



# State Source Water Protection Programs:

A PROGRESS REPORT ON AGRICULTURE AND FORESTRY  
COORDINATION SINCE THE PASSAGE OF THE 2018 FARM BILL

September 2021



# ASDWA-GWPC State Source Water Protection Programs: A Progress Report on Agriculture and Forestry Coordination Since the Passage of the 2018 Farm Bill

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## Introduction

The [Association of State Drinking Water Administrators \(ASDWA\)](#) and the [Ground Water Protection Council \(GWPC\)](#) have been working together and with our members to support and promote state source water protection (SWP) program planning and implementation throughout the nation for many years. ASDWA's members regulate and provide technical assistance and funding for the nation's public water systems (PWSs). Many of GWPC's members are also ASDWA members and regulate and provide technical assistance and funding for groundwater programs and permits.

Our efforts began with the development of the state source water assessments per the 1996 Amendments to the Safe Drinking Water Act and continued over the past 20 plus years in coordination with the ASDWA and GWPC Source Water Protection Committees consisting of representatives from 30 states, along with multiple partners at the national level. This included establishing the [National Source Water Collaborative \(SWC\)](#) in 2006 with 13 (that has now grown to 29) different member agencies, associations, and organizations for which ASDWA and GWPC are the Co-Chairs. SWC members include the Natural Resources Conservation Service (NRCS), US Environmental Protection Agency (EPA), the US Forest Service (USFS Northeast Region), the Association of Clean Water Administrators (ACWA), the



National Association of Conservation Districts (NACD), the American Water Works Association (AWWA), the National Rural Water Association (NRWA), the US Endowment for Forestry and Communities (US Endowment), and other key partners. ASDWA and GWPC work together with these and other organizations and our collective members to support state and local level implementation of source water assessment, protection planning, projects, and practices by sharing information, and conducting meetings and webinars to discuss and enhance new and existing opportunities for coordination and source water protection outcomes.

## Purpose

This report and [the associated fact sheet](#) are primarily intended for ASDWA and GWPC's members and their state SWP programs that are managed by the [state source water protection coordinators](#), as well as other SWP partners. The information in the report is based in part on the responses of 40 state SWP programs to a survey that ASDWA and GWPC conducted in the spring of 2021, and includes other information collected over the past several years through a variety of communications and meetings with our members. The purpose is to share information about the accomplishments of state SWP program efforts since the passage of the 2018 Farm Bill (Agriculture Improvement Act, particularly the Conservation Title), including challenges and state examples of potential solutions for making further progress.

## 2018 Farm Bill Conservation Title

Section 2503 of the 2018 Farm Bill, for the first time, added source water protection as one of the explicit goals when targeting conservation practices, and recognizes the role of PWSs in identifying priority areas. This includes:

- Identifying priority areas for drinking water protection in each state with NRCS [State Technical Committees \(STCs\)](#). These can address water quality, quantity, surface, and groundwater.
- Directing at least 10% of total funds available for conservation programs ([except for the Conservation Reserve Program \(CRP\)](#)) toward source water protection, an estimated \$4 billion over 10 years.
- Additional incentives (up to 90% reimbursement) for private agriculture and forest landowners who work with state and local NRCS offices to implement practices that benefit source waters.

## State Forest Action Plans

Beginning in 2008, the Farm Bill required that State Forest Action Plans (SFAP) be updated every five years and rewritten every ten years, with the most recent round completed in December 2020. Each state has an SFAP that assesses all forested lands – public, private, rural, and urban; sets priorities (that can include drinking water); and offers access to a variety of funding and technical assistance for stewardship of forested lands.

## US Forest Service Water Source Protection Program

The 2018 Farm Bill (Section 8404) directed the Secretary to establish and maintain a '[Water Source Protection Program](#)' to carry out watershed protection and restoration projects on National Forest System land but to date, USFS has not received appropriated funds. This program allows the USFS to enter into water source investment partnership agreements with end water users to protect and restore the condition of National Forest watersheds that provide water to end water users. USFS has issued letters to its regional offices and identified two landscapes for innovative finance opportunities and one landscape to test forest resilience bond model in 2020.

## Executive Summary and Report Findings

Since the passage of the 2018 Farm Bill, state SWP programs have done great work to coordinate with NRCS, the USFS, and a variety of partners and to undertake agricultural and forestry planning and implementation actions in priority areas to protect both surface water and groundwater sources of drinking water. However, there is more work to be done and progress to be made.

### Collaboration is the Key to Success

Collaboration considers the interests and needs of each partner to find common ground and achieve both mutual and individual goals such as improved water quality, soil health, and land management and conservation. By collaborating, state SWP programs, NRCS, and other agricultural and forestry partners can work together to ensure multiple benefits and the best use of financial and technical resources to reduce impacts to surface water and groundwater, and protect public health and water quality – based on what is important for each partner.

### Report Findings: Challenges and Tips for Success

#### *State SWP Program Work with NRCS and Forestry Partners: Challenges*

- Both state SWP programs and NRCS state and local offices are challenged with limited staff and resources, and staff turnover.
- State SWP programs are sometimes located in different state agencies with different structures and priorities that can limit coordination across programs to leverage resources and opportunities to make progress on SWP efforts.
- State SWP programs may need persistence and repetition to connect and build relationships with forestry partners.
- Most state SWP programs have worked with NRCS and multiple partners, yet some are still disconnected from the NRCS process for selecting priority areas and taking the next steps to leverage conservation programs to promote the implementation of agricultural practices.
- State NRCS offices could support better engagement with state SWP programs by sharing more information and project examples and meeting more often with NRCS SWP subcommittees, or meeting ad hoc with the state source water program and interested utilities, to identify next steps to promote implementation in priority source water areas.
- Site-specific SWP circumstances sometimes create challenges that require additional efforts and partners to understand and ensure that practices and actions create an effective solution for protecting and improving the drinking water source.

#### *State SWP Program Work with NRCS: Tips for Success*

- State SWP programs and NRCS share common ground in their mutual goal of protecting and improving water quality, surface water and groundwater, and in their commitment to working through partnerships.
- State NRCS offices with SWP subcommittees or workgroups have helped to further progress.
- State NRCS offices that have a longer history of working with state SWP programs have sustained and built on their success.
- State SWP programs that have participated in and provided presentations at NRCS State Technical Committee Meetings created a great starting point for further collaboration.
- State NRCS offices that have conducted outreach and communication to landowners have received more interest and participation.
- State SWP programs that have engaged with local SWCDs to coordinate with communities and PWSs have achieved success working with landowners.

- State SWP programs can work with NRCS on well siting and decommissioning.
- State SWP programs that shared GIS data and worked directly with NRCS to select the priority SWP areas have established a good foundation for implementing projects to achieve mutual water quality goals.
- Some state SWP programs have worked with NRCS and other state programs to achieve success in planning and funding for local projects.

#### *State SWP Program Work with Other State Agencies and Partners: Tips for Success*

- State SWP programs that coordinate directly with other state agencies and/or are co-located with the state Clean Water Act (CWA) Nonpoint Source (NPS) and 319 programs have achieved cross-program successes through integrated approaches.
- State SWP programs that have a statewide source water collaborative, legislative or regulatory directives, policies, priorities, and/or funding have greater capacity for SWP planning and implementation actions.
- States that have worked with EPA Regional source water coordinators have been able to further SWP actions in coordination with additional partners.
- States that have contracted and work with technical assistance (TA) providers have achieved success working with PWSs at the local level.

#### *State SWP Program Work with Forestry Partners: Tips for Success*

- Many state SWP programs engaged with state foresters for the first time to include drinking water priorities in their State Forest Action Plans (SFAPs) and are now more connected to federal and state forestry efforts that can fund SWP projects.
- State SWP program involvement and interest in working with the USFS and NRCS Foresters has increased in the last year based on mutual forestry management and water quality goals.

## Overview of ASDWA-GWPC and State SWP Program Efforts

### ASDWA-GWPC Committees

The ASDWA and GWPC SWP Committees have met jointly and regularly for many years and serve to drive the actions of our organizations to promote and support state SWP program needs for working with partners on the assessment and protection of drinking water sources, including the National SWC. Together, we have provided direct support and communication, conducted and participated in meetings with states and partners, and shared and collected information via correspondence, surveys, presentations and webinars that have culminated in the information provided in this report.

### State SWP Program Efforts

The work of state SWP programs to coordinate with NRCS, USFS, and other agricultural and forestry partners to achieve mutual goals, including the 2018 Farm Bill directives, builds from the basic foundation of the state Source Water Assessment Program (SWAP) to conduct source water assessments, and support protection planning and implementation.

*Source Water Assessments:* The 1996 Amendments to the Safe Drinking Water Act required every state to develop a SWAP to ensure that source water assessments were prepared for all PWSs. States and PWSs have made great strides to update many of these assessments since they were originally prepared from 1999 through 2003. The assessments include:

- Delineation of SWP areas with maps of the surface water or wellhead protection areas.
- Inventory (and mapping) of potential sources of contamination within the SWP areas.
- Vulnerability/susceptibility analyses that considers the risk for each of the potential contaminants to impact the drinking water source.
- Public participation & public access to the assessment results and information about threats to drinking water.

*Source Water Protection Planning and Implementation:* Source water protection is largely a voluntary activity that includes planning and implementation of actions to protect drinking water sources from contamination. While some states have required PWSs to develop and implement SWP programs for new sources since the late 1990s, the vast majority of existing PWS sources predate these requirements. Protection includes:

- Developing an action plan to identify and prioritize implementation activities.
- Implementing protective actions to protect sources of drinking water (e.g., collaboration, monitoring, best management practices, land conservation, mitigation, spill response, education).
- Periodically evaluating and updating the action plan.

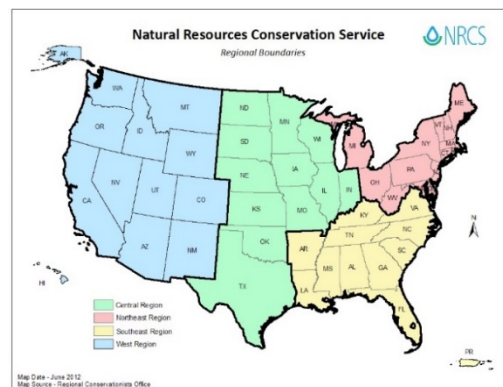
### ASDWA-GWPC 2021 Survey and Continued Information Collection

The information in this report is based in part on the responses of 40 state SWP programs to a survey that ASDWA and GWPC conducted in the spring of 2021, and on other information collected over the past several years through a variety of communications and meetings with our members. The survey purpose is to provide an overview of progress made since the 2018 Farm Bill, as well as examples of individual state approaches to engaging partners to leverage funding and technical assistance opportunities.

## ASDWA-GWPC and NRCS Regional Meetings

ASDWA and GWPC worked together with partners to plan and conduct meetings with three of [four NRCS Regions](#) in 2020 that included NRCS Regional and State Conservationists; state and EPA Regional SWP coordinators; National SWC members including ASDWA, GWPC, AWWA, EPA and NRCS Headquarters, and more. Both NRCS and state source water protection program representatives from all the states in each NRCS Region participated in the meetings to help promote and enhance partnerships. ASDWA and GWPC plan to schedule a meeting with the Northeast NRCS Region in the future.

NRCS Regional Meetings	Date in 2020	Participants
Western states	June 9	71
Southeastern states	August 6	60
Central states	November 5	76



## ASDWA-GWPC Work with NRCS to Identify Priority SWP Areas

ASDWA, GWPC, and partners played a key role in helping state SWP programs work with state NRCS offices to identify and refine the SWP priority areas by meeting with NRCS Headquarters to discuss the importance of coordinating directly with state SWP programs and PWSs, and conducting webinars with NRCS to explain and provide examples of how to get involved in the process. NRCS has now developed, and annually refined, the SWP priority areas for each state as directed by the 2018 Farm Bill. The state SWP program GIS map layers, source water assessments and SWP protection plans (where available) are key components for implementation of successful projects. The [NRCS issued bulletins](#) in the summer of 2019 and 2020 to work with drinking water partners (including state SWP programs) to identify high priority SWP areas for targeting conservation practices. The process was refined in 2020 from the previous year to create some national consistency using EPA's [Drinking Water Mapping Application to Protect Source Waters \(DWMAPS\)](#) tool to identify HUC-12 watersheds and groundwater protection areas representing no more than 20 percent of the total land area of the state.

## ASDWA-GWPC Work with Forestry Partners

ASDWA and GWPC worked with several members of the National SWC, including the US Endowment, AWWA, EPA, and the USFS to develop the National Association of State Foresters (NASF) [NASF Memo to SFAP Leaders](#) in March 2020, which was emailed to the State Forest Action Plan (SFAP) leads in each state to encourage them to include drinking water in their SFAPs. The memo has many references to SFAPs that already include drinking water as examples for other states. Each state has an SFAP that assesses all forested lands – public, private, rural, and urban – and sets priorities (which can include drinking water) for stewardship funding and technical assistance. The Farm Bill requires that they are updated every five years and rewritten every ten years, with the last round completed in December 2020. This memo helped enhance state SWP program knowledge of and coordination with their State Forester's office, the USFS, and other partners on prioritizing forested lands for source water protection activities and projects. ASDWA and GWPC also worked with the National SWC to develop the [Forestry Learning Exchange](#) that includes six webinars on the importance of forests and forestry for drinking water and wildlife mitigation and recovery.

## State SWP Program Work with a Variety of Partners

State SWP programs are working with a variety of partners to implement agricultural and forestry priorities and projects. The information provided in this section was compiled from the 2021 ASDWA-GWPC survey and other information collected from state SWP programs over the past few years since the passage of the 2018 Farm Bill.

### *Which states are working with partners?*

Thirty-four (34) of the 40 states responding to the 2021 survey answered that they have continued working with NRCS and other organizations to implement agricultural priorities and projects to protect source water in their state since January 2020. This work with partners has helped these states achieve a variety of successes. However, six states answered that they have not worked with (or had just started working with) NRCS and other organizations and could benefit from additional assistance. In addition, three states reported that they did not work with NRCS specifically, and two states noted their lack of capacity to work with any partners due to staffing or other pressing priorities.

### *Which partners are states working with?*

The 34 states that responded to survey shared that the partners they are working with include NRCS, the local Soil and Water Conservation Districts (SWCDs), AWWA sections, NRWA State Affiliates, EPA Regions, state CWA NPS and 319 programs, state Departments of Agriculture, the U.S. Geological Survey (USGS), and universities.

### *2021 Status of State Work with NRCS*

The following table provides the 2021 ASDWA-GWPC detailed survey responses from 40 state SWP programs to questions about coordination with NRCS. In contrast to the 34 states that said they are now working with NRCS and partners in 2021, before the 2018 Farm Bill, 12 states reported that they wanted to work with NRCS but had not yet done it, that they had not tried to work with NRCS, or had tried and failed. Of those 12 states, 8 states reported that they are now working with NRCS in 2021.

2021 ASDWA-GWPC State Survey Responses (40 states responded)	Total - Yes	Total - No or N/A	Northeast NRCS Region (11 of 13 states responded)	Southeast NRCS Region (6 of 11 states responded)	Central NRCS Region (10 of 12 states responded)	Western NRCS Region (12 of 13 states responded)
State participated with NRCS to identify/refine priority SWP areas	33	7	8 of 11	5 of 6	9 of 10	10 of 12
NRCS informed state which priority SWP areas were selected	31	9	8 of 11	6 of 6	7 of 10	9 of 12
State participates in NRCS State Technical Committee	29	11	7 of 11	4 of 6	9 of 10	9 of 12
NRCS has an SWP subcommittee	16	23	5 of 11	1 of 6	6 of 10	5 of 12
State participates in NRCS SWP Subcommittee	16	15	5 of 11	1 of 6	6 of 10	4 of 12
State participates in local SWCD meetings	6	34	1 of 11	0 of 6	1 of 10	4 of 12



## Report Findings: State SWP Program Challenges and Tips for Success

### Overarching State SWP Program Challenges

*Both state SWP programs and NRCS state and local offices are challenged with limited staff and resources, and staff turnover:* Working with NRCS and partners can sometimes be challenging when both programs have limited staff and resources and may also be experiencing staff turnover. Coordination also takes extra time because the programs use different terminology and language. Some states may have multiple SWP staff, while others may only have one person who spends 10-25% of their time on this issue. Some states also have grant funding available for PWSs or have contracts with technical assistance providers to help with SWP, while others do not.

*State SWP programs are sometimes located in different state agencies with different structures and priorities that can limit coordination across programs to leverage resources and opportunities to make progress on SWP efforts:* States also have different state agency and program structures and priorities that influence the extent and variety of state SWP program coordination, approaches, and activities. While most drinking water and groundwater programs are in Departments of Environment or Departments of Natural Resources, there are 16 states where the drinking water programs are in the Departments of Health and three states where the Departments of Health and Environment are combined. This is important because NRCS has a longer history of coordinating with state NPS and 319 programs under the Clean Water Act, which may be located in a different agency, and in some cases may not coordinate directly with the SWP program, particularly if the SWP program is within the Department of Health. NRCS also has a longer history of coordinating with Departments of Agriculture that are most often disconnected from water programs in other departments.

*State SWP programs may need persistence and repetition to connect and build relationships with forestry partners:* In some states, the SWP areas do not overlap very well with forested lands. Although many SFAPs include references to drinking water, the relationships between state SWP program coordinators and the State Forester's offices are in the early stages of development.

### Overarching Tips for Success: Progress Working with NRCS Since the Passage of the 2018 Farm Bill

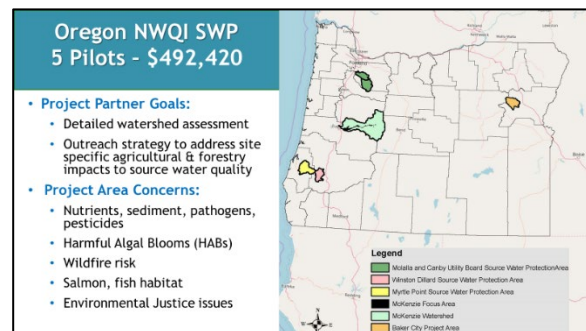
*State SWP programs and NRCS share common ground in their mutual goal of protecting and improving water quality, surface water and groundwater, and in their commitment to working through partners:* State SWP programs and NRCS have significantly increased SWP progress on projects and practices since the passage of the 2018 Farm Bill. The state SWP programs that have had the greatest success working with NRCS and other partners to select priority areas and implement agricultural and forestry projects stem from a variety of different factors.

*State NRCS offices with SWP subcommittees or workgroups have helped to further progress:* The increasing number of state NRCS offices that have established SWP committees or workgroups have helped to further integrate coordination activities with state and local partners to discuss priority SWP areas and implement projects and practices with landowners. Sixteen (16) states identified that their NRCS offices had SWP subcommittees or workgroups (and are also participating in them) in July 2021. This number has grown from six states in 2020, and no states in 2019.

- **Iowa's** Source Water Subcommittee involved the state source water program and PWSs and produced a detailed identification of priority source water areas, reflecting the population served by groundwater and surface water.

*State NRCS offices that have a longer history of working with state SWP programs have sustained and built on their success:* The state SWP programs that have worked with NRCS for many years have a long history of continued success based on different contributing factors. The six states who reported that they had not worked with, or had just started with NRCS and other organizations, should expect that it takes time and continued effort to build these relationships.

- **Delaware's** state SWP program staff has been a member of the NRCS STC for more than 20 years. This involvement has led to the success in more accurately defining critical groundwater recharge areas as criteria for NRCS EQIP projects.
- **Oregon's** SWP program has a long history of working with NRCS and local partners. This continued work led to the selection of nine National Water Quality Initiative (NWQI) planning phase SWP watershed projects that are in progress, and one that has been completed. This number of NWQI projects increased from five watersheds originally selected for the NWQI SWP pilot program in 2018. The selection of the NWQI watersheds was an easier process for Oregon because of the established relationship between the SWP program and NRCS and their continued coordination efforts. Now, the coordinated technical assistance for NWQI SWP planning assessments that the state SWP program, NRCS, and partners are providing is helping to further the development of local SWP plans and implementation of protection strategies on agricultural lands with County SWCDs.



*State SWP programs that coordinate directly with other state agencies and/or are co-located with the state CWA NPS and 319 programs have achieved cross-program successes through integrated approaches:* The states that have their NPS and 319 programs under the purview of the CWA have a longer history of working with NRCS than state SWP programs because of the direct correlation with water quality impacts from agricultural lands and practices. Therefore, these state SWP programs have also engaged and coordinated with NRCS for a much longer period to implement practices that help to protect and improve drinking water sources.

- **Nebraska, Delaware, and Oregon** have their SWP program staff located within the state nonpoint source (NPS) and 319 programs under the CWA. At the state program level, this coordination has resulted in cross-program successes and integrated approaches for achieving drinking water protection and water quality improvements for both surface watersheds and groundwater aquifers.

*State SWP programs that have participated in and provided presentations at NRCS STC Meetings created a great starting point for further collaboration:* NRCS has become more receptive to, and interested in, partnering with both state SWP programs and PWSs as a result of the new 2018 Farm Bill SWP provisions, and a good first step is to attend the NRCS STC meetings. Some of the 33 (of 40) states that reported they worked with NRCS on selecting or refining the priority SWP areas, had never attended STC meetings or worked with NRCS before. They started with doing a presentation for the STC meeting about the state SWP program and drinking water concerns and have now established a relationship.

- **North Carolina's** state SWP program staff serve on the NRCS STC and on the STC's Easement Subcommittee. The state has worked with the Easement Subcommittee to secure priority ranking points for easement projects that are within source water protection areas.

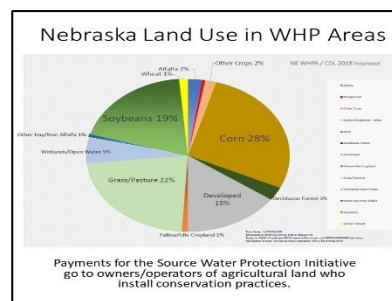
*State NRCS offices that have conducted outreach and communication to landowners have received more interest and participation:* The state and local NRCS offices have established relationships with landowners and can provide materials that highlight the benefits of participating in NRCS conservation programs to protect drinking water sources.

- **New Hampshire** NRCS's handout was shared with landowners to promote funding for SWP practices and helped to get more interest and participation in NRCS programs. In addition, the state SWP program published a newsletter article about NRCS conservation programs with emphasis on SWP to 3,000 subscribers and surveyed PWSs to gauge their interest in land conservation and improving agricultural and forestry practices near their sources and is following up with PWSs to determine specific problems and how to refer to the appropriate agency/program.



*State SWP programs that have a statewide source water collaborative, policies, priorities, and/or funding have greater capacity for SWP planning and implementation actions:* States that have established formal collaboratives and taken action to institutionalize incentives for SWP have been able to leverage partnerships and additional funding opportunities for project implementation.

- **Oregon and Washington** participate in the Drinking Water Providers Partnership (DWPP) with the Geos Institute, USFS Region 6, Oregon Department of Environmental Quality, the Washington Department of Health, EPA Region 10, the U.S. Bureau of Land Management, The Freshwater Trust, and WildEarth Guardians. The DWPP coordinates an annual, competitive grant solicitation and award program for environmental conservation and restoration projects in municipal watersheds across the Northwest that benefit both agricultural and forest lands.
- **Iowa** is a heavily agricultural state and created the Iowa Source Water Agricultural Collaborative with agricultural agencies, grower associations, and other partners to gain buy-in and leverage resources to implement SWP projects and practices. The Collaborative has supported the continued work with NRCS and partners on an annual basis to determine priority SWP areas in Iowa for NRCS to use in ranking its funding applications.
- **Nebraska** used DWSRF set-aside funding to develop groundwater management plans that also met the requirements for the 9-element 319 watershed plans and NRCS NWQI so that dedicated funding from these other programs can be used for the Source Water Protection Initiative to implement NRCS conservation practices in wellhead protection (WHP) areas.



*States that have worked with EPA Regional source water coordinators have been able to further SWP actions in coordination with additional partners:* EPA Regional source water coordinators can assist states with SWP program planning, coordination, project implementation, and the associated use of SRF set-aside funds for these efforts.

- **EPA Region 1** works directly with state SWP programs, NRCS, PWSs and other partners. EPA conducts and participates in meetings to identify and prioritize SWP areas and watersheds for NRCS project planning and funding. EPA Region 1 also worked with AWWA to plan two meetings with NRCS State Conservationists, SWCDs, state SWP programs, and PWSs to enhance coordination efforts and identify potential SWP areas for projects. The first meeting was held in person with Connecticut, Rhode Island, and Massachusetts in October 2019 and the second was held virtually with Vermont, New Hampshire, and Maine in March 2020.
- **EPA Region 3** works with each state to help further their source water protection goals, and to connect with NRCS to identify priority source water areas and take steps toward implementation of NRCS programs in those areas.

- **Virginia and EPA Region 3**, following up on NRCS selection of priority source water areas, held a series of virtual meetings with Virginia NRCS and a few interested PWSs to discuss what would be needed to move to implementation of NRCS conservation programs in specific priority areas. These meetings identified which areas of interest to the PWSs also had SWCDs with the capacity to engage landowners.

*States that have contracted and work with technical assistance (TA) providers have achieved success working with PWSs at the local level:* Many states have achieved success by contracting and working with source water TA providers, and one state noted in their response to the 2021 survey that their state Rural Water Association is primarily responsible for implementing the state SWP program. TA providers (such as the state rural water associations) can help state SWP programs with a variety of local PWS SWP planning and implementation activities. These TA providers have a history of working directly with the PWSs and are sometimes more accepted and trusted by community leaders than the state SWP program because of their non-regulatory role.

- **Virginia** provides SRF set-aside funding for contractors to communicate with farmers in the Shenandoah priority SWP area.
- **Missouri's** state SWP program coordinates regularly with the Missouri Rural Water Association (MRWA), which operates a federally funded source water protection program dedicated to working with PWSs to develop and implement local plans. Over 75 percent of the source water and wellhead protection plans submitted to the state SWP program were developed with assistance from MRWA.

*State SWP programs that have engaged with local SWCDs to coordinate with communities and PWSs have achieved success working with landowners:* The local SWCDs have established relationships with landowners and have detailed knowledge of local water quality issues. They can assist with landowner outreach, planning and technical assistance, and applications for funding.

- **Minnesota** regional state SWP program planners and the Minnesota Rural Water Association SWP specialists provide local planning and implementation support to PWSs. The local SWCD staff lead the work with growers to further target and implement practices in the local PWS SWP areas.
- **Colorado's** SWP program is working with Shavano SWCD and the Colorado Rural Water Association to identify landowners and help them put together applications for an NRCS grant program. This will complement the state SWP program funding provided for data collection to ensure the proper practices will be implemented.

*State SWP programs can work with NRCS on well siting and decommissioning:* NRCS has two conservation practices for irrigation well siting and for well decommissioning that can be used for projects to protect groundwater sources of drinking water. State SWP programs that are also undertaking actions to decommission wells can work with NRCS to coordinate efforts in agricultural SWP areas.

- **New York's** state SWP program worked with the state CWA program and the state Department of Agriculture and Markets on an MOU to enforce drinking water well standards because there have been recurring incidents of wells being drilled too close to Confined Animal Feeding Operation (CAFO) property lines that are causing contamination.
- **Hawaii** is planning to work with NRCS to implement well decommissioning projects after the finalization of the Pacific Islands Area Well Decommissioning and Monitoring Well Practice Standard document that will guide their efforts.



USDA NRCS Well Decommissioning Practice (Code 351)



## State SWP Program Work with NRCS to Identify Priority SWP Areas

*State SWP programs that shared GIS data and worked directly with NRCS to select the priority SWP areas have established a good foundation for implementing projects to achieve mutual water quality goals:*

Thirty-four (34) of the 40 states responding to the survey said that they continued working with NRCS and other partners on efforts to implement agricultural priorities and projects to protect source water in their state since January 2020.

- **Nebraska** and NRCS have a Data Sharing MOU that allows the state SWP program to access important data as a “USDA Conservation Cooperator” to assist in the delivery of conservation services, yet prohibits the disclosure of protected and confidential information about producers.
- **Connecticut** has continued its collaboration with the state NRCS office and SWCDs to fund and implement multiple SWP projects. This includes \$345,000 in NRCS funding for creating a state-wide GIS mapping tool that ranks parcels by importance to prioritize SWP projects, practices, easements, and land acquisitions; and developing the Farm River NWQI watershed plan.

## State SWP Program Work with NRCS to Implement Conservation Program Projects and Funding in Priority SWP Areas

*Most state SWP programs have worked with NRCS to identify priority SWP areas, yet some are still disconnected from the NRCS process for selecting the areas and taking the next steps to leverage conservation programs to promote the implementation of agricultural practices:* Although almost all state SWP programs met with NRCS to identify the priority SWP areas, 9 of the 40 states responding to the survey did not receive any follow up information from NRCS on the selection of the areas or any other actions taken beyond identifying the areas, to solicit projects and/or work with landowners and implement practices. In addition, six states responding to the survey said that weren’t involved in these efforts at all and answered that they had not worked with (or just started working with) NRCS and other organizations on agricultural coordination.

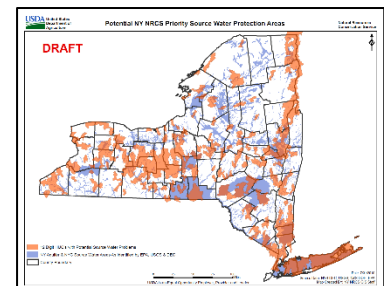
*State NRCS offices could support better engagement with state SWP programs by sharing more information and project examples and meeting more often with NRCS SWP subcommittees or meeting ad hoc with the state source water program and interested utilities, to identify next steps to promote implementation in priority source water areas:* Lack of communication between state SWP programs and NRCS, following identification of priority source water areas, slows the momentum of implementation. Though some state SWP programs have longstanding working relationships with NRCS, CWA NPS programs, and state Departments of Agriculture that pre-date the 2018 Farm Bill source water provisions, some state SWP programs do not have relationships with their other state programs at all. State suggestions for improving coordination included having the state NRCS: share more information and some examples of project successes and case studies that can also serve to help inform the state’s SWP work and better understand the NRCS programs; and meet more often and on a regular basis with the water quality and/or SWP subcommittees that sometimes only meet on as-needed basis and mostly discuss Farm Bill implementation to meet NRCS goals.

*Some state SWP programs have worked with NRCS and other state programs to achieve success in planning and funding for local projects:*

Successful approaches to promote implementation of conservation practices in priority SWP areas involves important roles for NRCS, state SWP programs, and other partners such as state CWA programs, SWCDs, and PWSs. However, state SWP programs should note that coordination with the other state programs is not necessary in advance of establishing their own relationship with NRCS and coordinating with them on SWP actions in the state.



- **Minnesota's** work with NRCS has led to the inclusion of priority SWP areas in their Conservation Stewardship Program (CSP) workload priorities and in the NRCS Conservation Assessment Ranking Tool (CART) that is used to support conservation planning activities and to prioritize programs and report outcomes of NRCS investments in conservation.
- **Indiana** NRCS has used the SWP areas to propose implementation projects with comment from other agencies. These efforts have been focused on the Great Lakes watersheds and a few other areas of major impact.
- **North Carolina's** SWP program worked with NRCS, the NPS program, and the Lincoln County SWCD in the summer of 2020 to identify three HUC12 watersheds to participate in the NRCS NWQI program. This work helped to ensure that all NWQI selected watersheds were in public water supply source water assessment areas.
- **New Hampshire** is working with NRCS and also independently reaching out to PWSs that expressed interest in land conservation following a workshop conducted jointly with NRCS. The state SWP program worked on several committees set up by NRCS to prioritize SWP areas and modify NRCS program grant criteria and scoring so that projects in SWP areas received a higher score and potentially greater chance of funding from NRCS.
- **Vermont** held a meeting with NRCS and partners to strategize on collaboration needed between PWSs and farmers. SWCDs in Vermont are taking the lead to develop outreach materials for targeted watersheds and improve on prior outreach efforts and brochures from the NRCS state office. The Vermont Rural Water Association and state SWP program staff are planning trainings on SWP for the SWCD staff coupled with site visits, in the summer of 2021 in targeted watersheds.
- **New York's** state SWP program worked with the state Department of Agriculture and Markets to adjust bonus point criteria for their NPS grants. Projects receive bonus points if the community has a current SWP plan. State SWP program staff also informally evaluated agricultural areas for their review and prioritization of PWSs. The prioritization will be used to target outreach to communities to offer technical assistance to create an SWP plan.
- **Missouri's** state SWP program is coordinating with the state 319 NPS program, the state Soil and Water Conservation program, the USGS, NRCS, the Missouri Rural Water Association, and local partners to address excess nutrients and algal blooms in a regionally significant reservoir in northwest Missouri. The NRCS identified the watershed as a mutual priority area and partners drafted a preliminary source water protection plan to direct funding from state and federal sources towards further characterization of the watershed. This project provides a real-world, real-time opportunity for the various agency specialists and other stakeholders to focus their respective tools and resources on a specific, tangible problem. Many of the standard hurdles that exist with respect to multi-jurisdictional coordination and collaboration were minimized by this locally driven, collaborative effort.



### State SWP Program Work with NRCS to Identify Practices for Priority SWP Areas

*Site-specific SWP circumstances sometimes create challenges that require additional efforts and partners to understand and ensure that practices and actions create an effective solution for protecting and improving the drinking water source:* The state SWP programs that worked directly with NRCS to identify and select implementation practices in priority SWP areas were able to share helpful information on site-specific circumstances for NRCS to consider in its process for selecting practices that would be most effective for achieving water quality results. Drinking water impacts and emerging concerns beyond traditional NRCS practices require additional efforts and partners to ensure effective solutions.

- **North Carolina's** SWP program provided input to the NRCS STC on the selection of priority conservation practices for the 90 percent cost-share rate. They also provided input on the selection of priority resource concerns for the EQIP Conservation Incentives Contract program. This input supported practices aimed at identified resource concerns that help protect and improve source water quality.
- **Minnesota** works with the state NRCS office to help set state priorities, then locally with County SWCD and NRCS staff to target priority SWP needs and practices at the local level. NRCS developed a brochure for farmers to promote their targeted work to implement practices that address vulnerable nitrate impacted groundwater sources of drinking water.
- **Wisconsin** has been working with the USGS and the University of Wisconsin to address challenges with reducing nutrient loads using NRCS practices. The state is working to develop models and tools to identify effective practices based on time of travel within the well capture zones that consider the site-specific geology.
- **North Dakota and other states** have other emerging water resource concerns such as atrazine, fracking, land fragmentation, and bacteria that require additional consideration and actions, beyond traditional work with NRCS and agricultural partners.

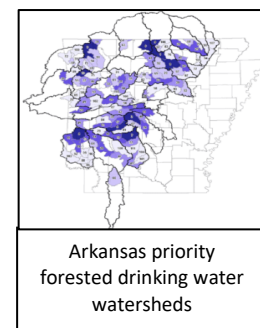
### State SWP Program Work with State Foresters to Include Drinking Water in State Forest Action Plans

*Many state SWP programs engaged with state foresters for the first time to include drinking water priorities in their State Forest Action Plans (SFAPs) and are now more connected to federal and state forestry efforts that can fund SWP projects:*

In one year, there was a significant increase in states providing source water input to State Foresters offices, including providing comments for the December 2020 update of State Forest Action Plans (SFAPs). Sixteen states reported coordination with State Foresters in 2021, versus three states in January 2020. The work of ASDWA, GWPC, and partners with the National Association of State Foresters (NASF) to send the [March 2020 NASF memo on coordinating across programs](#) and follow up actions with the state SWP programs helped promote and enhance this coordination, and the SFAP plans provide a continued opportunity for future collaboration on forestry projects aimed at improving SWP.



- **Alaska** worked with the State Forester's office to include language in the 2020 SFAP that recognizes PWSs, and their drinking water sources as an important watershed value, and to include a map showing surface SWP areas for the PWSs.
- **Oregon** worked with the State Forester's office to incorporate language for SWP priorities and protection into the SFAP. This included staff efforts to review the entire SFAP document to ensure the inclusion of SWP among the water resources objectives and the use of data and information from the state SWP program.
- **New York** worked with the Department of Environmental Conservation's Division of Lands and Forests to incorporate language highlighting available land acquisition funding for SWP, educating municipalities about technical assistance for SWP, and engaging communities on the importance of forest management for drinking water quality.
- **Arkansas'** Forests and Drinking Water Collaborative is a loose collection of PWSs, forest industries, state and federal agencies and non-profit conservation associations. Through their work, the Arkansas Forestry Commission received a \$600,000 grant to establish the relative importance of watersheds (HUC-10 units) to local drinking PWSs and to provide technical assistance to private forest landowners in those watersheds for forest management planning.

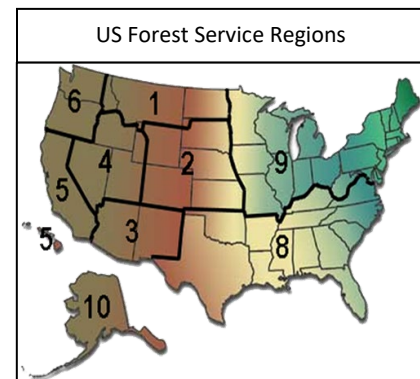


## State SWP Program Work to Coordinate with USFS and with NRCS

*State SWP program involvement and interest in working with the USFS and NRCS Foresters has increased in the last year based on mutual forestry management and water quality goals:* Similar to coordination

with state foresters, state SWP program involvement and interest in working with the US Forest Service (USFS) has increased in the last year. In the spring of 2021, 13 states reported they were working with the USFS and a few other states expressed interest, and one state reported that they were working with the state NRCS Forester. This number has grown from only three states that reported they were working with the USFS in January 2020.

- **Colorado** worked with the USFS and many other partners to complete the [Post-Fire Playbook](#). The Playbook was developed for counties, tribes, municipalities, and PWSs that are most directly and immediately impacted by wildfire and post-fire erosion and flooding. However, the guidance does not navigate all the complexities surrounding post-fire rehabilitation that can be guided by coordinating with USFS and partners to address site-specific needs after a wildfire.
- **Minnesota's** state SWP program has just begun coordinating with the state NRCS Forester. During their initial meeting, they discussed forestry conservation and management practices, along with further opportunities to involve the NRCS Forester in their state SWP efforts.
- **New Hampshire** supported efforts by a large PWS to conduct forest health analyses using drones to identify insect infestation and other diseases to help identify projects aimed at improving forest management in SWP areas.
- **Oregon and Washington's** Drinking Water Providers Partnership provides funds for projects and builds support for SWP on USFS and BLM lands. The state SWP program also coordinates with USFS on an NPS pollution prevention grant to fund SWP projects on forested lands.
- **Texas, Arkansas, and West Virginia** all participate in Forest and Drinking Water Collaboratives that were spearheaded by the [Southeastern Partnership for Forests and Water](#). The Southeastern Partnership has worked with eight states to develop collaborative state and watershed partnerships aimed at funding forest owner management and conservation projects that protect drinking water sources.
- **Washington** held three workshops with partners from EPA, USFS, and the state Department of Natural Resources. This effort allowed for some engagement on the SFAP but the state SWP program has not been able to move past the initial sharing of information and GIS data for further collaboration. Working on wildfire created an opportunity for the state SWP program to coordinate with USFS District Foresters in National Forests, but it has been challenging to make time to enhance the relationship.





## Resources

There are a variety of websites and resources that are helpful for state SWP programs and other partners to help enhance coordination efforts described in this report.

- [National SWC website](#)
  - [Agricultural Collaboration Toolkit](#): Simple steps for working with state SWP programs and NRCS State Conservationists and Conservation Districts.
  - [Learning Exchanges](#): Webinars and resources for working with NRCS and forestry partners
  - [How-to-Collaborate Toolkit and Map](#): To help initiate or enhance local, state, or regional source water collaboratives, and view a map of existing collaboratives.
- **Contacts**
  - [State Source Water Contacts](#)
  - [EPA Regional Source Water Coordinators](#)
  - [NRCS State Conservationists](#)
  - [State Forest Action Plans and Contacts](#)
  - [USFS Regional Offices](#)
- **Websites**
  - [NRCS Conservation Programs](#)
  - [ASDWA SWP website](#)
  - [EPA SWP website](#)
  - [AWWA SWP website](#)

## List of Acronyms

- American Water Works Association (AWWA)
- Association of Clean Water Administrators (ACWA)
- Association of State Drinking Water Administrators (ASDWA)
- Clean Water Act (CWA)
- Conservation Reserve Program (CRP)
- Ground Water Protection Council (GWPC)
- National Association of Conservation Districts (NACD)
- Natural Resources Conservation Service (NRCS)
- National Rural Water Association (NRWA)
- National Water Quality Initiative (NWQI)
- Nonpoint Source (NPS)
- Public Water System (PWS)
- Soil and Water Conservation District (SWCD)
- Source Water Assessment Program (SWAP)
- Source Water Collaborative (SWC)
- Source Water Protection (SWP)
- State Forest Action Plan (SFAP)
- State Technical Committees (STCs)
- Technical Assistance (TA)
- US Environmental Protection Agency (EPA)
- US Forest Service (USFS)
- US Geological Survey (USGS)