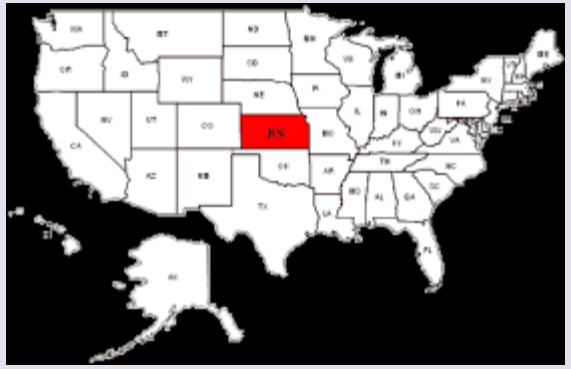
State Specific Training Module for Kansas

Purpose of this Module

This module will provide some general information that TSPs need 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 make sure they have the knowledge, skill, licenses and certifications to conduct conservation planning in this state.



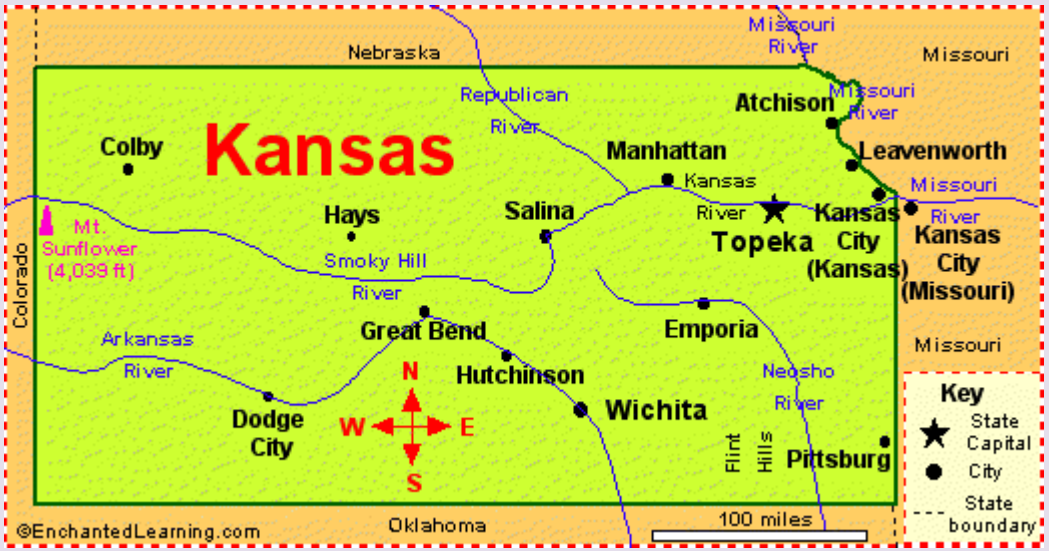
OVERVIEW OF KANSAS

Kansas was the 34th state in USA; it became a state on January 29, 1861

State Capital - Topeka
Largest City – Wichita (399,564 as of 2023)
Area - 82,282 square miles [Kansas is the 15th biggest state in the USA]
Population 2.92 Million (as of 2023) [Kansas is the 35th most populous state in the USA]
Name for Residents - Kansans
Major Industries - agriculture (wheat and other grains), aircraft manufacturing, automobile manufacturing

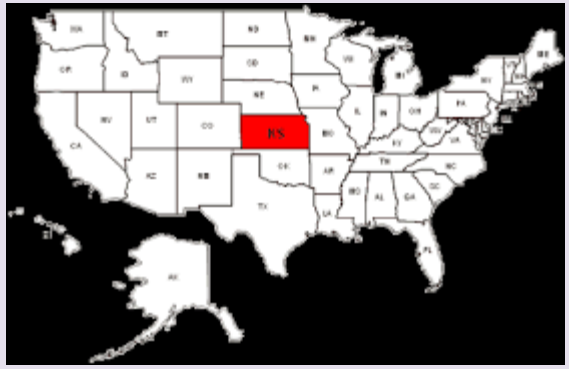
OVERVIEW OF KANSAS

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 - 4,039 feet (1,231 m) above sea level
Lowest Point - Verdigris River - 680 feet (270 m) above sea level
Number of Counties - 105
Bordering States - Colorado, Missouri, Nebraska, Oklahoma



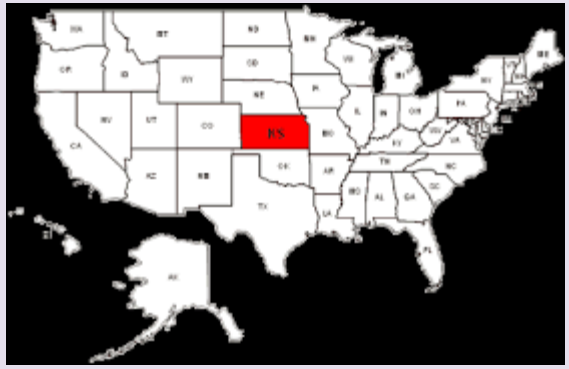
Review of Major Land Ownership

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.



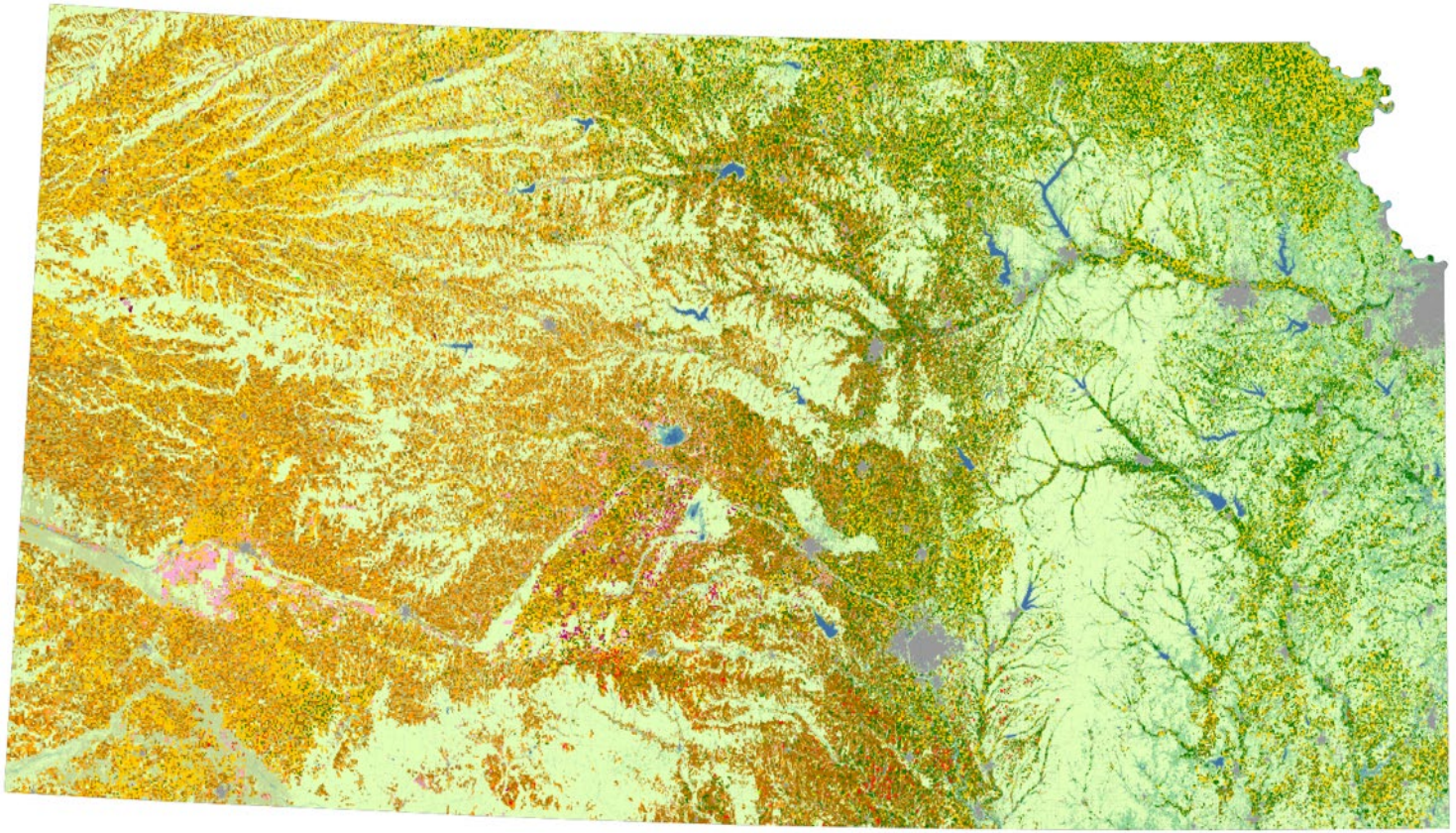
Review of Major Land Uses or Agronomic Practices 1/

- Kansas has approximately 46.3 million acres of farmland
  - 62% Cropland
  - 34% Pasture and Rangeland
  - 4% Other Uses
- Statewide, primary grain crops produced include:
  - Corn (4,000,000 acres)
  - Sorghum (2,000,000 acres)
  - Soybeans 4,000,000 acres)
  - Wheat (9,000,000 acres)



1/ Source: 2012 Census of Agriculture

KS LAND COVER CATEGORIES



NASS 2023

Land Cover Categories
(by decreasing acreage)

AGRICULTURE*

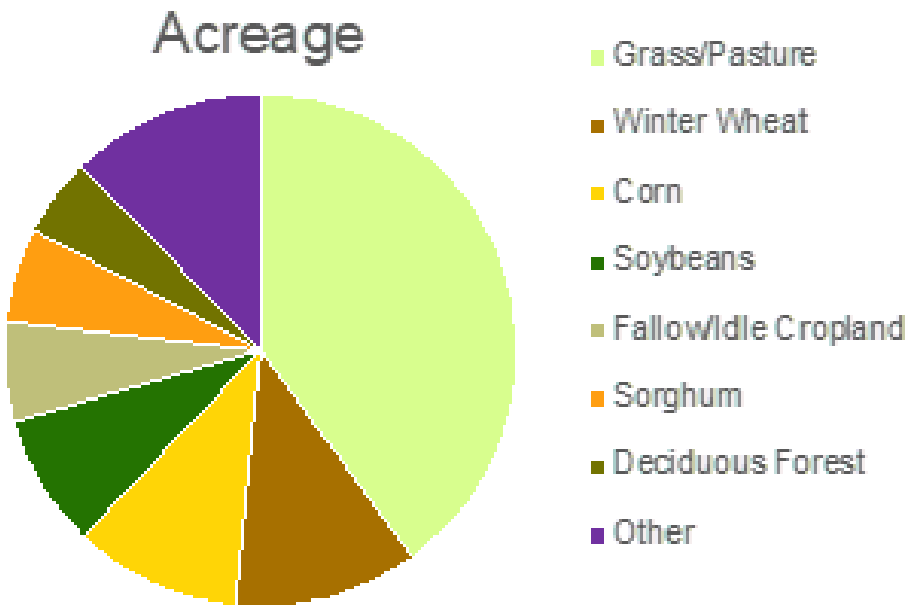
- Grass/Pasture
- Winter Wheat
- Corn
- Soybeans
- Fallow/Idle Cropland
- Sorghum
- Dbl Crop WinWht/Soybeans
- Alfalfa
- Other Hay/Non Alfalfa
- Triticale
- Cotton
- Dbl Crop WinWht/Sorghum
- Rye
- Oats
- Sunflowers
- Dbl Crop Triticale/Corn

NON-AGRICULTURE**

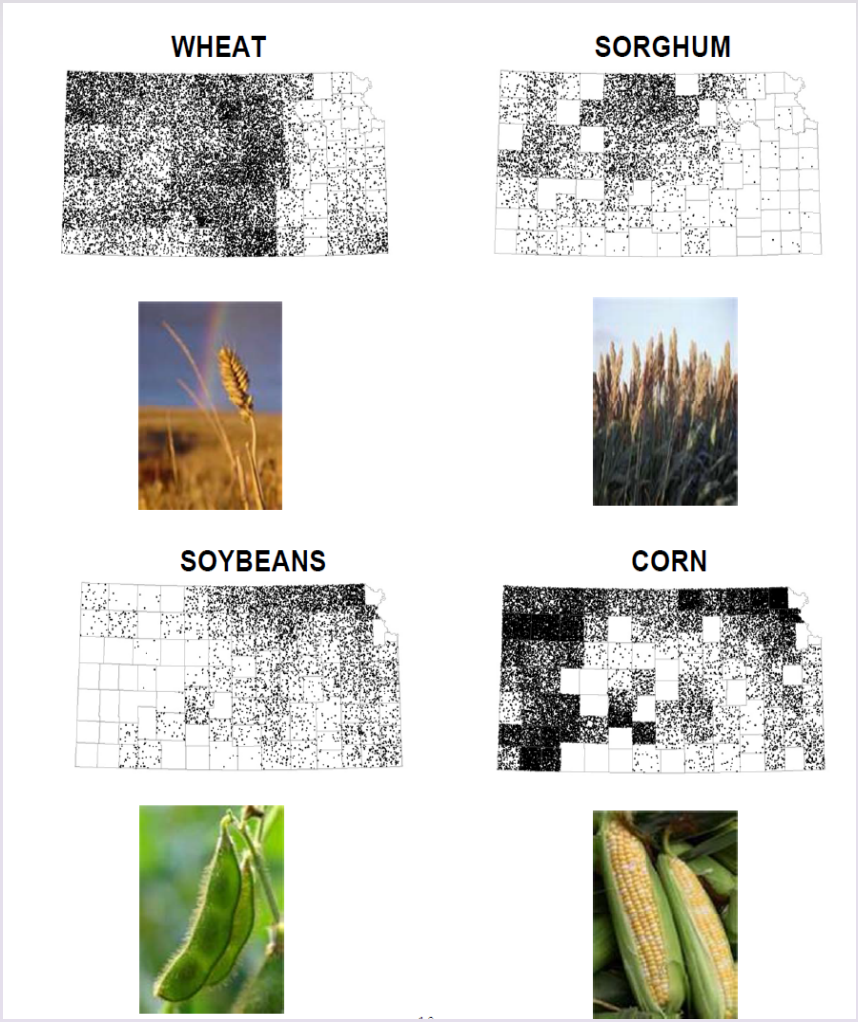
- Deciduous Forest
- Developed/Open Space
- Developed/Low Intensity
- Shrubland
- Open Water
- Developed/Medium Intensity

KS LAND COVER CATEGORIES

Pie chart of top seven categories in 2022



NASS 2023



KANSAS CROPS

KANSAS AGRICULTURE RANKINGS in US
Grain Crop Production, 2013

Crop	Production Total	Kansas Ranking	Kansas as a Percent of US Total
Wheat	319,200,000 bu.	1	14.9
Sorghum	165,200,000 bu.	1	42.4
Soybeans	127,440,000 bu.	11	3.8
Corn	508,000,000 bu.	8	3.6

Kansas Farm Facts
Kansas Department of Agriculture

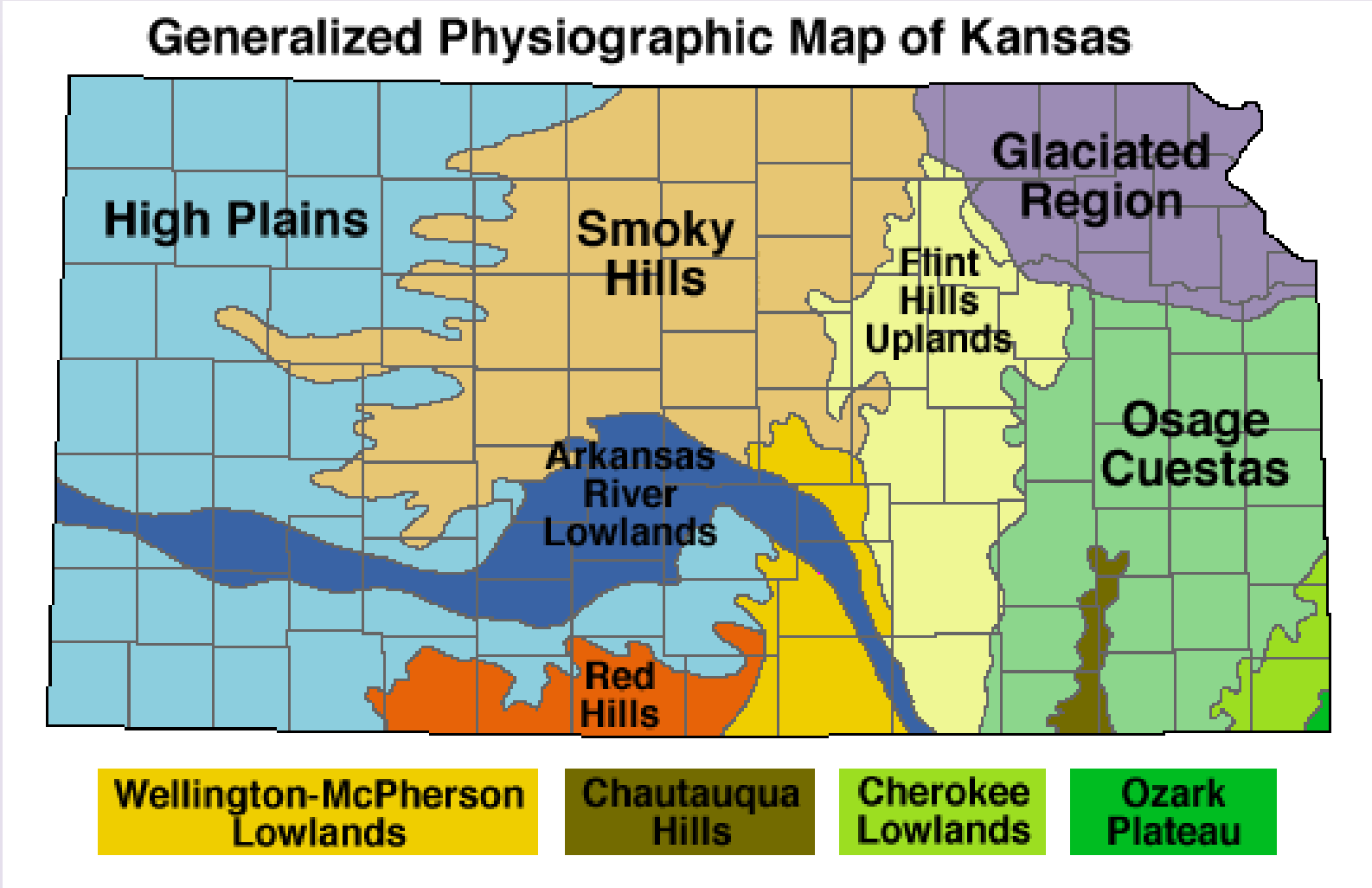
KANSAS LIVESTOCK

KANSAS AGRICULTURE RANKINGS in US
Livestock Related Production, 2013

Livestock Related	Production Total	Kansas Ranking	Kansas as a Percent of US Total
Cattle Slaughtered	6,316,300 head	2	19.4
All Hay Produced	6,545,000 tons	4	4.8
Hogs on Farms	1,770,000 head	11	2.6
Licensed Dairy Herds	325 herds	20	0.7
All Sheep and Lambs on Farms	75,000 head	23	1.4

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 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. Its 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 this 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 around 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

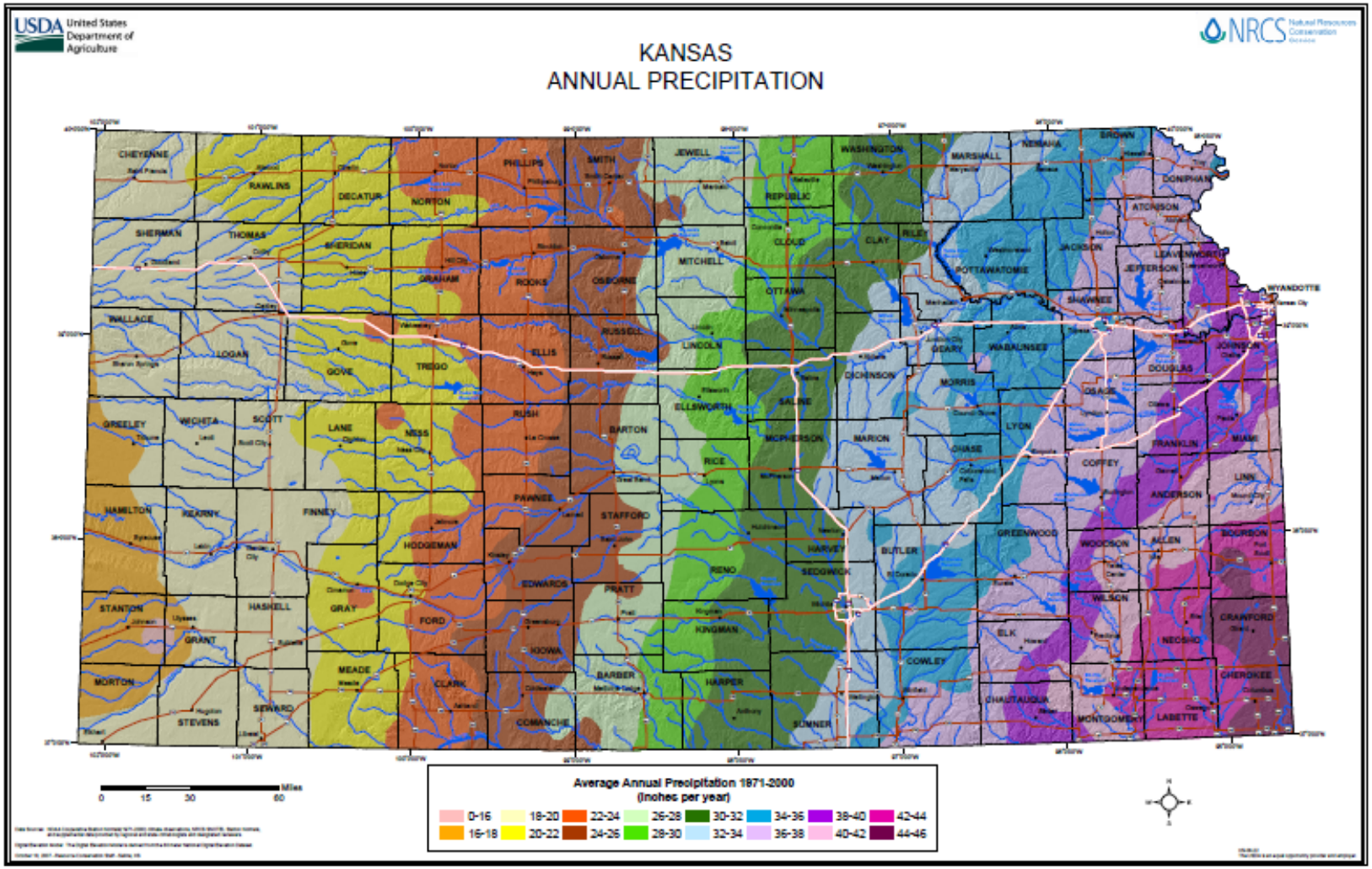
The western third, sometimes referred to as " short grass country", has an elevation rising from about 2,000 feet at its eastern border to near 4,000 feet in some northwestern counties. Its average annual precipitation is less than 20 inches. The air here is almost as dry as that of the Rocky Mountains. 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 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.

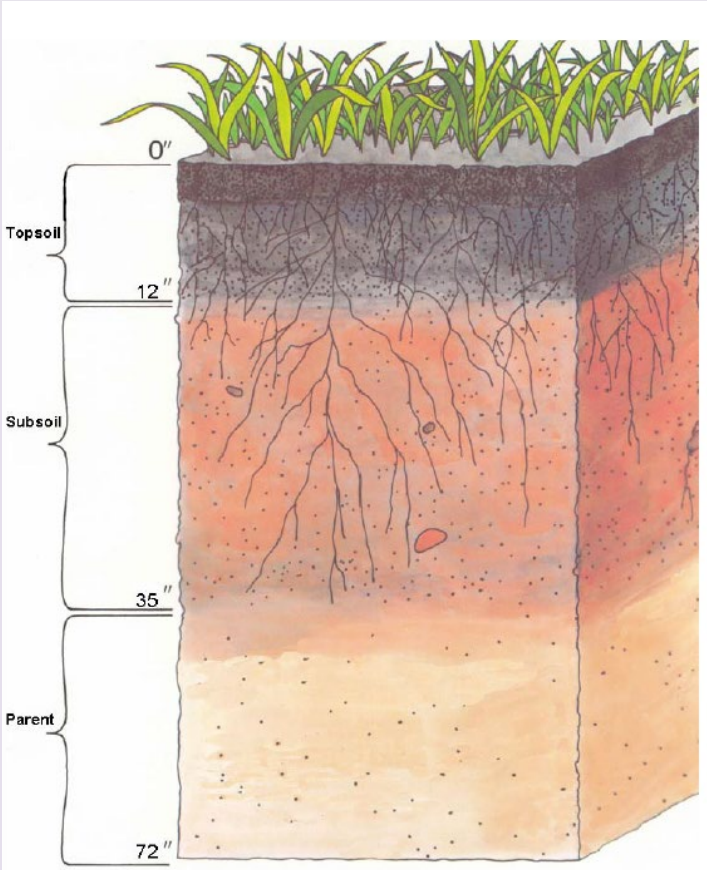
- About 70–75% of all precipitation falls during the six crop-growing months from April to September typically in the form of small but intense thunderstorms.
- Annual precipitation **varies greatly from west to east**:
  - Average annual rainfall ranges from 16 inches in western Kansas to 45 inches 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 percent) are considered prime farmlands. Soils in every Kansas county have been identified and mapped. **Since 2005, soil survey information is available for all counties on the Kansas NRCS Web site.**



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

Common NRCS Practices used to address concern (1):

- Terraces (600)
- Grass Waterway (412)
- Diversion (362)
- Underground Outlet (620)
- Grade Stabilization Structure (410)
- Conservation Crop Rotation (328)
- Cover Crop (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

Common NRCS Practices used to address concern (2):

- Conservation Crop Rotation (328)
- Cover Crop (330)
- 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

Common NRCS Practices 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

Common NRCS Practices 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 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.
- Planners should also follow 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 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

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
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.**
- 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
MISC

- **Comprehensive Nutrient Management Plans (CNMP)**
  - KDHE requires a professional engineering license to develop the manure waste water 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
MISC

- **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 & Endangered Species
- Waters of the US
- 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. NRCS is responsible for the completion of the EE. Must share pertinent information with client/TSP (as appropriate).

These items are not addressed here in depth 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 approved by the national Conservation Technical Assistance (CTA) Program manager, such as the TSP Orientation and Conservation Planning Course.
- 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

(cont'd)

- 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 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 Conservationists 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.
- All other plans technically reviewed for certification or quality assurance purposes, will be reviewed by the appropriate state specialist.
- 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.

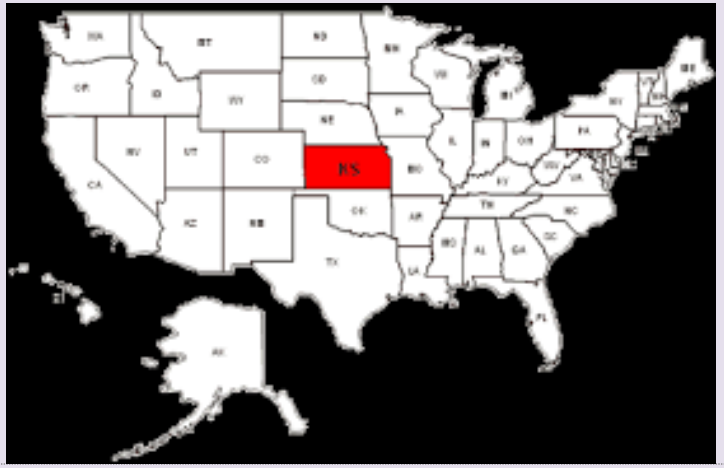
TSP Contacts for Kansas

The TSP coordinators for NRCS in Kansas are:

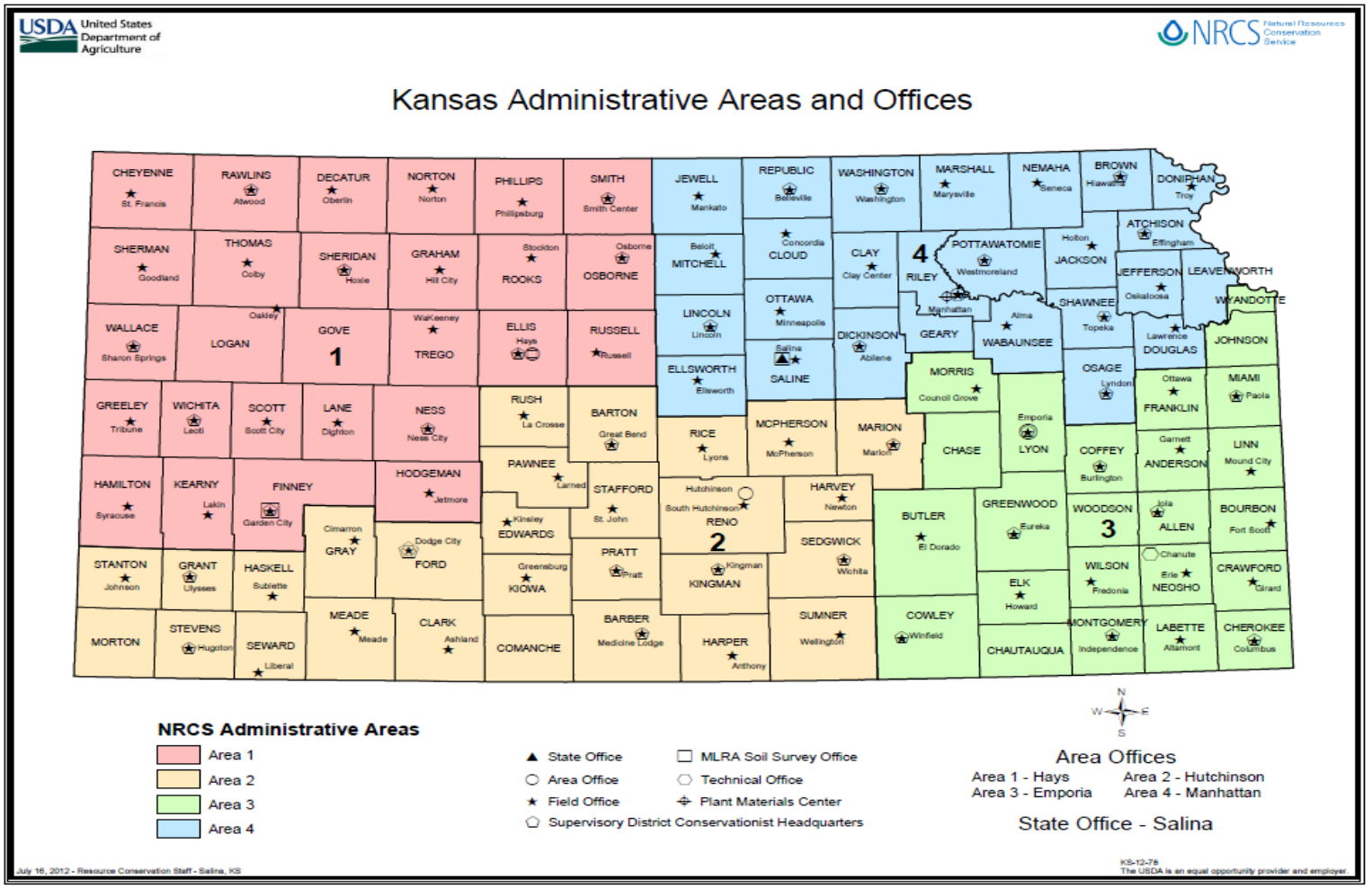
- Kristen Woods, Natural Resource Specialist
  - KS TSP Coordinator-kristen.woods@usda.gov
- Dean Krehbiel, State Resource Conservationist
  - Backup KS TSP Coordinator-dean.krehbiel@usd.gov

NRCS Kansas State Office

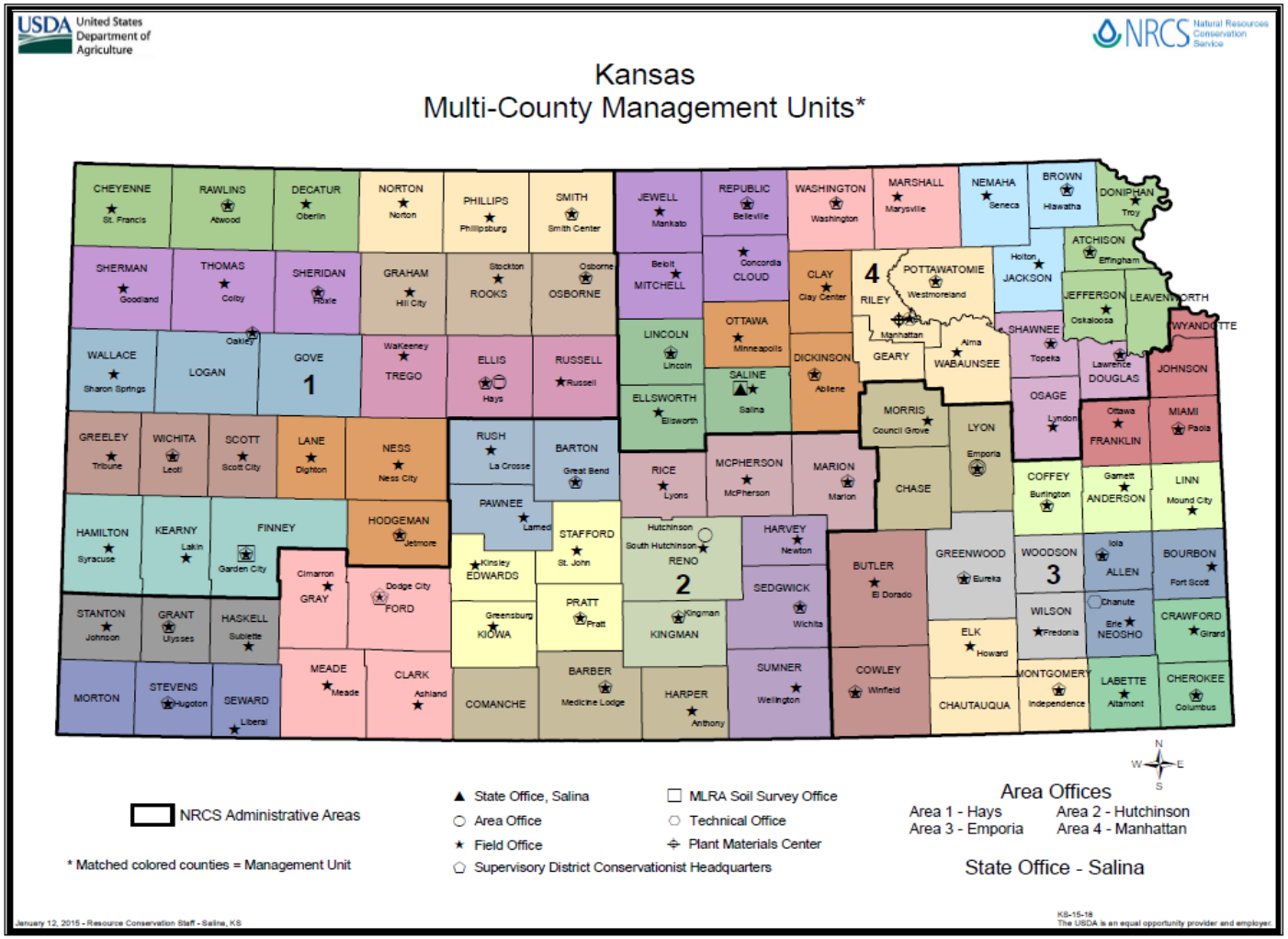
KANSAS STATE OFFICE
760 South Broadway Boulevard
Salina, Kansas 67401-4604
Phone: 785-823-4500 FAX: 855-533-5070
Hours: 7:30 a.m.—4:30 p.m.



NRCS Organizational Structure in Kansas



NRCS Organizational Structure in Kansas



Certificate of Completion for the KS State Specific Training Module

After viewing the State Specific Training module, please print and sign the completion certificate on the following slide.

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.

Upload the signed certificate to your NRCS Registry Profile or send it to the State TSP Coordinator Kristen.woods@usda.gov

STATE SPECIFIC TRAINING MODULE COMPLETION CERTIFICATE

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

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

_____ _____

TSP Signature Date

Non-Discrimination Statement

Non-Discrimination Policy

The U.S. Department of Agriculture (USDA) prohibits discrimination against its customers, employees and applicants for employment on the bases of race, color, national origin, age, disability, sex, gender identity, religion, reprisal, and where applicable, political beliefs, marital status, familial or parental status, sexual orientation, or all or part of an individual's income is derived from any public assistance program, or protected genetic information in employment or in any program or activity conducted or funded by the Department. (Not all prohibited bases apply to all programs and/or employment activities.)

To File an Employment Complaint

If you wish to file an employment complaint, you must contact your agency's EEO Counselor within 45 days of the date of the alleged discriminatory act, event, or in the case of a personnel action. Additional information can be found online at http://www.ascr.usda.gov/complaint_filing_file.html

To File a Program Complaint

If you wish to file a Civil Rights program complaint of discrimination, complete the USDA Program Discrimination Complaint Form, found online at http://www.ascr.usda.gov/complaint_filing_cust.html, or at any USDA office, or call (866) 632-9992 to request the form. You may also write a letter containing all of the information requested in the form. Send your completed complaint form or letter to us by mail at U.S. Department of Agriculture, Director, Office of Adjudication, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9419, by fax at (202) 690-7442, or email at program.intake@usda.gov

Persons with Disabilities

Individuals who are deaf, hard of hearing or have speech disabilities and you wish to file either an EEO or program complaint please contact USDA through the Federal Relay Service at (800) 877-8339 or (800) 845-6136 (in Spanish).

Persons with disabilities, who wish to file a program complaint, please see information above on how to contact us by mail or by email. If you require alternative means of communication for program information (e.g., Braille, large print, audiotape, etc.), please contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

Supplemental Nutrition Assistance Program

For any other information dealing with Supplemental Nutrition Assistance Program (SNAP) issues, persons should either contact the USDA SNAP Hotline Number at (800) 221-5689, which is also in Spanish, or call the State Information/Hotline Numbers.

All Other Inquires

For any other information not pertaining to civil rights, please refer to the listing of the USDA Agencies and Offices.