



Montana Soil Health Strategic Action Plan

2024



Contents

Introduction	3
Purpose Statement	3
Definitions	3
Montana Focused Conservation	3
Soil	3
Soil Health	3
Soil Health Principles	3
Goals and Action Objectives	4
Goal 1: Demonstrate agency-wide commitment by integrating the soil health principles into all NRCS Montana functions.	4
Action Objective 1.1: Confirmation by NRCS Montana leadership that elevating delivery of the soil health principles is a national and state priority of NRCS	4
Action Objective 1.2: Maintain a State Soil Health Specialist position	4
Action Objective 1.3: Maintain and assign accountability to a Soil Health Action Committee	5
Action Objective 1.4: Formally incorporate soil health principles into delivery of agency assistance	5
Action Objective 1.5: Prioritize soil health training for NRCS Montana staff	6
Action Objective 1.6: Explore establishment of a Montana soil health learning center and concurrently seek a network of additional sites to provide training, trial, and demonstration opportunities across all land uses	6
Goal 2: Implement soil health principles and promote soil health innovations on all land uses according to best science and practice	6
Action Objective 2.1: Support and develop soil health demonstration projects	6
Action Objective 2.2: Promote implementation of soil health principles through MFC	7
Action Objective 2.3: Develop readily accessible technical guidance to expedite delivery of soil health principles by NRCS staff at all agency levels	7
Goal 3: Develop and strengthen partnerships to increase the adoption of soil health principles on all land uses	7
Action Objective 3.1: Strategically prioritize soil health-focused partnerships in Montana to form the backbone of a “Soil Health Coalition”	7
Goal 4: Provide education, communication, and outreach to employees, producers, and partners for advancing knowledge and adoption of soil health principles	8
Action Objective 4.1: Promote adoption of soil health principles through NRCS Montana communications by:	8
Action Objective 4.2: Annually convene a Montana Soil Health Symposium.	8
Action Objective 4.3: Support outreach to local schools and other youth organizations to raise soil health awareness and provide training for tomorrow’s producers, scientists, and conservationists	8

Introduction

In early 2020, a Soil Health Strategy Action Team (SHSAT) was convened by Natural Resources Conservation Service (NRCS) leadership in Montana. Thirteen team members from diverse geographic areas of the state representing the disciplines of range, agronomy, soils, engineering, biology, and public affairs came together with the task of developing a soil health strategy and vision tailored to meet the needs of NRCS Montana. The expected outcome of this effort was to elevate delivery of Soil Health Principles across Montana in conjunction with program delivery through Montana Focused Conservation (MFC).

Purpose Statement

By specifying the following goals and subsidiary action objectives, the purpose of this Montana Soil Health Strategic Action Plan is to provide a path toward elevated delivery of soil health principles by NRCS MT, resulting in healthy, functioning soil as the foundation for all working lands in Montana.

Definitions

Montana Focused Conservation

Montana Focused Conservation is a strategic approach to delivering Farm Bill financial assistance programs by implementing conservation projects proposed within investment-ready Targeted Implementation Plans (TIPs). TIPs are considered investment-ready when the anticipated implementation outcome represents a defined

and measurable positive effect for natural resources conservation. TIPs generally focus on a specific geographic location (i.e. watershed) where multiple landowners are ready, willing, and able to complete projects addressing the same resource concerns.

Soil

Soil is a dynamic, self-organizing, living ecological system comprised of a porous medium that has developed in the uppermost layer of Earth's crust. Soil is one of the principal substrata of life on Earth, serving as a reservoir of water and nutrients, as a medium for the filtration and breakdown of injurious wastes, and as a participant in the cycling of carbon and other elements through the global ecosystem. It has evolved through weathering processes driven by biological, climatic, geologic, and topographic influences.

Soil Health

Soil health, also referred to as soil quality, is defined as the continued capacity of soil to function as a vital living ecosystem that sustains plants, animals, and humans.

Soil Health Principles



Goals and Action Objectives

Goal 1: Demonstrate agency-wide commitment by integrating the soil health principles into all NRCS Montana functions.

NRCS in Montana is committed to integrating soil health principles across all disciplines and agency functions.

Action Objective 1.1: Confirmation by NRCS Montana leadership that elevating delivery of the soil health principles is a national and state priority of NRCS

Agency leadership in Montana will demonstrate the importance of this priority through word and action, internally and externally.

Messaging from leadership will be coordinated for consistency, be repeated often, and emphasize that the elevated delivery of soil health principles:

- ♦ Is a priority of the NRCS Chief and the State Conservationist (STC) for Montana;
- ♦ Will be accomplished in an integrated manner with delivery of NRCS assistance;
- ♦ Transcends technical disciplines; and
- ♦ Directly and fundamentally influences the approaches taken to address natural resource concerns identified in Montana, including through MFC.

Priority will be emphasized internally and externally by the STC through the State Leadership Team (SLT) at venues such as:

- ♦ Internal meetings at all agency levels, including state leadership team, all-employee, area, and staff meetings;
- ♦ Montana Association of Conservation Districts (MACD) Annual Meeting; and
- ♦ Partnership meetings.

In addition to consistent messaging, rotational SLT engagement in events and field activities is essential so leaders:

- ♦ Provide a physical presence that internally and externally reinforces agency commitment to the soil health priority;

- ♦ Receive relevant technical information to maintain or improve understanding of soil health principles and their fundamental applicability to delivery of NRCS service in Montana; and
- ♦ Gain broader insight into opportunities and challenges facing the agency as it seeks to accomplish required outcomes.

Action Objective 1.2: Maintain a State Soil Health Specialist position

To elevate delivery of soil health principles throughout Montana, undivided attention will be allocated to set intent into action. Anticipated duties include the following as well as other items to be determined:

- ♦ Executing the adopted Soil Health Strategic Action Plan under the advisement of the Soil Health Action Committee;
- ♦ Ensuring NRCS Montana is operating at the forefront of soil health science and practice;
- ♦ Establishing and maintaining internal and external technical relationships;
- ♦ Collaborating with state technical staff, Plant Materials Center (PMC) staff, and the Montana PMC Committee, to support PMC soil health activities;
- ♦ Exploring establishment of a soil health learning center;
- ♦ Leading and coordinating internal and external trainings;
- ♦ Leading and/or supporting NRCS field trials;
- ♦ Supporting individual area and field office efforts to elevate delivery of soil health principles;
- ♦ Leading the ongoing internal effort required to incorporate soil health principles into delivery of all aspects of agency assistance, both technical and programmatic;
- ♦ Assisting field offices with local workshops;
- ♦ Functioning as the NRCS primary point of contact for the Montana Soil Health Symposium; and
- ♦ Collaborating with partners.

At minimum, a successful Soil Health Specialist should be an employee who has:

- ◆ Established technical expertise in the science and practice of soil health principles, including their relationship to other aspects of natural resources conservation;
- ◆ Familiarity working with common agricultural operations within the geographic and climatic context of Montana;
- ◆ Willingness to explore and promote innovative agricultural techniques;
- ◆ Education, training, and experience required to understand the fundamental connection between soil health principles and recognized NRCS resource concerns;
- ◆ Experience with delivery processes of NRCS technical and financial assistance across disciplines;
- ◆ Success in creating and/or maintaining a partnership network that works together to achieve long-term goals; and
- ◆ Communication skills to successfully transfer technical information orally and in writing to internal and external audiences including employees at all levels, private landowners, non-governmental organizations, and others.

Action Objective 1.3: Maintain and assign accountability to a Soil Health Action Committee

Soil Health Action Committee (SHAC) reports to the SLT and is accountable for accomplishing soil health action objectives outlined in this document. To encourage stability in approach, SHAC membership will not rotate on a fixed schedule, but rather will reflect the continued individual desire of each member to serve with the support of their supervisory line.

SHAC membership will be targeted to include:

- ◆ One to three representatives from each area selected at the discretion of each Area Conservationist (AC) with concurrence by the STC;
- ◆ The State Soil Health Specialist, Community Agriculture Specialist, and three representatives from the State office technology staff at the discretion of the State Resource Conservationist (SRC) with concurrence by the STC; and

- ◆ A representative from the state engineering team and the public affairs team, with concurrence by the STC.

The SHAC will be tasked with ensuring the fulfillment of the adopted Soil Health Strategic Action Plan by:

- ◆ Annually developing and seeking SLT approval of a proposed plan of work to accomplish specific Strategic Action Plan objectives, including:
- ◆ Scheduled activities, workshops, tours, etc. and
- ◆ Tasks and timelines to complete annual plan of work.
- ◆ Estimating budget requirements to complete annual plan of work;
- ◆ Annually reviewing and updating the Strategic Action Plan; and
- ◆ Reporting collectively to the SLT through quarterly one-pager updates and one overall annual report.

Following SLT approval of an annual plan of work, the State Soil Health Specialist will be primarily responsible for execution of the plan in coordination with and under advisement from the rest of the SHAC. In addition, the SHAC members will make a concerted effort to support group learning and communication by reporting on soil health projects, events, successes, and failures to both field and leadership colleagues.

To foster effective generation of ideas and to maintain focus, energy, and accountability, the SHAC will:

- ◆ Meet once annually in-person; and
- ◆ Meet quarterly remotely.

SHAC meetings will be guided by a trained facilitator from outside the group when available. The State Soil Scientist will be the leadership team liaison.

Action Objective 1.4: Formally incorporate soil health principles into delivery of agency assistance

Elevated delivery of the soil health principles by NRCS in Montana requires a specific effort to integrate them into existing processes, products, and tools utilized within the agency when providing technical and financial assistance:

- ◆ The State Soil Health Specialist will participate in the State Technical Guide Committee. As a member, the State Soil Health Specialist will help to identify high priority technical and financial assistance opportunities for soil health principle integration;

- ◆ As conservation practice standards, specifications, implementation requirements, payment scenarios, and enhancements are reviewed, discipline leads will collaborate with the Soil Health Specialist to incorporate soil health principles and to address ideas or concerns from field staff;
- ◆ Develop, advance, and maintain technical tools to assist planners in assessing and solving fundamental causes of resource concerns rather than symptoms, using soil health principles, in the effective delivery of technical and financial assistance;
- ◆ Include SHAC membership in the annual Montana Plant Materials Committee meeting to discuss soil health activities;
- ◆ Collaborate with the Soil and Plant Science Division MLRA Soil Survey Offices to enhance soil health delivery in Montana by conducting Dynamic Soil Properties projects.
- ◆ Review effectiveness of integration by field staff during appraisals, spot checks, and evaluation of applicable TIP outcomes.

Action Objective 1.5: Prioritize soil health training for NRCS Montana staff

Elevating delivery of soil health principles requires that NRCS employees in Montana receive ongoing soil health training. The main purpose of this action objective is to encourage development of a practical, relevant knowledge base across all disciplines, so staff better understand how soil health principles fundamentally apply to the resolution of many natural resource concerns. The Soil Health Specialist will identify and centrally catalog specific training opportunities representing good value for the agency.

Training will be:

- ◆ Encouraged across all disciplines, geographic areas, and experience levels;
- ◆ Encouraged at more advanced levels for those who already have attended soil health training;
- ◆ Provided to employees with an associated expectation of knowledge transfer to coworkers and producers upon completion;
- ◆ Inclusive of a multitude of formats, including courses, conferences, on-line videos, field days, etc.; and

- ◆ Incorporated into all aspects of foundational, Montana-delivered technical courses.

Action Objective 1.6: Explore establishment of a Montana soil health learning center and concurrently seek a network of additional sites to provide training, trial, and demonstration opportunities across all land uses

NRCS will explore the use of acreage and facilities for establishment of a soil health learning center dedicated to elevating delivery of soil health principles in Montana by providing a consistent, long-term, brick-and-mortar presence as a training, field trial, and demonstration site.

Additionally, to provide soil health training, trial, and demonstration opportunities throughout Montana, NRCS will explore partnerships with facilities representing all land uses across the state.

Goal 2: Implement soil health principles and promote soil health innovations on all land uses according to best science and practice

Successful implementation of soil health principles on all land uses is the ultimate expression of elevated delivery by NRCS. Implementing soil health principles according to best science and practice gives customers assurance that NRCS assistance is technically sound, responsibly delivered, and provides the greatest opportunity for achieving desired conservation objectives.

Action Objective 2.1: Support and develop soil health demonstration projects

Continuing to build agency expertise by developing the body of relevant, scientifically supported work is essential to elevate delivery of soil health principles in Montana. This is a long-term process and will include support for both internal and external scientifically based demonstration efforts. This process involves:

- ◆ Identifying and cataloging existing demonstration projects relevant to delivery of soil health principles in Montana;
- ◆ Identifying knowledge gaps that warrant development of research or demonstration projects;

- ◆ Prioritizing implementation of demonstration projects and encouraging Conservation Innovation Grant proposals;
- ◆ Partnering with research-driven organizations such as Montana State University and Agricultural Research Service to support relevant, established research projects and to communicate new project ideas based on identification of need;
- ◆ Compiling and evaluating relevant Targeted Implementation Plan (TIP) outcomes;
- ◆ Performing economic analyses of soil health principle implementation;
- ◆ Clearly communicating results internally and externally with staff, partners and producers (ex: Bozeman Area Soil Health one-pagers); and
- ◆ Incorporating suitably vetted results into official NRCS guidance and reference material.
- ◆ Identification of top resource concerns in Montana associated with poor soil health and their most common, fundamental causes;
- ◆ Explanations and examples of soil health principle implementation on each land use;
- ◆ Identification of technical and outreach strategies, including highlighting NRCS practices and enhancements that have proven effective in fundamentally addressing resource concerns; and
- ◆ Exploring opportunities to invest in soil health assessment tools.

Goal 3: Develop and strengthen partnerships to increase the adoption of soil health principles on all land uses

Partnerships play an important role in delivery of NRCS assistance and will be strategically pursued to elevate delivery of soil health principles in Montana.

Action Objective 3.1: Strategically prioritize soil health-focused partnerships in Montana to form the backbone of a “Soil Health Coalition”

- ◆ The SHAC will identify potential contributing partners and provide suggested deliverables for the coalition to address;
- ◆ Develop and execute soil health-focused partnership meetings throughout the state; and
- ◆ Support a grassroots-driven soil health training in each area, potentially involving:
- ◆ Identifying education-oriented partners and consultants to host and/or deliver trainings for the advancement of soil health on the landscape (Examples of potential courses are “Ranching for Profit”, “Holistic Management”, etc.);
- ◆ Developing a base curriculum in cooperation with these partners and in consultation with producers engaged in diverse agricultural enterprises;
- ◆ Locally adapting the base curriculum as needed to address implementation of soil health principles on all land uses; and
- ◆ Delivering training across Montana in cooperation with identified partners and with input from local producers.

Action Objective 2.2: Promote implementation of soil health principles through MFC

Within the framework of MFC, NRCS Montana will promote soil health principles to address underlying causes, rather than symptoms, of resource concerns on all land uses throughout Montana. To accomplish this:

- ◆ Develop baseline assessments of priority soil health resource concerns across Montana to define the scope of conservation opportunity and determine the outcomes realized through MFC efforts;
- ◆ Encourage NRCS planning assistance toward TIPs that emphasize purposeful implementation of soil health principles to resolve fundamental problems underlying identified resource concerns;
- ◆ Annually review programmatic payment rates to promote implementation of underutilized conservation practices that are known to improve soil health; and
- ◆ Encourage opportunities within NRCS programs that deliver soil health principles in innovative ways.

Action Objective 2.3: Develop readily accessible technical guidance to expedite delivery of soil health principles by NRCS staff at all agency levels

Provide momentum for implementation of soil health principles by packaging and disseminating technical guidance in a manner that enables rapid delivery throughout the state, including:

Goal 4: Provide education, communication, and outreach to employees, producers, and partners for advancing knowledge and adoption of soil health principles

NRCS will be a leader in efforts to deliver relevant, science-based soil health information into the hands of present and future practitioners.

Action Objective 4.1: Promote adoption of soil health principles through NRCS Montana communications by:

- ♦ Working with soil health practitioners, producers, and researchers to identify and share success stories to appeal to landowners of varying expertise on all land uses and
- ♦ Making use of all media formats to encourage effective communication with diverse audiences; and

Action Objective 4.2: Annually convene a Montana Soil Health Symposium

The Montana Soil Health Symposium is an excellent forum for sharing technical information by experts in agriculture and natural resources conservation. Build further success by:

- ♦ Annually convening similar symposia as flagship soil health events in Montana for at least the next 5 years to encourage broad networking among practitioners, producers, researchers, and partners representing the multitude of land uses and contexts found within Montana;
- ♦ Selecting larger symposia venues to accommodate demand;
- ♦ Annually evaluating and selecting NRCS staff for attendance;

- ♦ Pursuing partnerships with organizations and partners to assist with and support the Montana Soil Health Symposium; and
- ♦ Coordinating and communicating annual symposium themes throughout all NRCS- involved trainings and workshops to maximize extent of content delivery.

Action Objective 4.3: Support outreach to local schools and other youth organizations to raise soil health awareness and provide training for tomorrow's producers, scientists, and conservationists

The understanding and adoption of soil health principles by future generations requires a training investment today. Additionally, young members of rural and urban communities can be influential leaders in soil health. For these reasons, NRCS will support interactive soil health outreach and training to youth by:

- ♦ Engaging locally and statewide with youth organizations such as FFA, 4-H, and others;
- ♦ Partnering with Montana Farm Bureau Federation, Montana Department of Agriculture, and Montana Stockgrowers in support of their respective Young Farmer/Rancher and Young Ag Couples programs;
- ♦ Assisting with incorporation of soil health principles into curriculum – such as Montana Range Days;
- ♦ Seeking opportunities to bring the science and practice of soil health into local classrooms; and
- ♦ Exploring partnerships with established youth education programs such as the Envirothon, MSU Extension's Montana Natural Resource Youth Camp, and Montana Ag in the Classroom's many opportunities (Ag Literacy curriculum, projects, Montana Student Ag Mag, and science fair ideas).