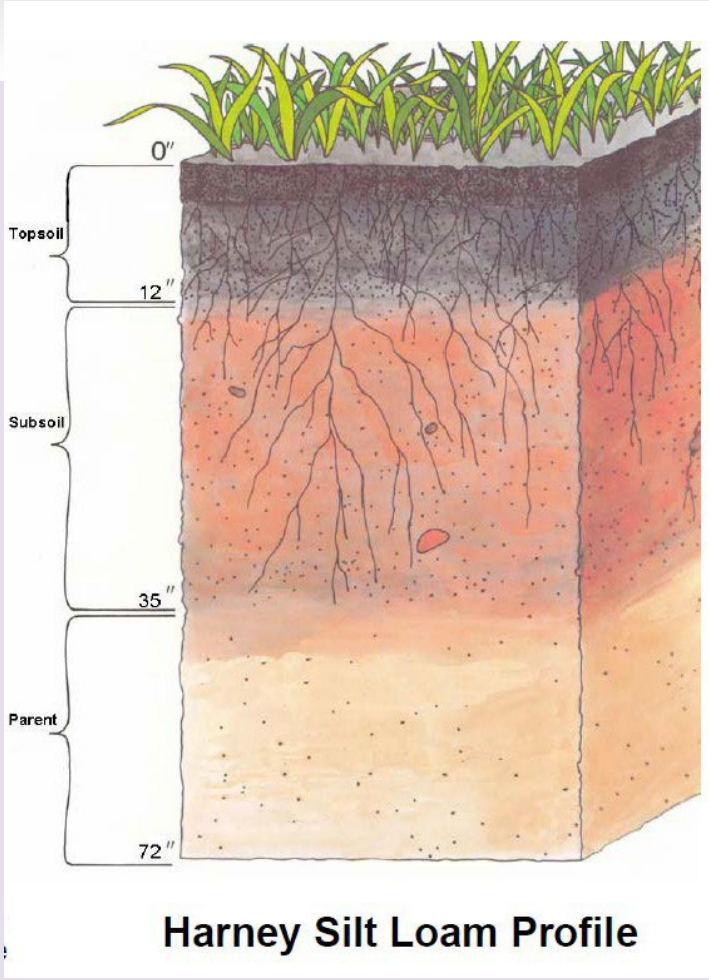
Average Annual Precipitation



Soils in Kansas

- Kansas has over 300 different soil types across its 52 million-acre surface area. Nearly 25 million of the 52 million total acres (48%) are considered prime farmlands.

- Soils in every Kansas county have been identified and mapped. Since 2005, soil survey information has been available for all counties on the Kansas NRCS Website.



Harney Silt Loam Profile

Major Land Use
Resource Concerns

Major land use natural resource concerns in Kansas include:

1. Erosion by wind and water
2. Maintaining and enhancing soil quality
3. Water quality and quantity
4. Plant condition and health
5. Wildlife habitat

Major Land Use
Resource Concerns

Major land use natural resource concerns in Kansas include:

1. **Erosion by wind and water**

<u>Common NRCS Practices</u> used to address concern #1:

- Terrace (600)
- Grassed Waterway (412)
- Diversion (362)
- Underground Outlet (620)
- Grade Stabilization Structure (410)
- Conservation Crop Rotation (328)
- Cover Crop (340)
- Contour Farming (330)
- Critical Area Planting (342)
- Windbreak/Shelterbelt Establishment (380)

Major Land Use
Resource Concerns

Major land use natural resource concerns in Kansas include:

1. Erosion by wind and water
2. **Maintaining and enhancing soil quality**

<u>Common NRCS Practices</u> used to address concern #2:

- Conservation Crop Rotation (328)
- Cover Crop (340)
- Critical Area Planting (342)
- Range Planting (550)
- Nutrient Management (590)
- Contour Farming (330)
- Integrated Pest Management (595)

Major Land Use
Resource Concerns

Major land use natural resource concerns in Kansas include:

1. Erosion by wind and water
2. Maintaining and enhancing soil quality
3. **Water quality and quantity**

<u>Common NRCS Practices</u> used to address concern #3:

- Irrigation Water Management (449)
- Sprinkler System (442)
- Watering Facility (614)
- Livestock Pipeline (516)
- Terrace (600)
- Underground Outlet (620)
- Nutrient Management (590)
- Pond (378)

Major Land Use
Resource Concerns

Major land use natural resource concerns in Kansas include:

1. Erosion by wind and water
2. Maintaining and enhancing soil quality
3. Water quality and quantity
4. **Plant condition and health**

<u>Common NRCS Practices</u> used to address concern #4:

- Brush Management (314)
- Herbaceous Weed Control (315)
- Prescribed Burning (338)
- Prescribed Grazing (528)
- Range Planting (550)
- Fence (382)
- Watering Facility (614)
- Livestock Pipeline (516)

Major Land Use
Resource Concerns

Major land use natural resource concerns in Kansas include:

1. Erosion by wind and water
2. Maintaining and enhancing soil quality
3. Water quality and quantity
4. Plant condition and health
5. **Wildlife habitat**

Common NRCS Practices used to address concern #5:

- Brush Management (314)
- Forest Stand Improvement (666)
- Range Planting (550)
- Restoration and Management of Rare and Declining Habitats (643)
- Upland Wildlife Habitat Management (645)
- Wetland Wildlife Habitat Management (644)
- Wetland Creation (658)

Major **NRCS Activities** in Kansas

Financial Assistance Programs

- Conservation Stewardship Program (CSP)
- Conservation Innovation Grants (CIG)
- Environmental Quality Incentives Program (EQIP)

Easement Programs

- Agricultural Conservation Easement Program (ACEP)
- Conservation Reserve Program (CRP)
- Wetlands Reserve Program (WRP)

Landscape Planning

- Emergency Watershed Protection Program (EWP)
- Watershed Protection and Flood Prevention (PL-566) Program
- Watershed Rehabilitation Program

Partnership

- Regional Conservation Partnership Program

Review of State FOTG Requirements

- Planners should be thoroughly familiar with the conservation practice standards that have been incorporated into the Kansas **Field Office Technical Guide (FOTG)** and are being considered as part of the offered alternatives for addressing the client's resource concerns.
- If a conservation practice (you are certified for) is not listed in the Kansas FOTG, then it is not available for Farm Bill funding in Kansas.
- Planners should also follow the Statement of Work (SOW) requirements for each practice and utilize specifications, Technical Notes, Operation and Maintenance (O&M) instructions, and job sheets that are available for the practices in the Kansas FOTG.

http://efotg.sc.egov.usda.gov/

Review of State FOTG Requirements

Engineering Practices

- Kansas has diverse soil conditions that may impact the success of a structural practice. **Refer to the NRCS Web Soil Survey and Kansas Engineering Guidance to obtain site-specific information about engineering properties**.

- Hydrologic conditions (including precipitation and runoff) vary greatly throughout Kansas, particularly from Eastern to Western Kansas. **Refer to the hydrology design requirements found in FOTG** for each practice standard. Also **refer to guidance found in Kansas Engineering Manuals and Handbooks** relating to hydrology.

Review of State FOTG Requirements

Vegetative Practices

- Kansas has diverse soil conditions that may impact the success of a vegetative practice. In developing vegetative practice specifications, **planners should consider soil conditions** (such as, but not limited to: landscape position, available water holding capacity, aspect, slope, drainage class, fertility level, soil depth, flooding and ponding limitations).

- Kansas uses a wide range of vegetative species in plantings for vegetative practices. In developing vegetative practice specifications, **planners must be aware of the species that will provide successful plantings for the given site conditions.**

Review of State Laws

- While the following review provides an **overview of State laws** that commonly impacts conservation planning in Kansas, it should not be considered as an exhaustive, or all-inclusive list of State laws impacting conservation planning.
- Conservation planners are also encouraged to contact the local NRCS Field Office for additional information regarding any Federal, State, or local laws, ordinances, or regulations that may impact conservation planning.

Review of State Laws
Kansas Department of Agriculture
Division of Water Resources (DWR)

Examples of **DWR** regulations (that may impact conservation planning) includes, but is not limited to:

- Water rights permit
- Dam safety/construction permit
- Floodplain fill permit
- Stream obstruction/channel change permit

Kansas Department of Agriculture

Review of State Laws
Kansas Department of Health and Environment (KDHE)

Examples of **KDHE** regulations (that may impact conservation planning) includes, but is not limited to:

- Specific nutrient management and manure hauling restrictions
- Pollution control permit for Concentrated Animal Feeding Operations
- NPDES stormwater discharge permit
- Well construction/decommissioning

Review of State Laws
Kansas Historical Society

Examples of **Kansas Historical Society** regulations (that may impact conservation planning) includes, but is not limited to:

- Cultural resources

Review of State Laws
Kansas One-Call

Examples of **Kansas One-Call** regulations (that may impact conservation planning) includes, but is not limited to:

- Excavation/trenching for construction of conservation practices

Kansas One-Call - Always Call (811) Before You Dig!

Review of State Laws
Practice of Engineering

- Kansas law stipulates that **only qualified persons** shall be authorized to engage in the practice of engineering in the State.
- A qualified person is interpreted as one who is **licensed** by the Kansas State Board of Technical Professions (**www.ksbtp.ks.gov**) in the State of Kansas **as a Professional Engineer**.
- **The definition of "professional engineering" or "practice of engineering" is as determined by the Kansas State Board of Technical Professions and not by NRCS**.
- This applies to the planning, design, installation, and/or the certification of conservation practices that include "Engineering" as a responsible discipline (as listed in Kansas NRCS Field Office Technical Guide FOTG).

Review of State Laws
MISCELLANEOUS

- Comprehensive Nutrient Management Plans (CNMPs)
  - KDHE requires a professional engineering license to develop the manure wastewater storage and handling (engineering) portion of a CNMP Plan.
- Nutrient Management
  - The State of Kansas does not require that nutrient management planners be certified. However, nutrient management with manures and other organic sources of nutrients is regulated by the State.
- Pest Management
  - The State of Kansas does not require that pest management planners be certified.
  - Commercial applicators of pest management products must be certified through the Kansas Department of Agriculture.

Review of State Laws
MISCELLANEOUS

- Fencing
  - Consider all State and culturally-accepted fencing laws.
- Burning
  - Annual rangeland burning is an extremely valuable management tool for grassland management, particularly in the Flint Hills Region. All local, State, (and Federal) burning laws must be considered during the planning process.
- County Zoning/Planning/Drainage laws
  - Local, county, and State laws must be considered during the planning process. The effects of how neighboring property will be affected by the conservation plan, must also be considered.

Review of Other Important Resource Issues
Federal Policy

Planners must also be aware of other important resources issues including, but not limited to, the following**:

- Threatened and Endangered Species
- Waters of the U.S.
- Wetlands

Planners must be aware of all NEPA requirements. The NRCS Environmental Evaluation Worksheet (NRCS-CPA-52) is used to address many of these issues.

** These items are not addressed in depth (in this document) due to the complex and rather dynamic nature of policy relating to the issues. **The conservation planner must be diligent in adhering to all current policy and laws in these areas when developing conservation plans.**

Policy for TSP Conservation Planner Certification

TSPs will obtain the certified conservation planner designation through the following national certification process:

- TSP certified conservation planner candidates must complete Modules 1-5 of the NRCS Conservation Planning Course in AgLearn, or an alternative (such as the TSP Orientation and Conservation Planning Course) with approval by the National Conservation Technical Assistance (CTA) Program Manager.

- TSP certified conservation planner candidates must complete Modules 6-8 of the NRCS Conservation Planning Course, offered Nationally or by any State, or an equivalent course, as approved by the National CTA Program Manager.

- TSP certified conservation planner candidates must complete one field-reviewed RMS plan for a conservation management unit. TSPs seeking planning certification in multiple States will not be required to submit additional plans for review.

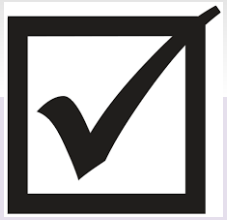
Policy for TSP Conservation Planner Certification
(Continued)

- The candidate will be accompanied to the field by a NRCS-certified conservation planner to meet with the plan decisionmaker.
- The candidate will be expected to demonstrate competency in the planning process, to include the appropriate resource assessment tools, and plan development.
- The field-reviewed conservation plan will be submitted to the State Conservationist (for the State where the plan was developed), along with a letter from the reviewer acknowledging the field review and recommendation for certification.
- If the State Conservationist concurs with the recommendation, the letter will be forwarded to the National TSP Program Manager with the State Conservationist's concurrence.
- If all requirements are met, the National TSP Program Manager will certify the TSP as a National Certified Conservation Planner in TechReg.

Expected TSP Workflow

- The State Resource Conservationist (SRC) will be responsible for reviewing TSP conservation planning for the National Planner Certification.
- Subsequent conservation plans will be reviewed by the District Conservationist (DC) at the local USDA Service Center.
- TSPs will work with the local District Conservationist to make sure the proper environmental evaluations (NRCS CPA-52) are completed.

TSP Contacts for Kansas

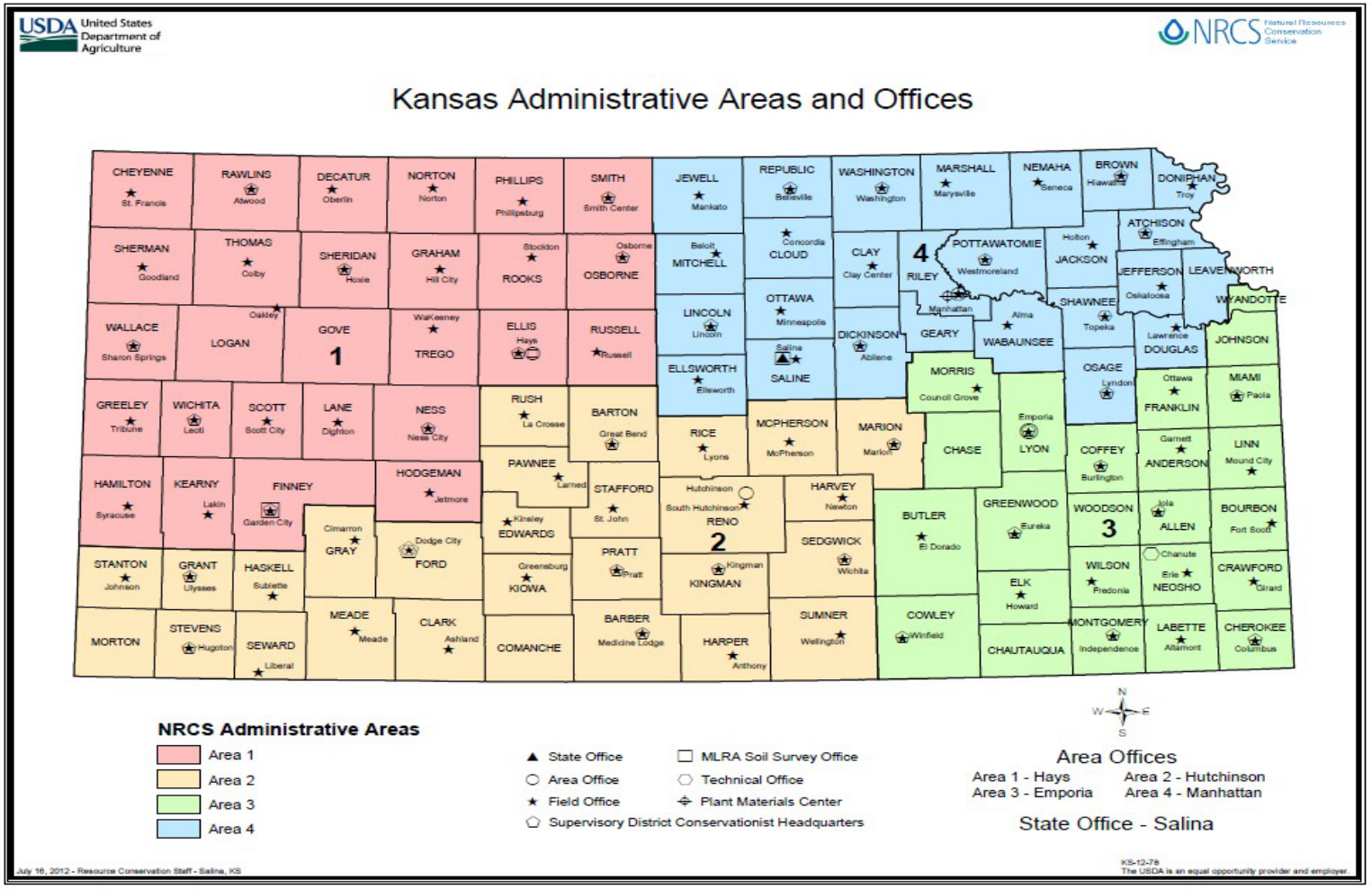


The TSP Coordinators for NRCS in Kansas are:

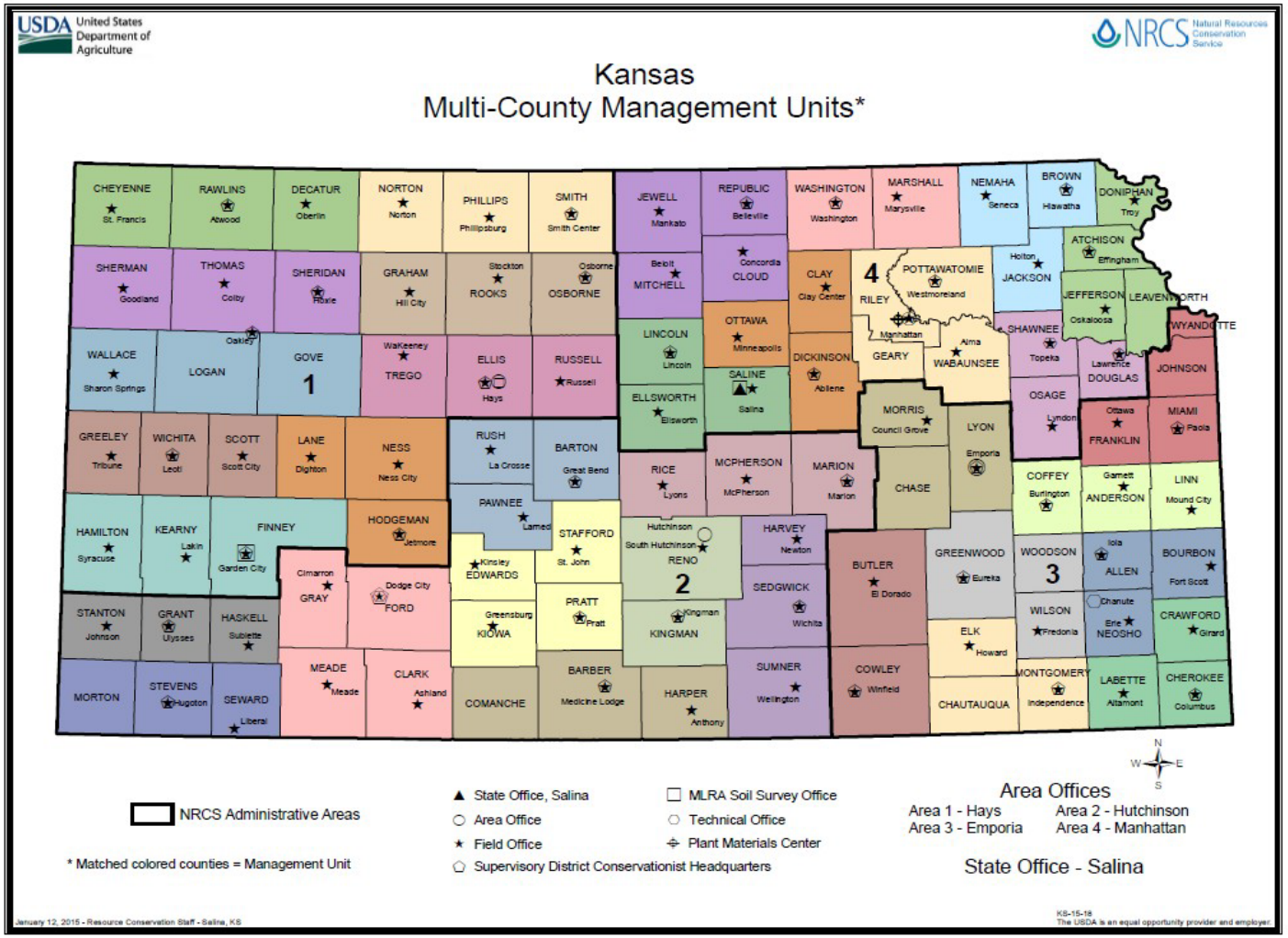
Kristen S. Woods
Resource Conservationist
Salina, Kansas
kristen.woods@usda.gov

Dean Krehbiel
State Resource Conservationist
Salina, Kansas
dean.krehbiel@usda.gov

NRCS Organizational Structure in Kansas



NRCS Organizational Structure in Kansas



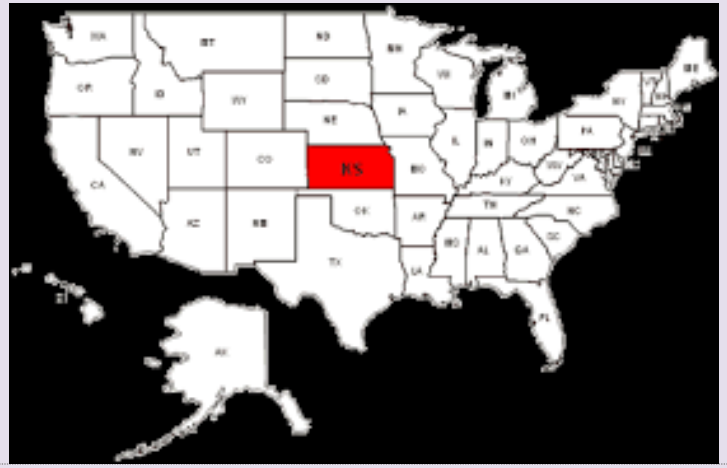
NRCS Kansas State Office

KANSAS STATE OFFICE
760 South Broadway Boulevard
Salina, Kansas 67401-4604

Phone: 785-823-4500

FAX: 855-533-5070

Hours: 7:30 a.m.—4:30 p.m.



Certificate of Completion

After viewing the State Specific Training module:

1. Print and sign the Certificate of Completion (see the following slide).

1. Email your signed Certificate to the State TSP Coordinator at: kristen.woods@usda.gov

The Certificate is your acknowledgement that based on the information provided in this module, you have the proper knowledge, skills, and ability to conduct planning in this State.

Copy this link to your browser for a list of State TSP Coordinators.
https://www.nrcs.usda.gov/wps/PA_NRCSConsumption/download?cid=nrcseprd1834638&ext=pdf

STATE SPECIFIC TRAINING MODULE COMPLETION CERTIFICATE

I, _____, hereby verify I have viewed and understand the content of the
TSP Name

Kansas State Specific Training Module and affirm I have the knowledge, skills and ability to conduct conservation planning services in that state.

_____ _____

TSP signature Date

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