

State Specific Training Module for Montana

Purpose of this Module

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

Agricultural Statistics in Montana in 2014 ⁽¹⁾

The average farm size is approximately 2,100 acres and the average acres of cropland per farm is approximately 600 acres.

There are approximately 2,550,000 head of cattle and calves

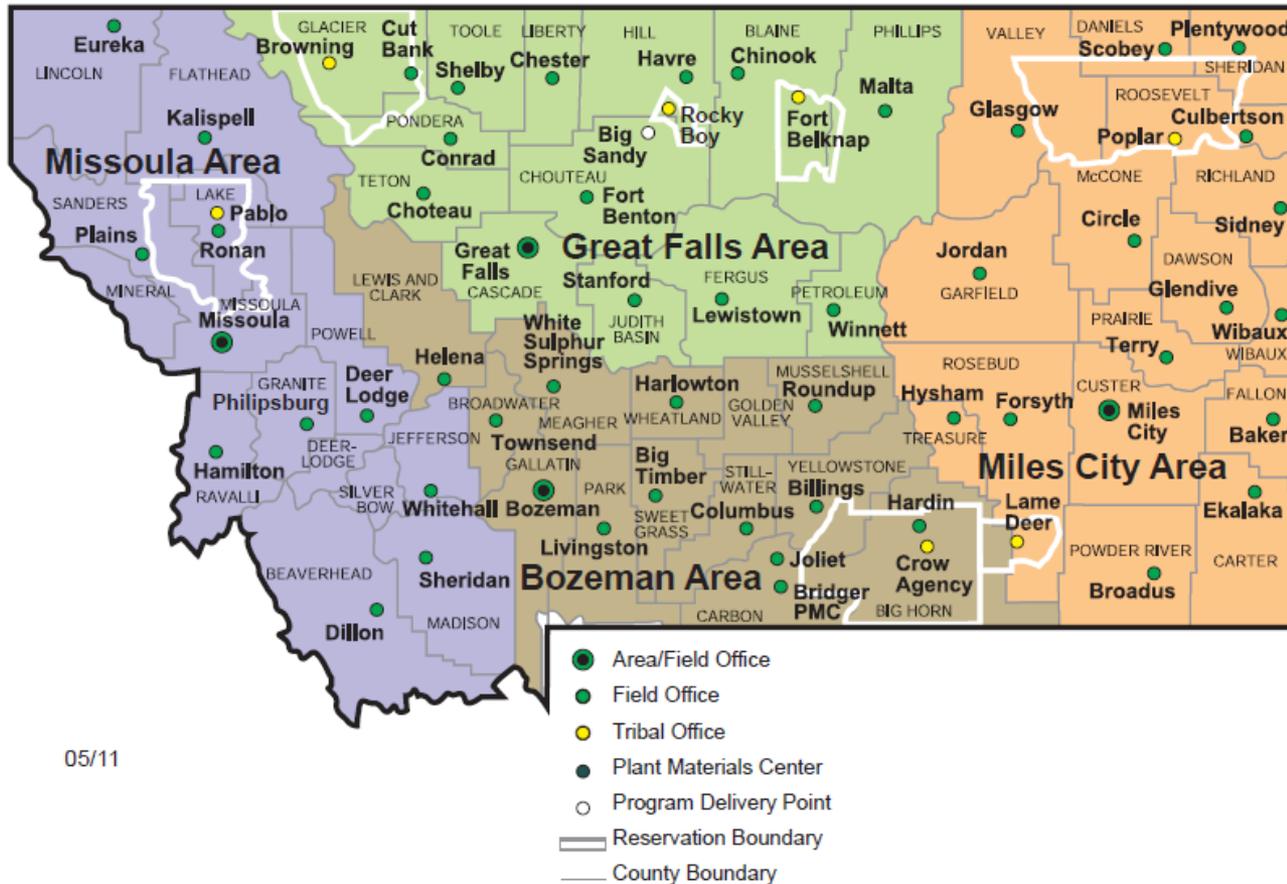
There are approximately 220,000 sheep and lambs

All hogs and pigs numbered 166,000 in 2013

(1) Montana Agricultural Statistics, Oct 2014

www.nass.usda.gov/mt

Montana NRCS Field Office Locations



05/11

Review of Major Land Ownership

Approximately 29% of this state is public lands. Most of the public land is managed for multiple use, and leases by individual ranchers is common. 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 State Laws

Agronomy - Nutrient Management in Montana – CAFO's

- Montana Department of Environmental Quality (DEQ)-
Concentrated Animal Feeding Operations (CAFO's) Permit and
Compliance Information.
 - Permit information and forms
 - Rules and regulation

website:

<http://www.deq.mt.gov/dir/legal/Chapters/Ch30-toc.mcp>

Review of State Laws

Engineering in Montana

- Certain engineering practices require that the TSP be a certified Professional Engineer (PE). The PE can be required by the State of Montana. For questions regarding which practices require a PE please call the State Conservation Engineer.

Review of State FOTG Requirements

All Technical Service Providers **must** be proficient with and use the Montana Field Office Technical Guide (FOTG). The FOTG has all of Montana's Conservation Practice Standards and Specifications in Section IV.

Please access this link to Montana's FOTG:

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

Review of Major Land Uses or Agronomic Practices

The majority of agricultural land in MT is roughly 66% pasture & range and 29% cropland.

- In the drier areas of the state the main crops are spring and winter wheat, barley, peas, lentils and canola either continuously cropped or with summer fallow.
- The main irrigated crops are alfalfa or grass for hay, silage or grazing, corn, potatoes, sugar beets, dry beans, wheat and barley.

Review of Cropland Resource Concerns

Soil Erosion Concerns

- Sheet and Rill erosion – tools to use to determine erosion are visual survey and RUSLE2.
- Typical Conservation practices that can be used to address this concern:
 - 329– Residue Management No till
 - 328 – Conservation Crop Rotation
 - 340 – Cover Crop
- Concentrated Flow – tools to use to determine concentrated flow are visual and field surveys.
- Typical Conservation practices that can be used to address this concern:
 - 329 – Residue Management No till
 - 386 - Field border
 - 342 - Critical Area Planting
 - 412 – Grassed Waterway
 - 512 Forage and Biomass Planting

Review of Cropland Resource Concerns

Soil Erosion Concerns

- Wind erosion – tools to use to determine erosion are visual survey, residue transects and WEPS.
- Typical Conservation practices that can be used to address this concern:
 - 329– Residue Management No till
 - 328 – Conservation Crop Rotation
 - 340 – Cover Crop
 - 603 - Herbaceous wind barriers
 - 386 - Field border

Review of Cropland Resource Concerns

Soil Quality Degradation

Organic Matter Depletion – tools to use to determine excessive bank erosion are WEPS or RUSLE2 Soil Condition index (SCI), Pasture Condition Score, soil testing.

- Typical Conservation practices that can be used to address this concern:
 - 329– Residue Management No till
 - 328 – Conservation Crop Rotation
 - 340 – Cover Crop
 - 590- Nutrient Management

Soil Quality Degradation – Compaction – tools to use to determine soil compaction are soil or plant condition, soil probes, bulk density test, infiltration tests.

- Typical Conservation practices that can be use to address this resource concern:
 - 329– Residue Management No till
 - 328 – Conservation Crop Rotation
 - 340 – Cover Crop

Review of Cropland Resource Concerns

Soil Quality Degradation - Concentration of salts leading to Salinity

Salinity – tools to use to determine soil salinity are soil diagnosis evaluations (visual observations, soil tests and EC meters).

- Typical Conservation practices that can be use to address this resource concern:
 - 328 -Conservation Crop Rotation
 - 512 – Forage and Biomass Planting
 - 610 – Salinity and Sodic Soil Management

Review of Cropland Resource Concerns

Water Quality Degradation – Excess nutrients in surface and ground waters.

Excess Nutrients – tools to use to determine excess nutrients are Nitrogen Risk Assessment Tool, Phosphorous Index, nutrient applied based on soil tests and nutrient budgets, soil and water analysis and PCS Pasture Condition Score.

- Typical Conservation practices that can be use to address this resource concern:
 - 590 – Nutrient Management
 - 328 – Residue Management – No Till
 - 328 – Conservation Crop Rotation
 - 102 – Certified Nutrient Management Plan
 - 635 – Vegetative Treatment Area
 - 472 – Access Control

Review of Cropland Resource Concerns

Water Quality Degradation – Pesticides transported to surface and ground waters.

Pest Control chemicals are transported to surface and ground waters – tools to use to determine pesticides in receiving waters are visual observation of plant and soil condition and WinPst.

- Typical Conservation practices that can be use to address this resource concern:
 - 595 – Integrated Pest Management
 - 328 – Residue Management – No Till
 - 328 – Conservation Crop Rotation
 - 393 – Filter Strip

Review of Energy Resource Concerns

Energy is a major business expense, but now farmers and ranchers in Montana have a great opportunity to become more energy efficient.

Energy conservation can make a landowner even more competitive by cutting fuel and nitrogen inputs, reducing electrical energy use, and lowering operational costs.

- Activities within a farm or ranch enterprise that can be more energy efficient
 - Irrigation Pumping Plants
 - Building Envelopes
 - Lighting Systems
 - Motors/Variable Speed Drives
 - Crop/Tillage Systems

Review of Energy Resource Concerns

- Energy Audit
 - The first step in taking advantage of energy-saving opportunities
- Implementation – typical improvements to address energy resource concerns
 - Lighting Improvement
 - LED
 - CFL
 - Linear Fluorescent
 - Building Envelopes
 - Attic and Wall Insulation
 - Sealants
 - Milkhouse Upgrades
 - Heat Exchangers (Plate Coolers)
 - Scroll Compressors
 - Automated Control Systems
 - General Motor Upgrades
 - Variable Speed Drives
 - High Efficiency and Radiant Tube Heaters

Review of Energy Resource Concerns

- Implementation, continued
 - Irrigation Improvement
 - Pumps, Variable Speed Drives
 - Turbine Bowls
 - Sprinkler Nozzle Packages
 - Conversion from Pump to Gravity Systems
 - Cropland Management
 - Conservation Crop Rotations
 - Cover Crop
 - Residue and Tillage Management
- Typical Conservation practices that can be use to address this energy resource concerns:
 - 374 – Farmstead Energy Improvement
 - 670 – Lighting System Improvement
 - 672 – Building Envelope Improvement
 - CAP 128 – Agricultural Energy Management Plan

Review of Forestry Resource Concerns

Soil Erosion Concerns After Wildfire

- Sheet and Rill and Wind erosion – tools to use to determine erosion are visual survey, WEPS and in some cases RUSLE2.
- Typical Conservation practices that can be used to address this concern:
 - 484 - Mulching
 - 384 - Woody Residue Treatment
 - 342 - Critical Area Planting
- Concentrated Flow – tools to use to determine concentrated flow are visual surveys.
- Typical Conservation practices that can be used to address this concern:
 - 484 - Mulching
 - 384 - Woody Residue Treatment
 - 342 - Critical Area Planting

Review of Forestry Resource Concerns

Soil Erosion Concerns (Cont.)

Excessive Bank Erosion – tools to use to determine excessive bank erosion are Stream Visual Assessment Protocol 2 (SVAP2) or visual observation and comparison with historic bank position and rates of retreat over recent time (within the last 10 years).

- Typical Conservation practices that can be used to address this concern:
 - 472 - Access Control
 - 391 - Riparian Forest Buffer
 - 612 - Tree and Shrub Establishment
 - 329– Residue Management No till
 - 512 – Forage and Biomass Planting
 - 550 – Range Planting
 - 342 - Critical Area Planting
- Soil Quality Degradation – Compaction – tools to use to determine soil compaction are soil probes.
- Typical Conservation practices that can be use to address this resource concern:
 - 655 - Forest Trails and Landing
 - 384 - Woody Residue Treatment

Review of Forestry Resource Concerns

Soil Erosion Concerns (Cont.)

Excessive Bank Erosion – tools to use to determine excessive bank erosion are Stream Visual Assessment Protocol 2 (SVAP2) or visual observation and comparison with historic bank position and rates of retreat over recent time (within the last 10 years).

- Typical Conservation practices that can be used to address this concern:
 - 472 - Access Control
 - 391 - Riparian Forest Buffer
 - 612 - Tree and Shrub Establishment
 - 329– Residue Management No till
 - 512 – Forage and Biomass Planting
 - 550 – Range Planting
 - 342 - Critical Area Planting

Review of Forestry Resource Concerns

Soil Erosion Concerns (Cont.)

- Soil Quality Degradation – Compaction – tools to use to determine soil compaction are soil probes.
- Typical Conservation practices that can be use to address this resource concern:
 - 655 - Forest Trails and Landing
 - 384 - Woody Residue Treatment
- Soil Quality Degradation – Organic Matter Depletion – tools to use to determine OM depletion are soil tests.
- Typical Conservation practices that can be used to address this concern:
 - 384 - Woody Residue Treatment

Water Quality Issues

- **Water Quality Degradation** - Petroleum, Heavy metals, or other pollutants are transported to receiving waters. Tools to use to determine water quality degradation are observation in that pollution transport is not occurring in active treatment areas where refueling, maintenance service areas and landings exist.
- Typical Conservation practices that can be used to address this concern:
 - 655 - Forest Trails and Landings

Review of Forestry Resource Concerns

- **Water Quality Degradation** - Petroleum, Heavy metals, or other pollutants are transported to receiving waters. Tools to use to determine water quality degradation are observation in that pollution transport is not occurring in active treatment areas where refueling, maintenance service areas and landings exist.
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 - 342 - Critical Area Planting
 - 655 – Forest Trails and Landings

Review of Irrigation (Water Quantity) Concerns

- Irrigation efficiency needs to be addressed (water quantity)
 - A 10% efficiency improvement between present and planned practice must be documented by approved method found in EFOTG, Section III, “Resource Quality Criteria, Table 1.
 - Fields must have irrigation history, at least 2 of the last 5 years.
 - Incidental lands included in planned practice, limited to 5%.
- Typical Conservation Practices that can be Planned include:
 - 442 - Sprinkler System
 - 441 - Micro Irrigation
 - 449 - Irrigation Water Management
 - 533 - Pumping Plant
 - 587 - Structure for Water Control
 - 443 - Surface Irrigation
 - 388 - Field Ditch
 - 464 - Land Leveling

Review of Pasture/Rangeland Resource Concerns

- Soil Erosion – Tools used to determine erosion on pasture & rangeland: SVAP2, Environment Technical Note MT-2, Pasture Inventory Worksheet, Rangeland Health Assessment, Rangeland Trend Worksheet.
- Typical Conservation Practices that can be used to address soil erosion on range and pasture:
 - 528 – Prescribed Grazing

Review of Pasture/Rangeland Resource Concerns

- Soil Quality Degradation - Tools used to determine erosion on pasture & rangeland: Pasture Inventory Worksheet, Rangeland Health Worksheet, RUSLE2 or WEPS.
- Typical Conservation Practices that can be used to address soil quality degradation on range and pasture:
 - 528 – Prescribed Grazing
 - 511 – Forage Harvest Management
- Water Resources – Water Quality and Quantity – see irrigation concerns – usually related to pasture.

Review of Pasture/Rangeland Resource Concerns

Animal Resource Concerns:

- Inadequate Habitat for Fish & Wildlife, Livestock Production Limitation, Inadequate livestock water. Tools to determine: SVAP2, ETN MT-2, Wildlife Habitat Evaluation Guides, Habitat Suitability Index, Feed/Forage Balance worksheet,
- Typical Conservation Practices that can be used to address concern:
 - 645 – Upland Wildlife Habitat Management
 - 528 – Prescribed Grazing
 - 614 – Watering Facility
 - 516 – Livestock Pipeline
 - 642 – Water Well
 - 649 – Structures for Wildlife
 - 382 - Fence
 - 550 – Range Planting
 - 512 – Forage and Biomass Planting

Review of Wildlife Resource Concerns

Animal Resource Concern:

- Inadequate Habitat for Fish & Wildlife
- Tools to determine: SVAP2, Riparian Assessment – Using the NRCS Riparian Assessment Method Environment Technical Note MT-2, Wildlife Habitat Evaluation Guides, Habitat Suitability Index
- Typical Conservation Practices that can be used to address concern:
 - 396 –Aquatic Organism Passage
 - 645 – Upland Wildlife Habitat Management
 - 644 – Wetland Wildlife Habitat Management
 - 528 – Prescribed Grazing
 - 643 - Restoration and Management of Rare and Declining Habitat
 - 649 – Structures for Wildlife
 - 382 - Fence
 - 550 – Range Planting
 - 512 – Forage and Biomass Planting

Review of Cultural Resource Concerns

- Any ground disturbing practice must be evaluated by NRCS personnel per policy or an archaeologist qualified according to Secretary of the Interior standards with notification to the NRCS State Archaeologist.
- The State Historic Preservation Office (SHPO) or Tribal Historic Preservation Office (THPO) consultation may need to be completed prior to ground disturbance (30 days).
- All consultation with Native American Tribes, the State Historic Preservation Office, or Tribal Historic Preservation Offices is an NRCS responsibility.

Review of National Environmental Policy Act Issues

- 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 and NRCS will verify and sign that the information provided is accurate.

Review of Endangered Species Act Listed Species/Critical Habitat Consultation Issues

- 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.
 - Federally listed species information can be found at:
http://www.fws.gov/montanafieldoffice/Endangered_Species.html
- This information will be documented according to NRCS State-specific procedures.
- In this context, TSPs do not represent NRCS and may not conduct required consultations, conferences, or other communication with entities outside of NRCS.

Expected TSP Workflow

- Certification for planning purposes in Montana requires the completion of a number of courses and training sessions, including our Conservation Planning Field Course.
- The State Resource Conservationist (SRC) will be responsible for reviewing and granting certification to TSPs for conservation planning purposes in Montana. For more information, please contact the SRC.
- Following certification, subsequent conservation plans will be reviewed by the District Conservationist (DC) at the local USDA Service Center.
- The SRC will conduct plan reviews for TSP planner certification renewals.
- TSPs will work with the local District Conservationist to make sure the proper environmental evaluations (NRCS.CPA.52) are completed.

Additional References or Training

- Listing of training requirements for Level I Planner Certification in MT ([MT-CPA-188](#))
- Montana Field Office Technical Guide at http://efotg.sc.egov.usda.gov/efotg_locator.aspx
- Montana Code Annotated 2014: 37-67-301. License required to practice or offer to practice.

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.

Send the signed certificate to the State TSP Coordinator. Copy the below link to your browser for a list of State TSP Coordinators.

<https://techreg.sc.egov.usda.gov/RptStateContact4Admin.aspx>

STATE SPECIFIC TRAINING MODULE COMPLETION CERTIFICATE

I, _____, hereby verify I have viewed and understand the
TSP Name
content of the Montana State Specific Training Module and affirm I have the
knowledge, skills and ability to conduct conservation planning services in that
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, audiotope, 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 Inquiries

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