

2021 TECHNICAL STANDARDS ASSESSMENT RESULTS



This biennial survey was completed by **93 individuals** familiar with Wisconsin's technical standards used in statewide conservation programs. The survey results are used to prioritize revisions and the development of effective technical standards that protect our state's natural resources.

2021 Technical Standards Assessment Results

SUMMARY OF RESULTS

BACKGROUND

The Standards Oversight Council (SOC) oversees the collaborative process for developing and updating technical standards that protect Wisconsin's natural resources. Technical standards specify the minimum criteria for planning, design parameters, and operations and maintenance for a practice that provides a benefit to soil and water resources.

SOC conducts a Technical Standards Assessment every 2 years to evaluate its process and give technical experts greater opportunity to improve Wisconsin's technical standards. This input is used by the custodians [Natural Resources Conservation Service (NRCS), Wisconsin Department Natural Resources (WDNR), and Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP)] to help prioritize which standards will be revised, what revisions to make, and what training may be made available.

The 2021 survey was released via the SOC urban and agricultural listservs, Wisconsin Land+Water's land conservation department staff and land conservation committee listservs, on the SOC website, and to several technical standard teams. Additionally, all recipients of the survey were encouraged to share it with relevant colleagues.

SUMMARY

A summary of the 2021 Technical Standards Assessment results is presented below; detailed results for each question are provided on Pages 4 to 15.

The 2021 Technical Standards Assessment was completed by 93 individuals. This was lower than recent surveys, but consistent with historical years, as shown on Figure 1.

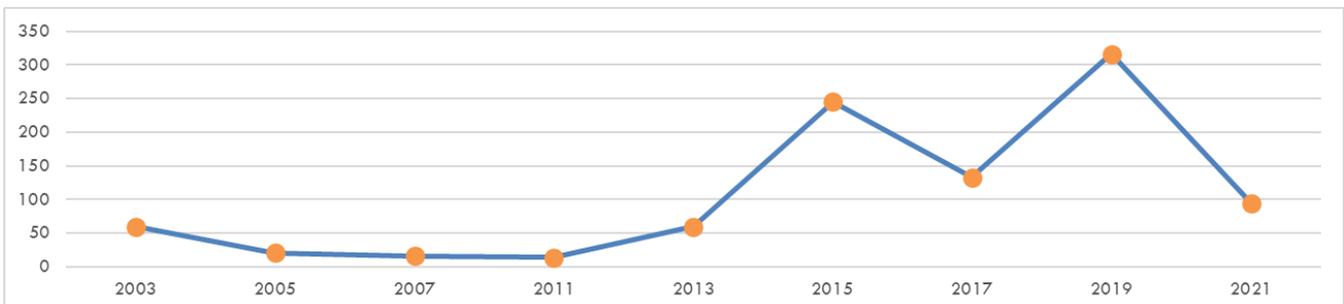


Figure 1. Number of respondents completing SOC Technical Standards Assessment surveys.

County government and private sector comprised the larger participant groups with 48% and 23%, respectively, of the total respondents. For details, see responses for Question 1.

The respondents in 2021 were more familiar with SOC than in 2019, although the familiarity was consistent with previous surveys in 2017 and 2015. Only 5% had never heard of SOC before, though subsequent questions indicated they were familiar with the SOC product and had worked on urban or agricultural conservation practices. 37% commented on draft standards and 23% of respondents participated on a SOC team. For details, see responses for Questions 2 and 3.

The respondents urban-to-rural ratio appeared balanced with about half the respondents working on agricultural practices and half working on agricultural practices (some had both). For details regarding user experience, see responses for Questions 3 and 7, respectively. Respondents recommended that Underground Detention and Treatment (New), Filter Strip for Storm Water Treatment (New), and Constructed Wetland for Storm Water Management (New) as higher priorities for WDNR standard updates. NRCS standard updates that ranked higher for more substantial revisions were Cover Crop (340), Residue and Tillage Management Reduced Till (345), and Prescribed Grazing (528). For details regarding user priorities for WDNR and NRCS standards, see responses for Questions 4 and 8, respectively.

Respondents to the survey expressed a preference for receiving information on changes in standards through a variety of methods. Higher rated methods included: statewide or regional in-person session with field time, session at a conference or summary webinar to review changes. For details, see responses to Question 11.

At least 30 of 74 respondents indicated preference for training on the following recently (or soon-to-be) updated standards: DATCP 01 Verification of Depth to Bedrock, NRCS 395 Stream Habitat Improvement and Management, NRCS 580 Streambank and Shoreline Protection, NRCS 584 Channel Bed Stabilization, and WDNR 1061 Dewatering Practices for Sediment Control. For details on standard training priorities, see responses to Question 12.

CONCLUSION

Results from this survey are used in the following ways to improve how standards are developed and implemented:

1. **Results are shared with WDNR and NRCS to help identify the need for new or revised standards.** WDNR and NRCS are reviewing feedback in the survey and will incorporate relevant information when prioritizing standards for the forthcoming 2022-2023 Work Plan.
2. **Participants' specific comments regarding standards will be shared with the custodians and with the teams convened to create or revise each standard.**
3. **Results trigger needed communications that can lead to improvements in standards.** For example, SOC will facilitate communication between WDNR, NRCS and those who recommended specific changes and requested follow-up to identify specific opportunities for improvement in standards or the SOC process. SOC will also strive for broader outreach to educate users on the process and encourage greater participation.
4. **Results lead to changes in the process used to develop standards.** SOC and the Custodian agencies reviewed the comments and will consider the criticism for subsequent technical standard revisions. The SOC Program Manager will retain a stand-alone narrative description of changes from the previous and revised versions of a standard. This is in addition to the redlined version of the standard currently maintained.

5. **Results identify training needs and lead to cooperation among DATCP, NRCS, and WDNR in providing additional trainings on recommended standards.** In response to survey requests, SOC will support & facilitate trainings on recently published technical standards, as SOC and Custodian staff time allows, and conduct additional outreach and promotion of previously recorded webinars. SOC will also provide training recommendations to SITCOM and assist as needed in coordinating other recommended trainings.

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EXTENDED RESULTS

The 2021 Technical Standards Assessment consisted of 16 survey questions. The final 2 questions were related to contact information and are not discussed in this report. Detailed results for the remaining 14 questions are provided below.

1. Which affiliation best reflects your work environment? Please respond to the rest of the survey from that perspective.

	2021 Response Count	2021 Response Percent	2019 Response Percent	2017 Response Percent	2015 Response Percent
Federal Government	3	3%	4%	8%	6%
State Government	12	13%	12%	11%	19%
County Government	46	48%	31%	56%	31%
Other Local Government (city, village, town)	9	9%	14%	8%	13%
Private Sector	22	23%	33%	14%	31%
Education	1	1%	N/A	N/A	N/A
Other (please specify, see below)	2	2%	5%	3%	N/A

Notes:

Other responses: nonprofit

93 respondents answered to the first 3 questions. Participation reduced to 86 by Question 7 and 73 respondents that completed the survey in full.

2. What has been your interaction with the Standards Oversight Council (SOC) process for technical standard development or revision? Check all that apply.

	2021 Response Count	2021 Response Percent	2019 Response Percent	2017 Response Percent	2015 Response Percent
I have not heard of SOC prior to this survey	5	5%	27%	8%	7%*
I have heard of SOC	41	43%	43%	44%	60%
I am on the SOC listserv	53	56%	27%	48%	31%
I have commented on draft standards	35	37%	24%	46%	33%
I have participated on a SOC team	22	23%	15%	30%	16%
Other (please specify)	1	1%	2%	4%	5%*

Notes:

Other response: I coordinated with someone from our organization who is on a draft standard team.

*"I have not heard of SOC prior to this survey" was retroactively extracted from the "Other" comments for 2015's survey, and percentages adjusted. This option was new to the 2017 survey.

3. Which type of urban (WDNR) erosion control and storm water conservation practices have you ever worked on during the past 5 years? Check all that apply.

	2021 Response Count	2021 Response Percent	2019 Response Percent	2017 Response Percent	2015 Response Percent
None. I have not worked on urban conservation practices during the past 5 years.	44	46%	36%	15%	N/A
Erosion control and stormwater management	50	53%	62%	78%	38%
Other (please specify)	1	1%	5%	7%	N/A

Notes:

Other response: MS4 permit.

This question structure was adjusted in 2017 to allow users to select more than one option. This question was further changed in 2019 by splitting into 2 questions: one for urban practices and the other for agricultural practices.

4. The following urban (WDNR) standards are currently in the process of being developed or updated: Dry Pond, Enhanced Phosphorus Removal, 1056 Silt Fence, 1058 Mulching, 1059 Seeding, 1071 Interim Manufactured Perimeter Control and Slope Interruption, and 1072 Horizontal Directional Drilling. The table below identifies urban standards considered for revision in the next 2 years. Based on your knowledge, rank how important the creation or revision of each standard under consideration is to your work. If your work does not include use of a listed standard, please check “N/A.”

44 respondents filled out importance ranking for each of the urban standards listed. Not all survey participants would have worked on urban conservation practices; therefore, it is expected that not all respondents would have answered this question.

The ranking results were analyzed using weighted averages based on the following responses:

Not at all Important = 1, Not Too Important = 2, Unsure = 3, Fairly Important = 4, Very Important = 5
 N/A responses were not incorporated into weighting of results.

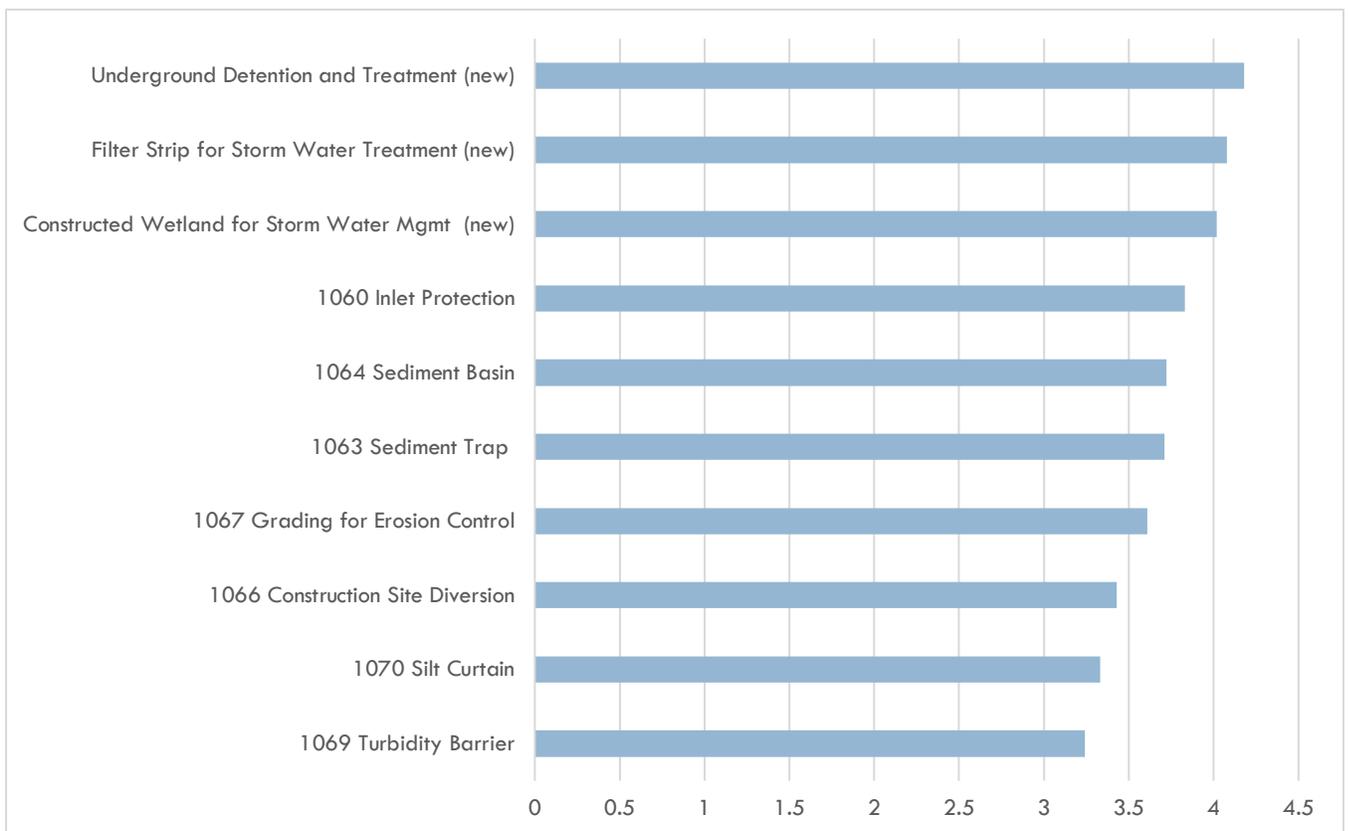


Figure 2. Weighted average score for the importance of creating or revising a given urban standard. (Note: higher numbers were those ranked more important)

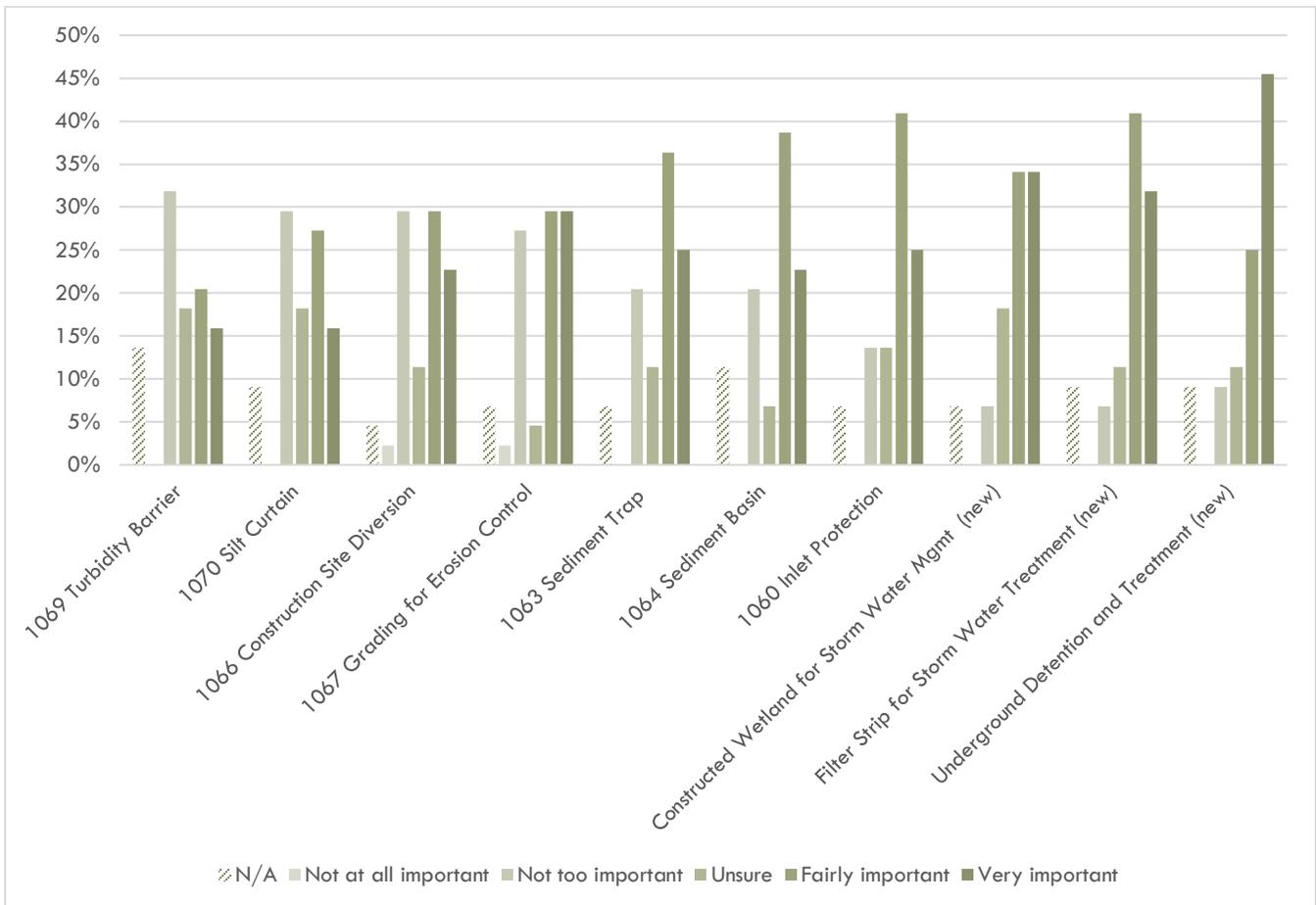


Figure 3. Individual rating results for importance in creating or revising a given urban standard.

Provide input on potential revisions for the work teams to consider:

General Comments Received:

- Provide detail drawings.
- Ensure end users have equal input in standard development, in other words, not just government or regulatory bodies.
- I would recommend emphasis be placed on the new standards. Older existing standards should be less complicated to update due to prior work. The state of erosion control science has not increased as dramatically as post-construction Stormwater BMPs, so I would imagine most E&S BMP updates will not require too many resources.

Standard-Specific Comments Received:

- We need better drawdown time guidance for wet, bioretention, and infiltration basins.
- Bioretention media makeup has been under discussion for years since research shows that high compost leaches Phosphorus. The current tech standard still recommends 30% compost. This should be updated to reflect current research. Bacteria removal should be considered in tech standards since this is an impairment in several active TMDLs.

5. If you have knowledge of Enhanced Phosphorus Removal, which of the following practices do you think should be covered under that technical standard? Check all that apply.

	Response Count	Response Percent
Addition of sorption media to outlet structures, ponding areas, or flow paths	14	32%
Periodic treatment of wet pond to remove phosphorous from water column	10	23%
Periodic treatment of wet pond to reduce phosphorus leaching during anoxic periods	7	16%
Continuous chemical dosing of a wet pond	4	9%
I have no opinion	27	61%
Other (please specify)	2	5%

Notes:

Other response: O&M practices, such as vegetation management to reduce phosphorus leaching; filtration of the water going into the pond.

6. Which urban technical standards not on the above list need to be created or revised? Please write which standards or topics and a brief explanation of your recommendation.

Comments Received:

- Detention (Dry),
- Extended release dry detention ponds,
- SW Basin,
- Level Spreaders,
- Stream Diversion,
- Bioretention,
- Post-construction for solar arrays,
- Green Roof - These are becoming increasingly popular with little to no guidance on design requirements or provisions for acceptable water quality and quantity provisions.
- Proprietary storm water sedimentation devices - Standard 1006. This standard was last updated in 2009. Since then, the way Hydrodynamic Separator devices are being monitored has changed significantly. The current industry standard follows the New Jersey Corporation for Advanced Technology (NJCAT) 2013 and recently updated 2020 laboratory protocols. I recommend this standard be reviewed to determine if it is appropriate to update given there is now an industry standard testing protocol that looks at mass loading based on a specific test sediment particle size distribution. The recently completed filter standard with adjustment spreadsheet might be employed for Wisconsin specific conditions. Last, I would suggest the standard clarify such devices are to be used as pre-treatment to other downstream BMPs.

7. Which type of agricultural conservation practices have you ever worked on during the past 5 years? Check all that apply.

	2021 Response Count	2021 Response Percent	2019 Response Percent	2017 Response Percent	2015 Response Percent
None. I have not worked on agricultural conservation practices during the past 5 years.	35	41%	43%	N/A	N/A
Wildlife, woodland and recreational management	14	16%	25%	26%	3%
Cropland management	44	51%	41%	51%	34%
Livestock and waste management	47	55%	43%	63%	25%
Other (please specify)	1	1%	7%	7%	N/A

Notes:

Other responses: Wildlife, cropland, livestock & waste management.

This question structure was adjusted in 2017 to allow users to select more than one option. This question was further changed in 2019 by splitting into 2 questions: 1 for urban practices and the other for agricultural practices.

8. The following agricultural (DATCP, NRCS) standards are being considered for revisions in the next 2 years. Based on your knowledge, rank whether you think substantial revision is needed for each standard. If your work does not include use of a listed standard, please check “N/A.”

44 respondents filled out importance ranking for each standard listed. It is expected that not all survey participants would have worked on agricultural conservation practices and therefore would not have answered this question.

The ranking results were analyzed using weighted averages based on the following responses:

Keep the Same = 1, Moderate Revision = 2, Substantial Revision = 3

N/A responses were not incorporated into weighting of results.

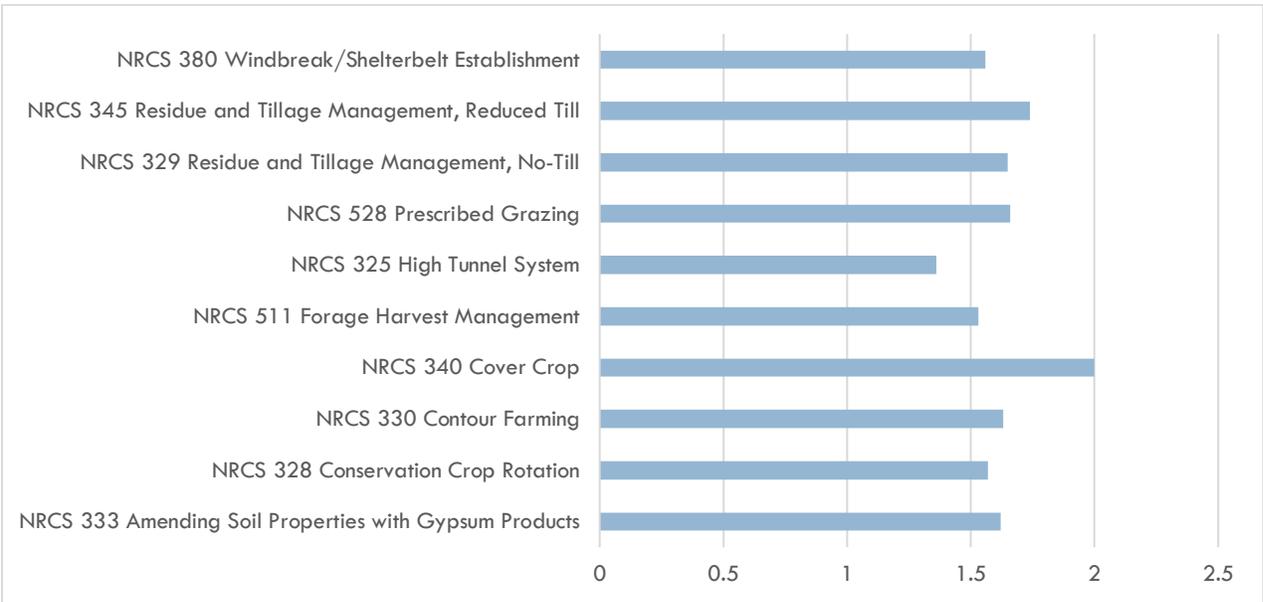


Figure 4. Weighted average score for the importance of creating or revising a given agricultural standard.
 (Note: higher numbers were those ranked as needing more substantial revisions.)

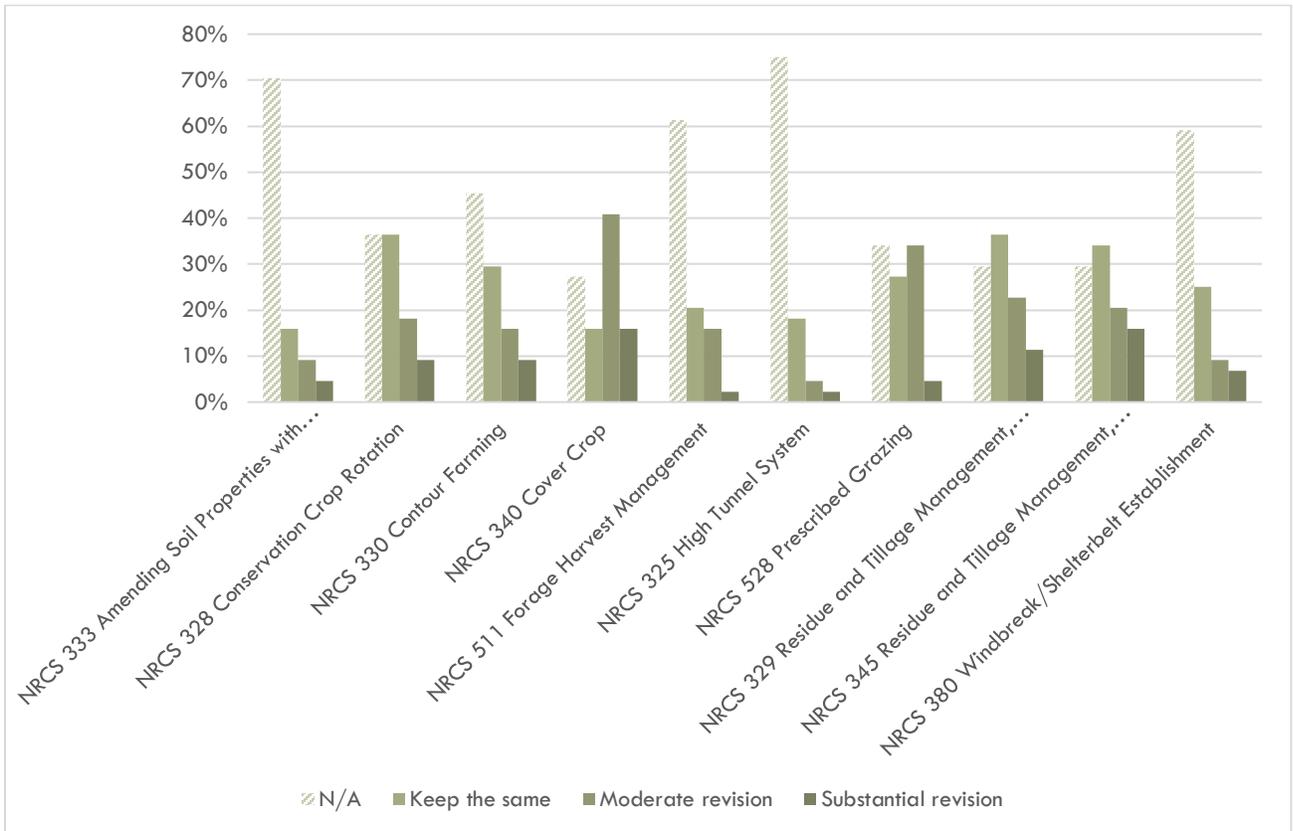


Figure 5. Individual rating results for rating whether substantial revision is necessary for a given agricultural standard.

Provide input on potential revisions for the work teams to consider:

General Comments Received:

- I do not work with Ag; however I clearly see how ag causes sever erosion. Ag is the next frontier of stormwater management.
- No major changes. Just updating to ensure they are up to date.

Standard-Specific Comments Received:

- Either Contour Farming or Windbreak should include prairie strips. Or there should be a new stand alone standard for prairie strips.

9. Should NRCS Continue to offer the CPS 333 Amending Soil Properties with Gypsum Products?

	Response Count	Response Percent
Yes	6	14%
No	7	16%
No opinion	31	70%

Comments Received:

- Gypsum has many beneficial qualities as a soil amendment such as improving soil structure and immobilizing excess phosphorus
- a practice that may help reduce phosphorus losses
- For future land use
- gypsum is not a conservation practice that addresses a resource concern. It is a soil amendement. Why isn't there a liming standard, or boron or zinc?
- Why should NRCS be involved in decisions regarding gypsum use?
- gypsum product use is very small
- The current standard was developed prior to agronomic impacts evaluation. Subsequent research has demonstrated adverse impacts on crop yields when used as a soil amendment in some settings.
- The use of gypsum is not clearly endorsed as having any value by UW research. Standards should have a clear strong conservation effect.
- Gypsum is proven to have no statistical advantage.
- I don't know enough about the topic; Haven't had exposure to it; Not familiar.

10. Which agricultural technical standards not on the above list need to be created or revised? Please write which standards or topics and a brief explanation of your recommendation.

Comments Received:

- A standard for Prairie Strips needs to be created. Prairie strips are a fantastic conservation tool but there is a lack of ability to design to a standard or cost-share by a standard.
- Field buffers - within cropland area (contour or not) to break slope length, esp as whole (traditional) farms are operated as 1-3 fields. Soil erosion is happening at significant rates in critical areas and water flow paths.
- 522- Pond Sealing and Lining - Concrete Fiber mesh needs to be added as a reinforcing option in concrete liners.
- I do not think [NRCS 590] needs revision.
- 590 Nutrient management standard.
- I think NRCS 634 could be revised. There are questions about air/vacuum release valves in pipelines, vol. requirements for reception tanks, and tank design while in sub-surface saturation.
- 634 Transfer to update with 313 requirements.
- 629 Waste Treatment Liner requirements being removed and inserted into 561 HUAP. 561 HUAP updated with liner requirements from 629.
- Annual forages for grazing to fix the stupid issue of grazing cover crops. If the purpose is grazing, then plan for grazing. Or revise 328 standard to reflect annual crops and grazing as a harvest method.
- Farm Field Runoff. Erosion / Pollution Control
- To help control erosion off farm fields, cover crops are very important. So are grass waterways and buffers. Tree lines should not be allowed to be cut down. They provide wind breaks. I believe there needs to be some requirements in these practices.

11. How do you prefer to obtain training on new or updated criteria for technical standards? Rank your top 3 in order of preference, with 1 being your preferred method.

77 respondents contributed to the results in Figure 6.

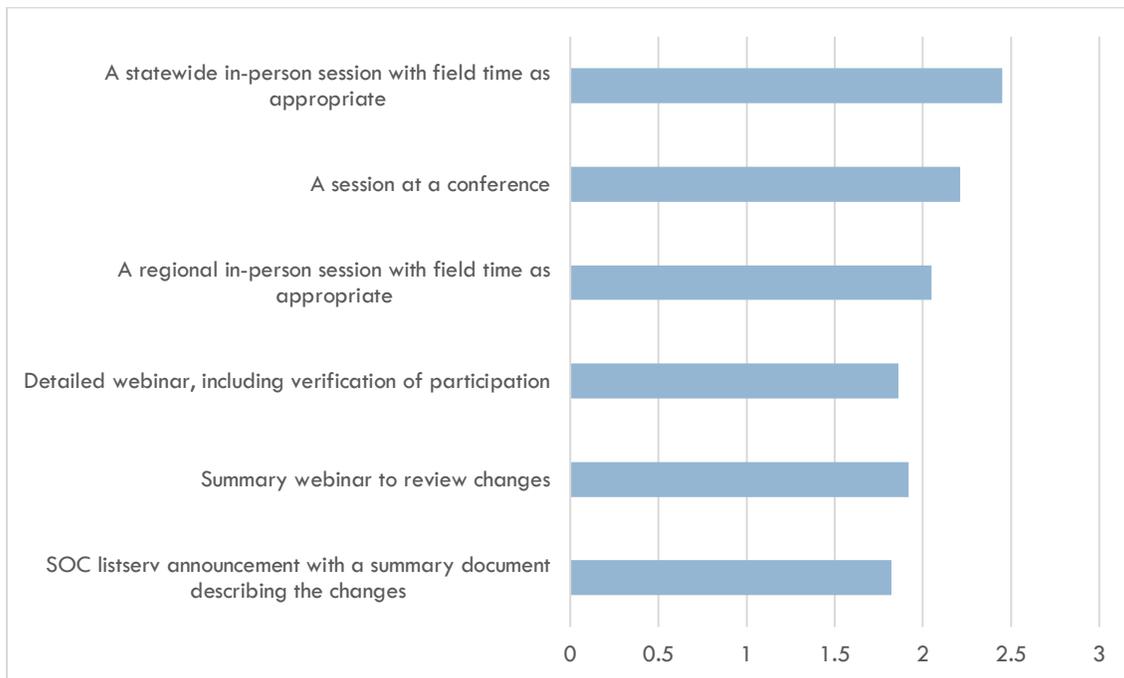


Figure 6. Weighted average score for training preferences expressed by respondents. 1 is preferred method, 2 is second choice, 3 is third choice.

Additional Comments Received:

- Most preferred is highly dependent on how much has changed and the experience I have with the standard and the changed criteria.

12. Standards that have been recently revised (or will be published soon) via SOC's Modified or Full Processes are listed below. For each of the following, indicate if you personally would you like to receive training.

74 respondents contributed to the results in Figure 7.

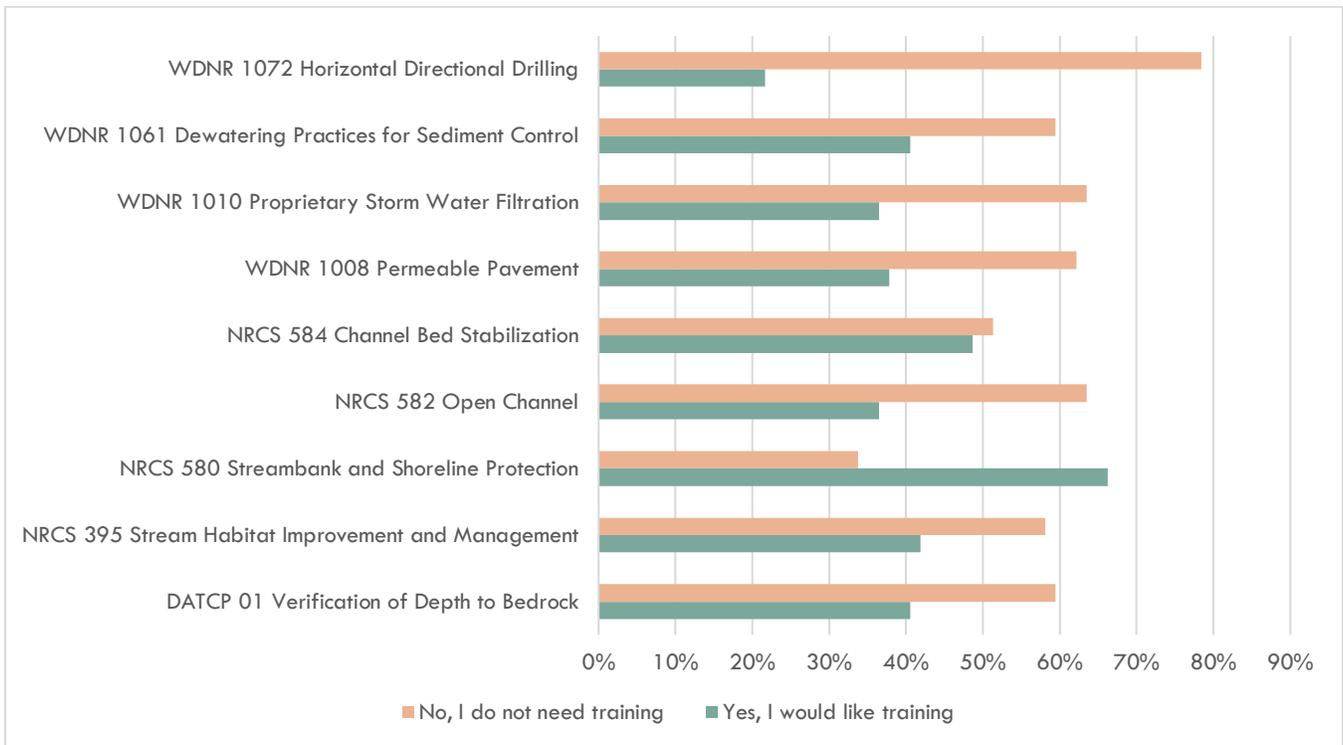


Figure 7. Training needs expressed by respondents.

Comments Specific to DNR 1010 Proprietary Storm Water Filtration

- In Person with field visits preferred

Comments Specific to NRCS 580 Streambank and Shoreline Protection:

- The new process using shear stress is terrible. It bumps streams that are class I or II in cfs into class V or VI based on shear stress. Since no one has job approval, these will have to be sent to the state engineer for approval, further holding up the timeline for project completion.
- In field identification/site investigation/discussion, classroom for related design tools
- In person field day
- Explanation of the changes online or in person
- Webinar (x2)

Comments Specific to NRCS 395 Stream Habitat Improvement and Management:

- In person field day
- Webinar

Comments Specific to DATCP 01 Verification of Depth to Bedrock:

- In field, in person training (x2)
- Webinar (x2)

13. WDNR and NRCS have numerous other technical standards not listed above. What other standard-related training do you need for your work? List the standard and, if possible, include specific recommendations.

5 of 93 respondents provided feedback on this question.

Standard-Specific or Technical Comments Received Related to Training:

- Guidance and expectations for maintenance, and removal when appropriate, of WDNR Stds 1051 thru 1071, for facilities during post-project periods.
- Perimeter control devices-silt fence, silt sock, vegetated buffer-cover what to use where and the limitations of the devices.
- Manure Transfer,
- NRCS 590 (x2)
- NRCS 327 (x2), Establish Monarch butterfly habitat, pollinator planting,
- NRCS 340,
- NRCS 512,
- NRCS 342.

14. What other comments for SOC or the Custodian agencies (NRCS, WDNR, DATCP) regarding SOC's process for technical standard revisions and development can you offer?

5 of 93 respondents commented on this question.

General Comments Received:

- Keep up the good work.
- Ensure end users, i.e. the regulated community have equal input in standard development. Agencies and government should not develop in without their input.
- Consider the diversifying the teams developing standards. Agricultural standard committees are heavily skewed with agency staff that have minimal qualifications or expertise in the area of interest. The quality of 590 and depth to bedrock standards have suffered from this lack of functional representation.
- The development of the NRCS standards that just closed for comment, 580 etc. do not seem to be following the usual procedures for standard development.
- As I am still new to this profession, I am still learning the essentials of the technical standards. At this point learning the reasoning and equations behind the SOC's revisions is one step ahead of my learning curve.