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TSP Training Module – Oklahoma

May 2023

Natural Resources Conservation Service

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Purpose of this Module

This module will provide some general information that TSPs need to conduct conservation planning in Oklahoma.

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 required to conduct conservation planning in this state.

State TSP Coordinator:

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Overview of Oklahoma

Oklahoma borders Colorado, Kansas, Missouri, Arkansas, Texas and New Mexico. It is a state of contrast and the unexpected. The terrain varies from timbered hills of the east to treeless plains extending from the Panhandle region into Texas and New Mexico. The state also has multiple rivers and lakes.

The word "Oklahoma" is derived from two Choctaw words – *okla*, "people" and *humma*, "red"

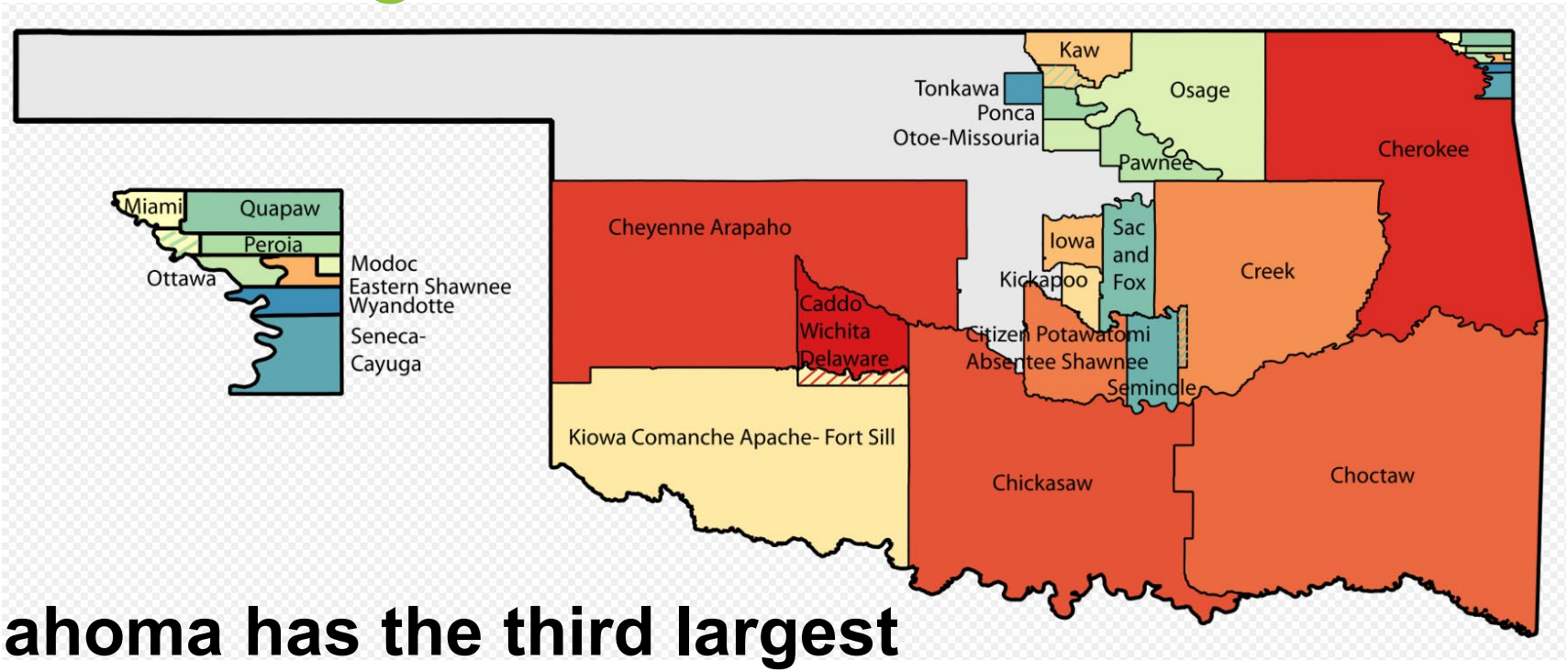
Highest Point – Black Mesa, located in northwest Cimarron County, Oklahoma, is the state's highest point at 4,973 feet above sea level.

Lowest Point – Little River in McCurtain County (southernmost & easternmost county in Oklahoma) – 289 feet above sea level

Interesting Facts about Oklahoma

State Capital - Oklahoma City
Number of Counties - 77
State Soil - Port Silt Loam
State Bird - Scissor Tailed Flycatcher
State Game Bird - Wild Turkey
State Flying Mammal - Mexican Free-tailed Bird
State Amphibian - Bullfrog
State Fish - White Bass
State Butterfly - Black Swallowtail
State Tree & Wildflower - Redbud & Indian Blanket

Interesting Facts about Oklahoma



Oklahoma has the third largest number of Native American tribes of any state behind Alaska and California.

Oklahoma Statistics

Oklahoma has 44.735 million acres of land area with 34,400,000 acres in farms.

Of those 34,400,000 acres, we have 11,715,717 cropland acres, 19,261,421 pasture/rangeland acres, and 2,469,604 woodland acres.

- **Major crops include Winter Wheat, Corn, Soybeans, Cotton, Rye, Sorghum, Peanuts, Canola, Pecans, Mushrooms**
- **Animal Production consists of Beef Cattle, Hogs & Pigs, Chicken & Turkey**

Land Ownership

Over 95% of land is privately owned in Oklahoma.

Conservation Planning on private land may also include a public land component.

- **The opportunity for private individuals to construct permanent conservation practices on public land maybe limited.**

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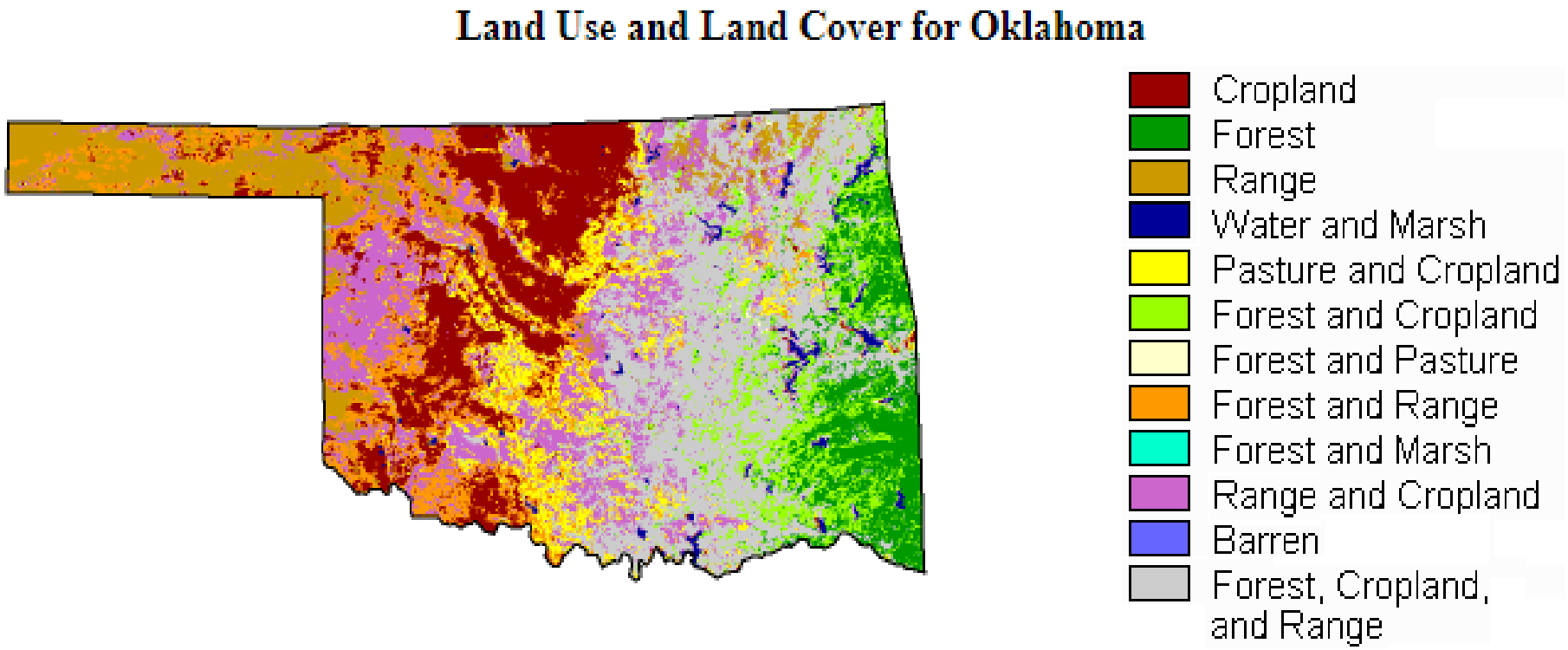
Oklahoma – Land Use



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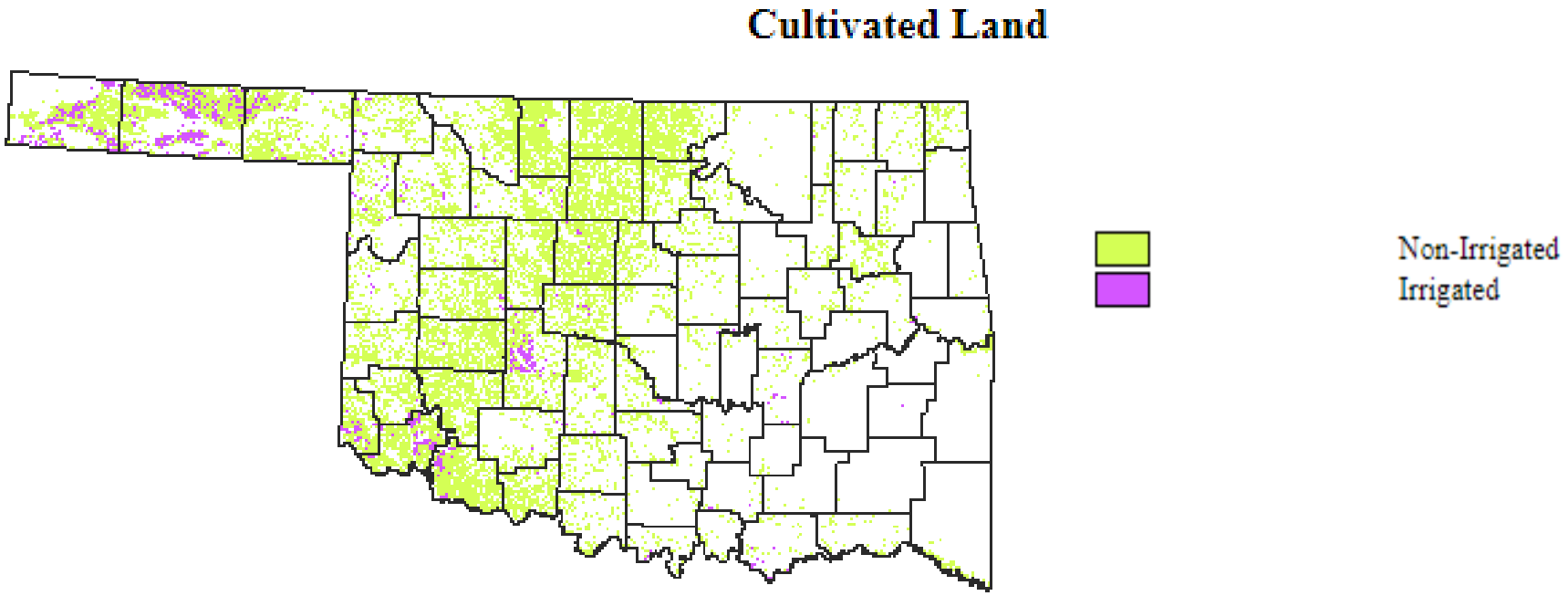
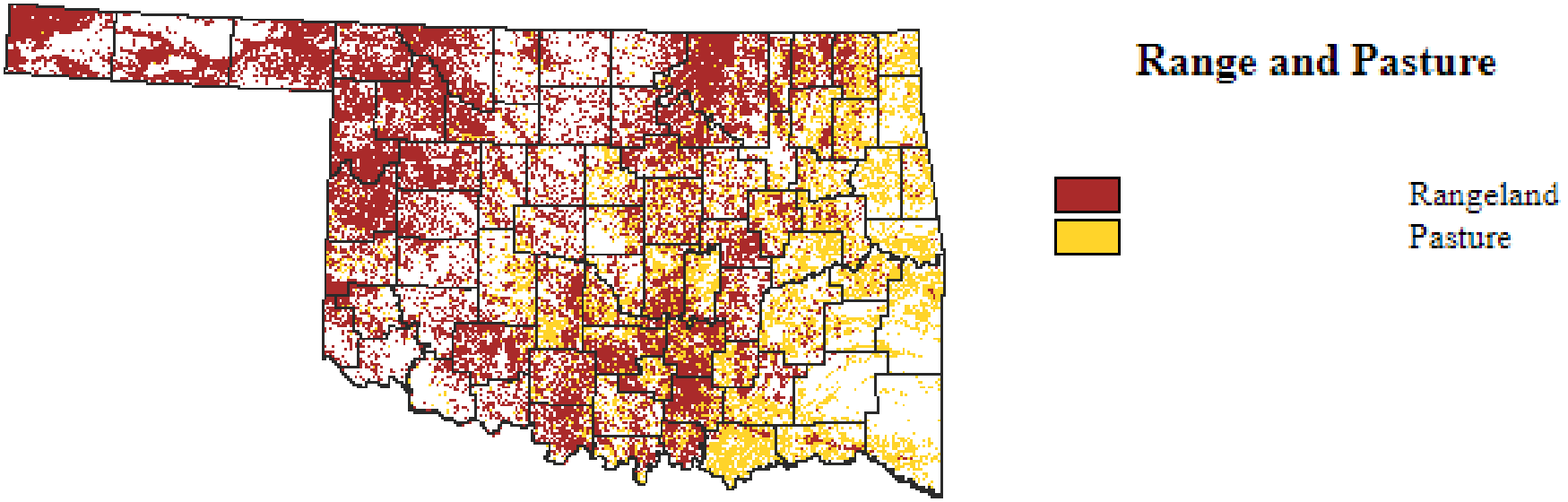
Oklahoma – Land Use



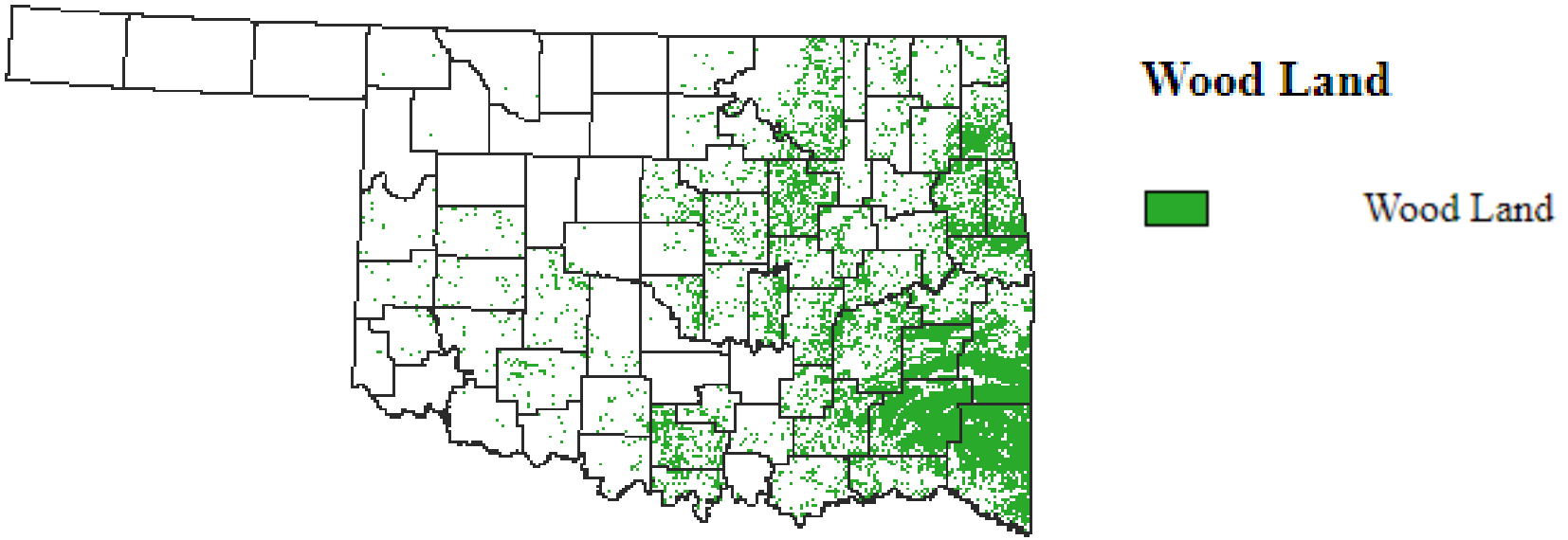
Approximately 25.6% of the area of Oklahoma is cultivated. The major portion Is in the western half of the state. Most of the cultivated land is not irrigated. Only 7% of the cultivated land is irrigated and a majority is in the western Panhandle and far southwestern corner of the state.

Oklahoma – Land Use



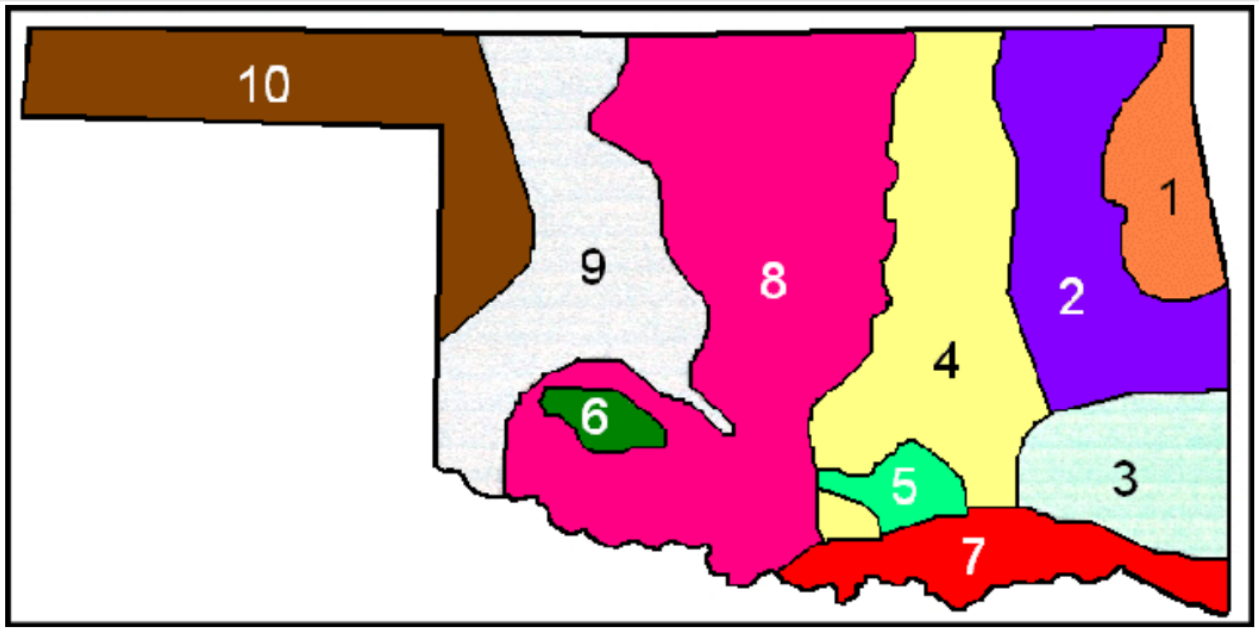
Pasture and Range can be found throughout Oklahoma. Rangeland covers about 35% of the state. Pasture makes up an additional 16.5%. These areas support a wide variety of wildlife and cattle production.

Oklahoma – Land Use



Wooded areas dominate the southeastern portion of Oklahoma. These areas Typically receive the maximum rainfall amounts. Woodland makes up 16.6% of the state.

Oklahoma – Land Use



The Physiographic provinces of Oklahoma: 1 = Ozark Plateau, 2 = Prairie Plains, 3 = Ouachita Mountains, 4 = Sandstone Hills, 5 = Arbuckle Mountains, 6 = Wichita Mountains, 7 = Red River Valley Regions, 8 = Red Beds Plains, 9 = Gypsum Hills, and 10 = High Plains

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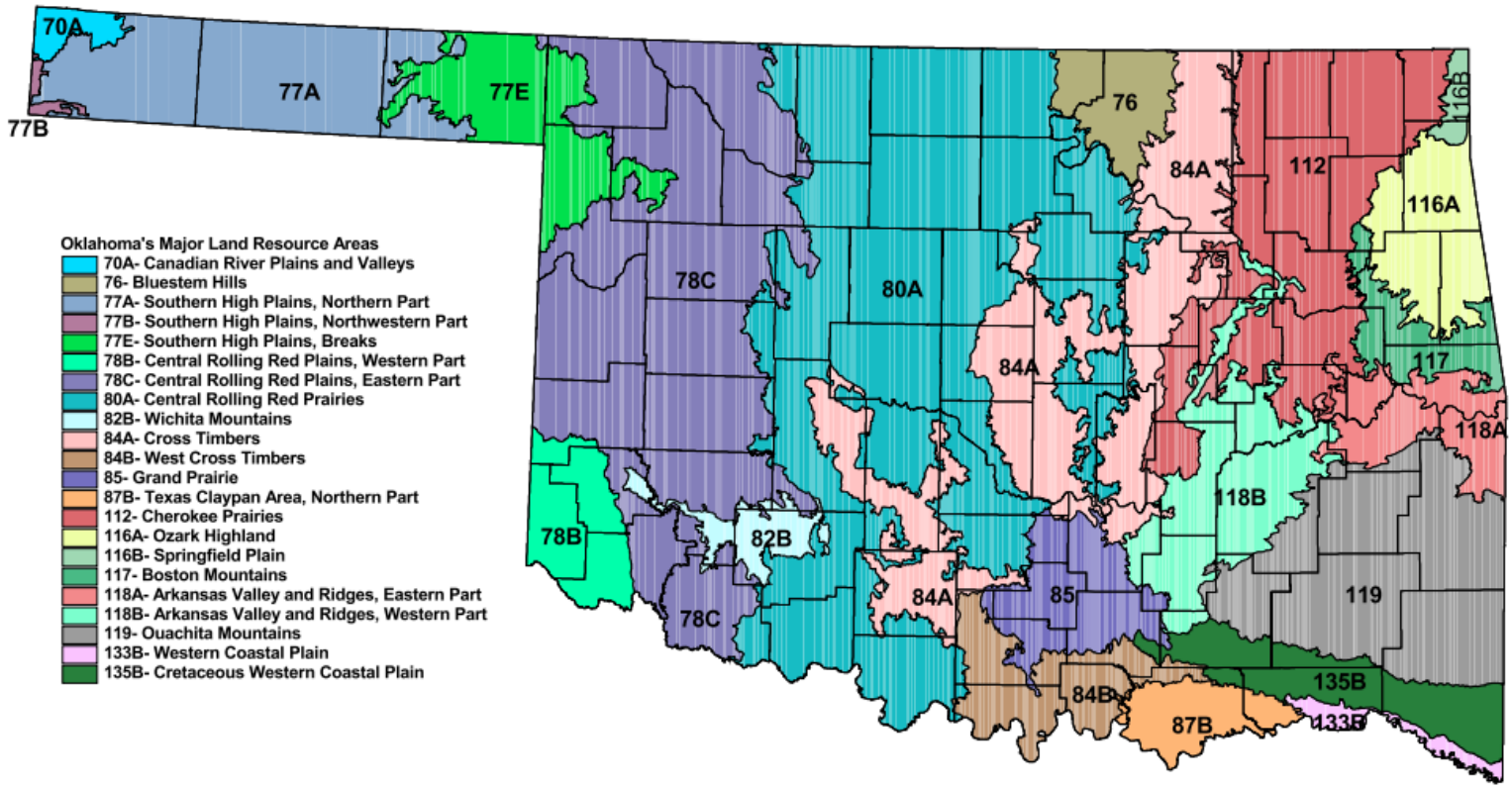
Major Land Resource Areas



Oklahoma MLRA Boundaries

NRCS Natural Resources Conservation Service

Source: NCSS Database

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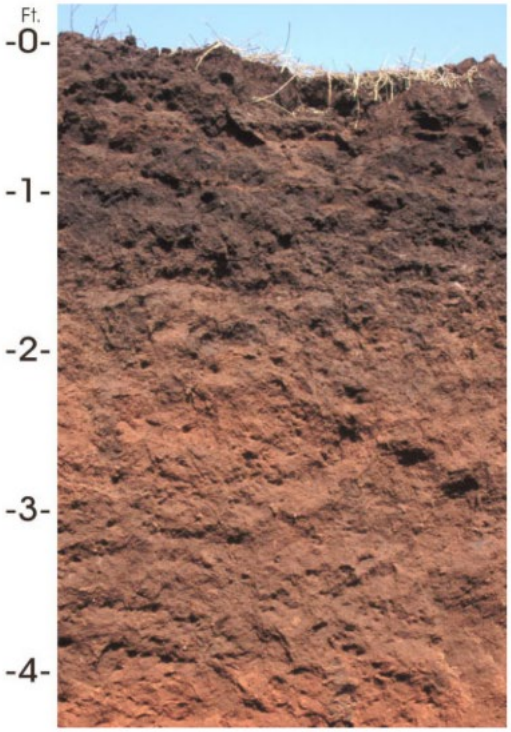
Oklahoma – Soils Information



Port Soil Profile
Surface layer: dark reddish brown loam
Subsurface layer: reddish brown silt loam
Subsoil - upper: reddish brown loam
Subsoil - lower: red very fine sandy loam

- There are over 550 different kinds of soil in Oklahoma - more different varieties of soil than just about any area this size in any other part of the world
- Oklahoma's state soil is port silt loam. Port silt loam is dark brown to dark reddish brown and is derived from upland soil materials weathered from reddish sand stones, siltstones, and shales.
- Soils of each Oklahoma county have been identified and mapped. Soils information can be found on Web Soil Survey -

https://websoilsurvey.nrcs.usda.gov/app/

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Resource Concerns & Practices

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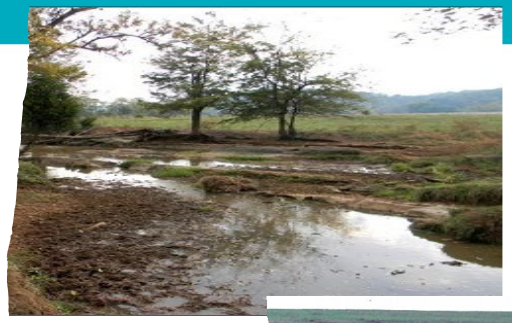
Top Resource Concerns

- **Degraded Plant Condition (degraded plant communities)**
  - Pest invasion (ERC), loss of structure and composition, productivity and health
  - Loss of ecosystem functions and diversity
- **Soil Quality Degradation**
  - Loss of OM, soil diversity (organisms) and aggregate stability
- **Erosion**
  - Wind and water
- **Loss of wildlife habitat –** Most tied to Degraded plant communities
- **Water Quality and Quantity (surface and groundwater)**
  - Nutrients, pathogens and sediment
  - Storage and handling of animal waste
  - Focus on 303(d)
  - Irrigation efficiency / water depletion



Common Practices - Degraded Plant Communities

- Management Practices
  - Grazing Management
  - Prescribed fire
  - Brush management
  - Pest management Systems
  - Forest Stand Improvement
- Other supporting practices
  - Firebreaks
  - Fencing
  - Water development

Common Practices - Soil Degradation (Erosion, Health)

- Practices
  - Residue Management
  - Crop Rotation
  - Cover Crops
  - Terraces
  - Waterways
  - GSS
  - Grass Planting
  - Buffers

Common Practices - Water Quality

- Practices – ACT Systems
  (Avoidance, Controlling, Trapping)
  - Nutrient management
  - Access control (riparian areas)
  - Residue Management
  - Cover Crops
  - Grass Planting
  - Buffers
  - Waterways

Common Practices – Water Quantity

- Land Management Practices
  - Residue Management
  - Crop Rotation
  - Cover Crops
- Irrigation Water Management
  - Improved systems
  - Soil moisture monitoring and timed applications

Common Practices – Wildlife Habitat

- Management Practices
  - Upland wildlife habitat management
  - Grazing Management
  - Prescribed fire
  - Brush management
  - Forest stand improvement
  - Wetland creation / restoration
  - Wildlife plantings

Conservation Programs & Initiatives

- **All, Multiple, or Single Resource Concerns**
  - EQIP
  - CSP
  - CRP
  - RCPP
  - Local Emphasis areas
- **Soil Health**
  - EQIP CIC
- **Water Quality and Quantity**
  - NWQI
  - WaterSMART
  - SWPA priority areas
- **Wildlife, degraded plant communities**
  - WLFW – GPGI, Monarch, LPC, BW Quail
  - Cross timbers and Forestry

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State Laws

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Review of State Laws

The following review provides an overview of state laws commonly impacting conservation planning in Oklahoma. These slides should not be considered as an exhaustive, or all-inclusive list of State laws impacting conservation planning.

Conservation planners are encouraged to contact the local NRCS Field Office for additional information regarding a Federal, State, or local laws, ordinances, or regulations that may impact conservation planning.

Review of State Laws

CNMP State Laws

- Animal Feeding Operations need to be evaluated for proximity to sensitive areas such as wetlands, ditches, and streams
- All CNMP plan documents will be developed using Manure Management Planner (MMP) software program.
- State Law information can be found on the Oklahoma Dept. of Agricultural, Food & Forestry/Ag Environmental Management - https://ag.ok.gov/divisions/agricultural-environmental-management/

Review of State Laws

Pest Management

- Anyone applying or recommending restricted use pesticides need to remain certified while TSP status is active.
- Oklahoma Department of Agriculture, Food & Forestry (ODAFF) is the Certifying agent.

  https://ag.ok.gov/licensing-permits/ - click on Pesticide Applicators & Licensing

Review of State Laws

Pest Management

- To be an effective planner - one must be able to use Win-PST
- Win-PST is a windows-based program that evaluates risks of the use of pesticides.
- https://www.nrcs.usda.gov/resources/tech-tools/windows-pesticide-screening-tool-win-pst

Review of State Laws

Burning

- All local, state, and federal burning laws must be considered during the planning process.

Review of State Laws

Cultural Resources

- Any ground disturbing practice must be evaluated by a cultural resource specialist or permitted archeologist.
- State Historic Preservation Office (SHPO) consultation must be completed prior to ground disturbance (30 days).

Review of State Laws

OKIE

- Examples of Oklahoma One-Call regulations that may impact conservation planning includes, but is not limited to:
    - Any Excavation/trenching for construction of conservation practices

Review of State Laws

Engineering in Oklahoma

- Certain Conservation Practices are considered engineering practices and require the TSP to be a certified Professional Engineer (PE). An PE license is required by the State of Oklahoma. The Index of Conservation Practice Standards in Section IV of the Field Office Technical Guide lists the lead discipline for each practice.
- For questions regarding PE licensing requirements, please contact the State Conservation Engineer.
  - The definition of “professional engineering” or “practice of engineering” is as determined by the Oklahoma State Board of Technical Professions and not by NRCS.

NRCS State Conservation Engineer

USDA-NRCS

100 USDA, Suite 206

Stillwater, OK 74074

405-742-1204

Review of State Laws

- While the state law review provides an overview of **State laws** that commonly impacts conservation planning in Oklahoma, 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.

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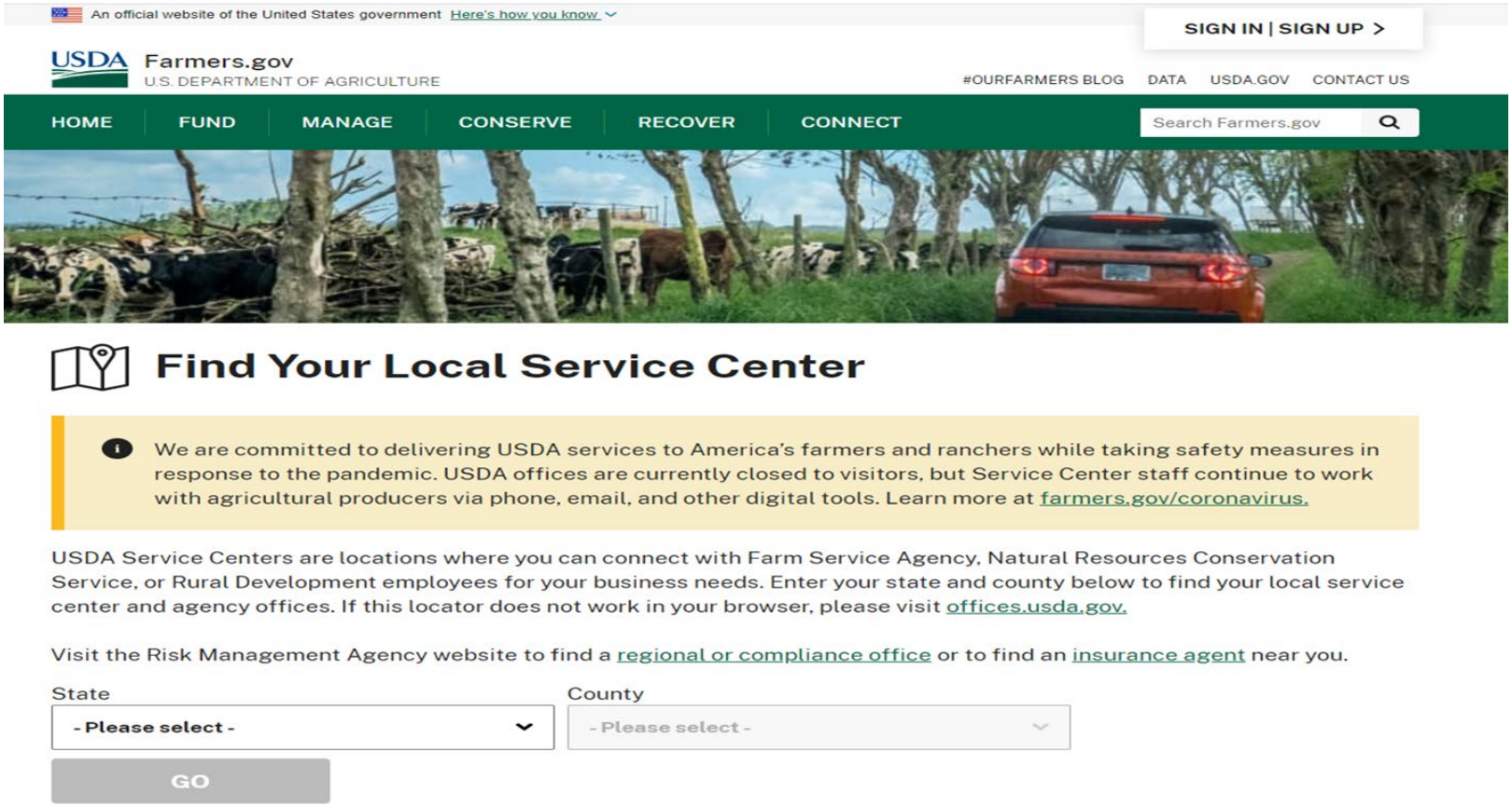
Oklahoma NRCS Field Office Locations



https://www.farmers.gov/service-center-locator

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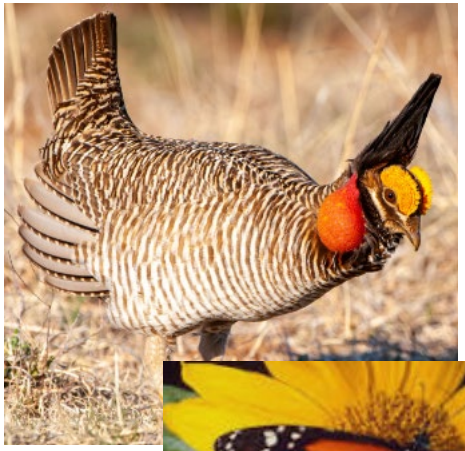
Important Resource Information



A protected species of upland bird, the Lesser Prairie Chicken, is common in the western region of the state. The bird may be present on range or crop land uses and impacts to the species should be a consideration when planning within this area. Contact the NRCS State Biologist or the State Wildlife Department for additional information on planning consideration for the Lesser Prairie Chicken.

- A complete list of each Threatened and Endangered Species in Oklahoma by county can be found in FOTG – Section 2/Special Environmental Concerns

Important Resource Issues

- Must be aware of other important resources issues including, but not limited to, the following**:
  - Threatened & Endangered Species – Federally listed & State listed species of concern
  - Wetlands
- Must be aware of all NEPA requirements. The NRCS Environmental Evaluation Worksheet (NRCS-CPA-52) is used to address many of these issues.

**The above items are not addressed in depth in this training 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.

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Field Office Tech Guide (FOTG)

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What is FOTG?

- Technical guides are the primary scientific references for NRCS. They contain technical information about the conservation of soil, water, air, and related plant and animal resources.

- Technical guides used in each field office are localized so that they apply specifically to the geographic area for which they are prepared. These documents are referred to as Field Office Technical Guides (FOTGs) and are found on-line.

- Appropriate parts of the Field Office Technical Guides are automated as data bases, computer programs, and other electronic-based materials such as those included in these web-based pages.

What is FOTG?

- Planners should be thoroughly familiar with the conservation practice standards that have been incorporated into the Oklahoma 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 implementation sheets that are available for the practices in the Oklahoma FOTG.

What is FOTG

- There are 5 sections in the FOTG. Section 4 of the FOTG has all of Oklahoma's Conservation Practice Standards (CPS) and Specification information.
- To access the Oklahoma FOTG, click here:

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

Section 1: General Resource References

- In this section you will find general state maps, descriptions of Major Land Resource Areas, watershed information, and links to NRCS reference manuals and handbooks. Section I contains links to researchers, universities, and other agencies research/information. Section I also contains conservation practice costs, agricultural laws and regulations, cultural resources, and information about protected plant and animal species.

Section 2: Natural and Cultural Resources Information

- In this section you will find detailed information about soil, water, air, plant, and animal resources. NRCS Soil Surveys, Hydric Soils Interpretations, Ecological Site Descriptions, Forage Suitability Groups, Cropland Production Tables, Wildlife Habitat Evaluation Guides, Water Quality Guides, Special Environmental Concerns, and other related information can be found here.

Section 3: Resource Concerns and Planning Criteria

- In this section you will find information on NRCS Quality Criteria, which establish standards for resource conditions that help provide sustained use.

Section 4: Practice Standards and Supporting Documents

- In this section, you will find the NRCS Conservation Practices, Standards, Statement of Work, and Certification Documents. Practice Standards define the practice and where it applies. Practice specifications are detailed requirements for installing the practice in the state.
- TSP should be familiar with practices to provide client alternatives for addressing their resource concerns.

Section 5: Conservation Effects

- In this section, you will find background information on how Conservation Practices affect each identified resource concerns in the state.

FOTG Requirements

Planners should be thoroughly familiar with the conservation practice standards that have been incorporated into the Oklahoma **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 Oklahoma FOTG, then it is not available for Farm Bill funding in Oklahoma.

FOTG Requirements

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 are available for the practices in the Oklahoma FOTG. http://efotg.sc.egov.usda.gov/

State FOTG Guidance

Engineering Practices

- Oklahoma has diverse soil conditions that may impact the success of a structural practice. **Refer to the NRCS web soil survey and Practice Specification to obtain site specific information about engineering properties.**
- Hydrologic conditions including precipitation and runoff vary greatly throughout Oklahoma. **Refer to hydrology design requirements found in FOTG** for each practice standard. Also refer to guidance found in Oklahoma engineering manuals and handbooks relating to hydrology.

State FOTG Guidance

Vegetative Practices

- Oklahoma has diverse soil conditions that may impact the success of a vegetative practice. In developing vegetative practice recommendations, **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.
- Oklahoma uses a wide range of vegetative species in plantings for vegetative practices. In developing vegetative practice recommendations, **be aware of the species that will provide successful plantings for the given site conditions.**
    - Any variance outside of practice specifications must be approved by the State Resource Conservationist prior to planning the practice.

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National Environmental Policy Act Review

Environmental Evaluation
CPA – 52

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National Environmental Policy Act Review

- Technical Service Providers who are certified conservation planners will provide NRCS with the information necessary to assess:
  - Identified natural resource concerns along with treatment alternatives, and
  - Special environmental concerns: Environmental Laws, Executive Orders, and policies.
- This information will be documented according to NRCS State-specific procedures (i.e., Environmental Evaluation Worksheet, NRCS-CPA-52).
- TSPs will sign the NRCS-CPA-52
  - NRCS will verify and sign the information provided is accurate.

National Environmental Policy Act (NEPA)

- Enacted in 1970 – Result of the first "Green Movement."
- One of the most significant environmental legislation ever passed.
- Requires all federal agencies and TSPs to evaluate impacts of their actions on the environment.

NEPA –Types of Environmental Analysis

- **Environmental Evaluation (EE)**
  - Used in most NRCS Conservation Planning (CPA-52 Form)
- **Environmental Assessment (EA)**
  - Developed when results of EE show potential adverse impacts
  - Results in FONSI or development of EIS
- **Finding of No Significant Impacts (FONSI)**
  - Developed when EA does not show significant impacts
  - Proceed with plan or action
- **Environmental Impact Statement (EIS)**
  - Developed when EA does shows significant impacts
  - Results will determine if federal plan or action can be implemented

Environmental Evaluation CPA-52

- Environmental Evaluations required by NEPA (1970)

- CPA-52 form is used in all NRCS/TSP conservation planning activities including:
  - Technical Assistance Plans (no cost-share involved)
  - Financial Assistance Plans (cost-share programs like CRP, EQIP, CStwP, and ACEP)

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Threatened and Endangered Species

- Review species accounts and supplements for habitat requirements of T & E species.
- Technical Service Providers will provide NRCS with the information necessary to assess whether Federal, State, or Tribal permits or consultation/conferencing with the Services is necessary.
- TSPs do not represent NRCS and may not conduct required consultations, conferences, or other communication with entities outside of NRCS.

Contact NRCS State Biologist:

Michael Sams
100 USDA, Suite 206
Stillwater, OK 74074
Michael.Sams@usda.gov
405-742-1239

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Expected TSP Workflow – Conservation Planning

- The State Resource Conservationist (SRC), TSP Coordinator, and appropriate Ecological Sciences staff member 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.
- The SRC or designee & State TSP Coordinator will conduct plan reviews of TSP conservation plans.
- TSPs will work with the local District Conservationist to make sure the proper environmental evaluations (NRCS.CPA.52) are completed.

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Certificate of Completion

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.

Within your NRCS Registry profile, enter the training and upload the signed certificate to verify completion.

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STATE SPECIFIC TRAINING MODULE COMPLETION CERTIFICATE

I, _____ hereby verify I have viewed and understand the content of *Oklahoma* 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

USDA United States Department of Agriculture

References

Overview of Oklahoma - Ezell, John S. and McNamee, Gregory Lewis. "Oklahoma". Encyclopedia Britannica, 26 Apr. 2023, https://www.britannica.com/place/Oklahoma-state. Accessed 27 April 2023.

Interesting Facts about Oklahoma - https://www.okhistory.org/learn/symbols; https://en.wikipedia.org/wiki/List_of_Native_American_tribes_in_Oklahoma

Overview of Oklahoma - https://www.geographyrealm.com/geography-of-oklahoma/

Land Ownership - https://www.summitpost.org/public-and-private-land-percentages-by-us-states/186111

Major Land Resource Areas - https://drought.unl.edu/archive/Documents/RanchPlan/Home/ok_mlra.pdf

Oklahoma Statistics (2022 Oklahoma Ag Statistics - Overview) -- https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=OKLAHOMA

Oklahoma Land Use - http://soilphysics.okstate.edu/S257/ok/landuse.htm; https://www.researchgate.net/figure/The-Physiographic-provinces-of-Oklahoma-USA-1-Ozark-Plateau-2-Prairie-Plains-3_fig9_263541221

Oklahoma Precipitation - http://cig.mesonet.org/climateatlas/doc60.html

Oklahoma Climate - http://cig.mesonet.org/climateatlas/doc60.html

Oklahoma – Soils Information - https://oklahoma.agclassroom.org/resources_facts/agfacts_soil/#:~:text=Oklahoma's%20state%20soil%20is%20port,reddish%20sandstones%2C%20siltstones%20and%20shales.; https://www.soils4teachers.org/files/s4t/k12outreach/ok-state-soil-booklet.pdf

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