

2023 TECHNICAL STANDARDS ASSESSMENT RESULTS



This biennial survey was completed by **130 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.

2023 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 2023 survey was released via the SOC urban and agricultural listservs, WI Land+Water's land conservation department staff and land conservation committee listservs, on the SOC website, several technical standard teams, and DATCP's producer-led email group. All recipients of the survey were encouraged to share it with relevant colleagues.

SUMMARY

A summary of the 2023 Technical Standards Assessment results is presented below; detailed results for each question are provided on Pages 4 to 14.

The 2023 Technical Standards Assessment was completed by 130 individuals. This was higher than the most recent survey, and consistent with historical years, as shown on Figure 1.

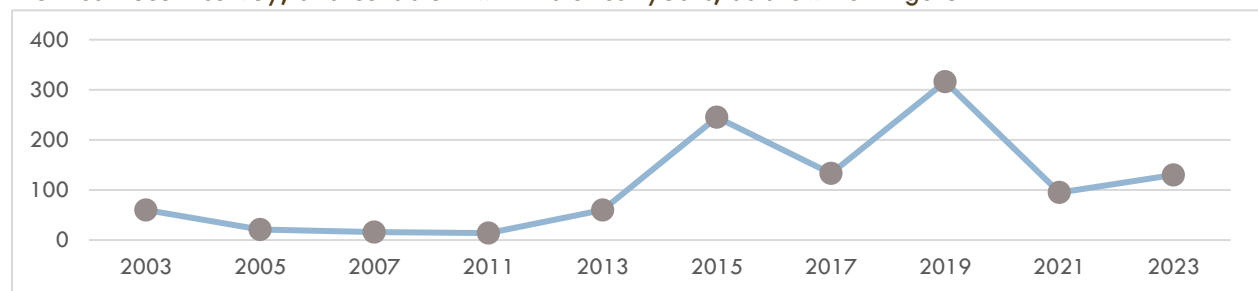


Figure 1. Number of respondents completing SOC Technical Standards Assessment surveys.

County government and private sector comprised the larger participant groups with 48% and 25%, respectively, of the total respondents. For details, see responses for Question 1.

The respondents in 2023 continue to have moderate familiarity with SOC, and only 5% had never heard of SOC before. 38% had commented on a draft standard and 24% have participated on a SOC work team. For details, see responses for Question 2.

The respondents urban-to-rural ratio appeared roughly balanced with a little less than half the respondents working on urban stormwater runoff practices. For details regarding user experience, see responses for Questions 3 and 7, respectively.

In prioritizing standard work, respondents indicated higher priorities for:

- Creation of WDNR standards for Existing BMP Evaluation and Maintenance and Filter Strip for Storm Water;
- Update of WDNR Technical Standards 1001 Wet Detention Pond, 1064 Sediment Basin, and 1065 Sediment Trap were rated higher for WDNR standards to update; and
- More substantial revisions to NRCS Conservation Practice Standards (CPSs) 313 Waste Storage Facility; 329 Residue and Tillage Management, No-Till; 345 Residue and Tillage Management, Reduced Till; and 657 Wetland Restoration.

For details regarding user priorities for WDNR and NRCS standards, see responses for Questions 4 and 8, respectively.

At least 35 of 102 respondents indicated preference for training on the following recently (or soon-to-be) updated standards: NRCS 561 Heavy Use Area Protection; NRCS 627 Wastewater Treatment, Milk House; NRCS 632 Waste Separation Facility; WDNR 1002 Site Evaluation for Storm Water Infiltration; and WDNR 1056 Perimeter Sediment Control and Slope Interruption. For details on standard training priorities, see responses to Question 10.

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 2024-2025 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.** The SOC Program Manager will retain the narrative comments for use in future revisions of the critiqued standards.
3. **Results trigger improved communications related to the process used to develop and revise standards, thereby increasing participation.** For example, SOC will facilitate communication between WDNR, NRCS, DATCP 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 in the public review process.
4. **Results identify training needs for 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.

2023 Technical Standards Assessment Results

EXTENDED RESULTS

The 2023 Technical Standards Assessment consisted of 14 survey questions. The final 2 questions were related to contact information and are not discussed in this report. Detailed results for the remaining 12 questions are provided below.

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

	2023 Response Count	2023 Response Percent	2021 Response Percent	2019 Response Percent	2017 Response Percent	2015 Response Percent
Federal Government	7	5%	3%	4%	8%	6%
State Government	18	14%	13%	12%	11%	19%
County Government	62	48%	48%	31%	56%	31%
Other Local Govt (city, village, town)	6	5%	9%	14%	8%	13%
Private Sector	32	25%	23%	33%	14%	31%
Education	0	0%	1%	N/A	N/A	N/A
Other (please specify, see below)	5	4%	2%	5%	3%	N/A

Notes:

Other responses: NGO, state and national conservation association, producer, retired.

130 respondents answered to the first 3 questions. Participation reduced to 116 by Question 7 and 102 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.

	2023 Response Count	2023 Response Percent	2021 Response Percent	2019 Response Percent	2017 Response Percent	2015 Response Percent
I have not heard of SOC prior to this survey	7	5%	5%	27%	8%	7%*
I have heard of SOC, but haven't participated	63	48%	43%	43%	44%	60%
I am on the SOC listserv	NA	NA	56%	27%	48%	31%
I have commented on draft standards	50	38%	37%	24%	46%	33%
I have participated on a SOC team	31	24%	23%	15%	30%	16%
Other (please specify)	3	2%	1%	2%	4%	5%*

Notes:

Other responses: On the council, linked to a permit that I manage, monitor for issues relevant to my work.

*"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 first used in the 2017 survey.

3. Have you worked on urban (WDNR) erosion control and storm water conservation practices during the past 5 years?

	2023 Response Count	2023 Response Percent	2021 Response Percent	2019 Response Percent	2017 Response Percent	2015 Response Percent
No, I have not worked on urban conservation practices during the past 5 years.	69	53%	46%	36%	15%	N/A
Yes, I work on erosion control and stormwater management practices	55	42%	53%	62%	78%	38%
Yes, other (please specify)	7	5%	1%	5%	7%	N/A

Notes:

Other responses: Policy and advocacy; DNR Runoff Grant administration; Worked on agricultural erosion practices/permits; county standards; we are a manufacturer and I comment when standards are out for review; I evaluate urban storm water management practices; drafting new standards.

This question structure was adjusted in 2017 to allow users to select more than one option. This question was further changed in 2019-2023 by splitting into 2 questions: one for urban practices and the other for agricultural practices.

4. The table below identifies new WDNR technical standards considered for **creation**. Based on your knowledge, identify how important the creation of a new standard for each of the following topics under consideration is to your work. If your work does not include use of a listed standard, please check “N/A.”

49 of 130 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.

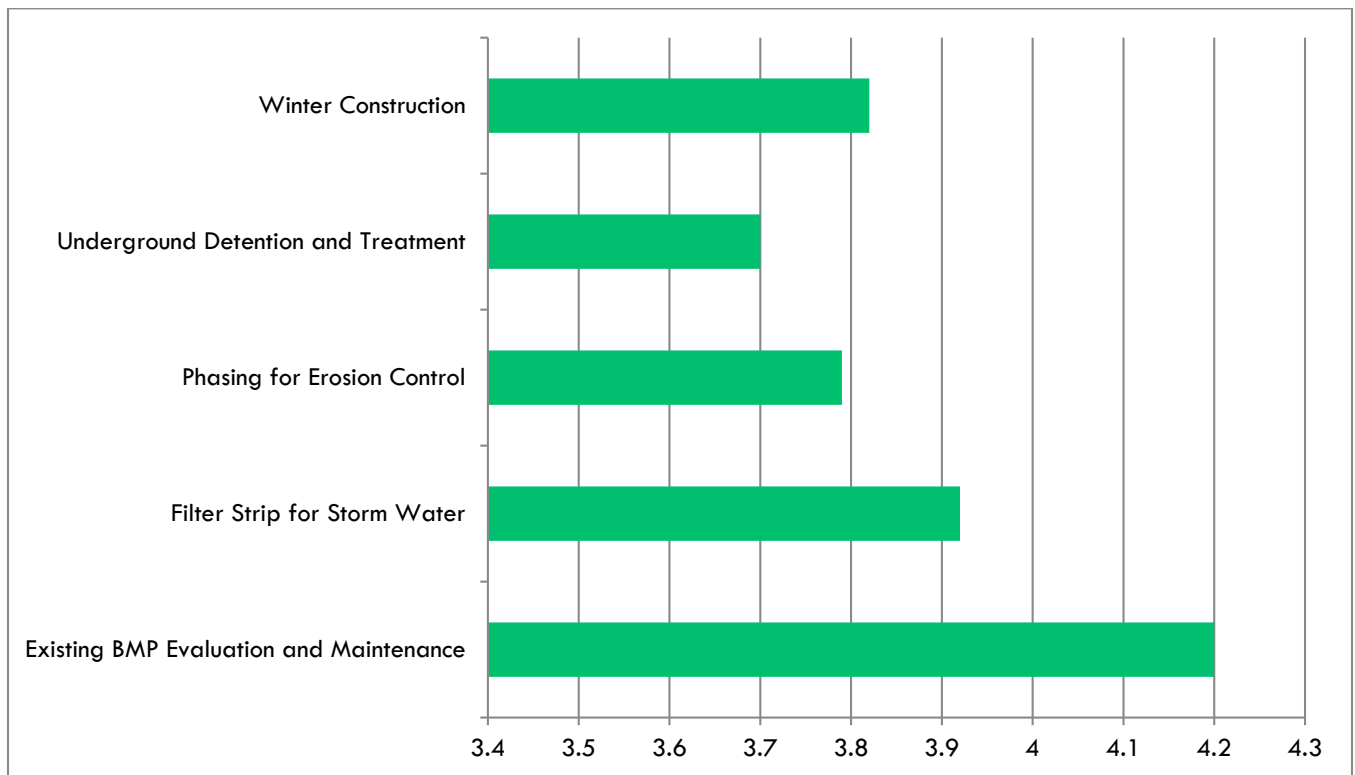


Figure 2. Weighted average score for the importance of creating a new urban standard.
(Note: higher numbers were those ranked more important)

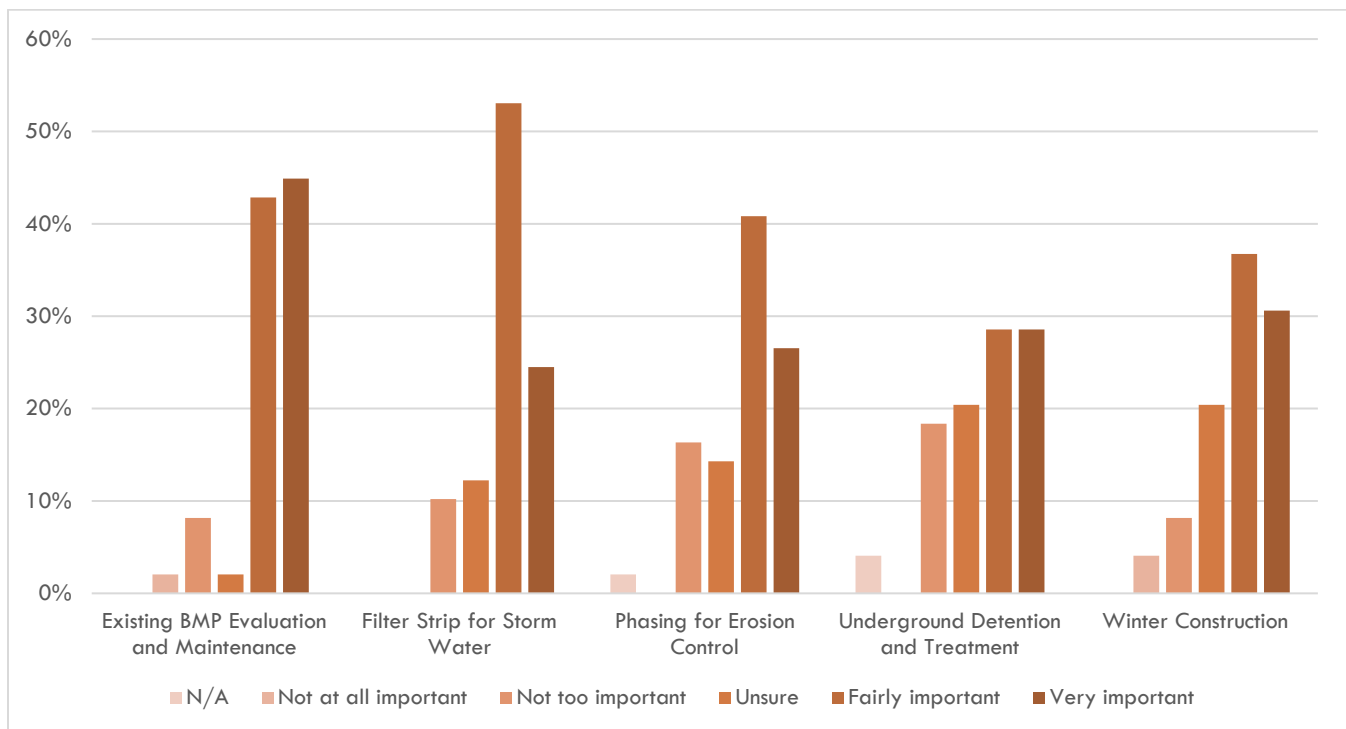


Figure 3. Individual rating results for importance in creating a new urban standard.

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

- Developed and developing communities are fluid circumstances that require constant adaptation, and the sources of concern change rapidly, almost on a monthly basis, so developing standards for one area may not apply and actually be counter-productive - hence the "unsure" choice on some questions
- Too many products are lumped together in when categories are created.
- Our office issues erosion control permits daily. We struggle greatly with getting phasing plans on larger projects, and getting winter construction plans. These would be so very helpful to direct citizens to!
- Phasing is never implemented in the field. We would be giving "credit" in a design or plan that would never ever be implemented in the field. Don't waste time on it.
- BMPs for winter construction are also rarely implemented but having a better understanding of those BMPs is important.

5. The table below identifies existing WDNR technical standards considered for **revision** in the next 2 years. Based on your knowledge, identify how important updating each of the following existing technical standards is to your work. If your work does not include use of a listed standard, please check "N/A."

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.

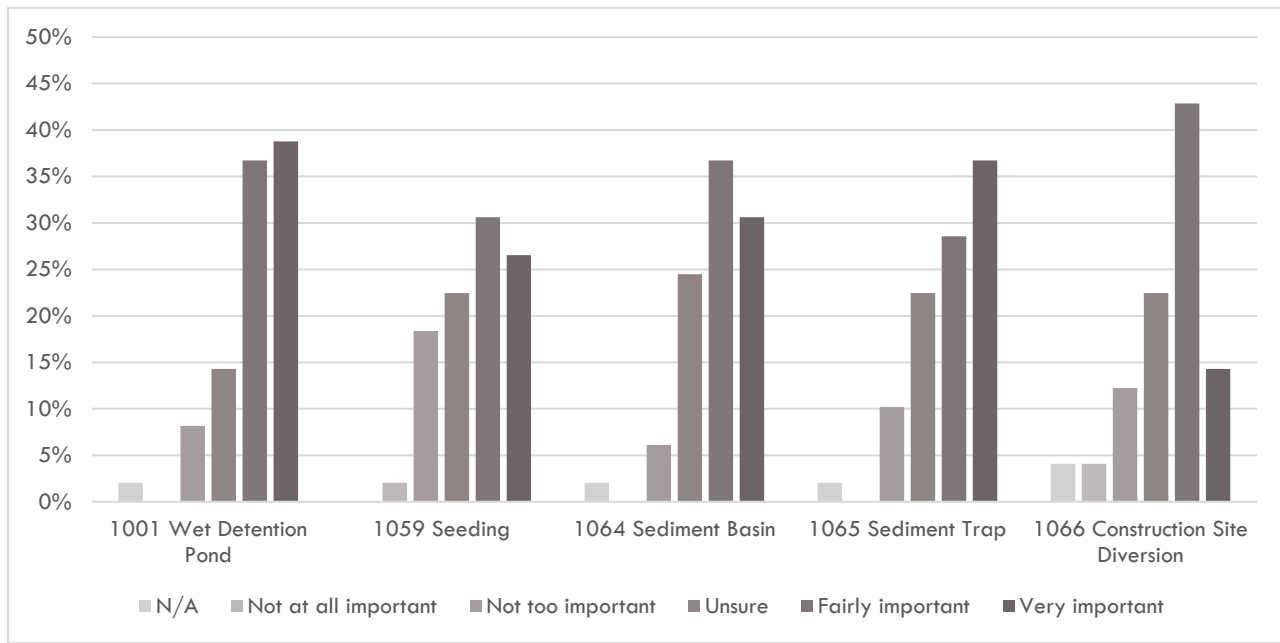


Figure 4. Individual rating results for importance in revising a given urban standard.

6. Which urban technical standards not on the above lists in Questions 4 and 5 need to be created or revised? Please write which standards or topics and a brief explanation of your recommendation.

Comments Received:

- Need direct references to public health benefits
- MS4 over reach. Not matching ag BMP. In place.
- Constructed wetland for stormwater management
- A definition of Construction Limits of Disturbance, work within wetlands (segregating topsoil into separate piles, no compaction, etc...), dewatering into a wetland. I'm confused why there are only tech standards to manage stormwater. There should be tech standards to manage or avoid water quality concerns (ex. pump arounds, dam and flume, constructed wetlands, etc... for reference:
<http://www.depgreenport.state.pa.us/elibrary/GetFolder?FolderID=4673>
https://dep.wv.gov/WWE/Programs/stormwater/csw/Documents/E%20and%20S_BMP_2006.pdf
- It is confusing that if the WDNR wants individuals to reference NRCS/USDA technical standards, it should be referenced on their site somehow.
- We generally use erosion control blankets, silt fencing, ditch checks and bale dams in our work projects. We use NRCS standards for sediment basins, filter strips and buffers.
- Bioretention basin
- Dry pond
- Underground structures
- Concrete wash-out
- Modified sumps and sediment traps for enhanced sediment and nutrient removal
- Green roof
- Underground infiltration

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

	2023 Response Count	2023 Response Percent	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.	36	31%	41%	43%	N/A	N/A
Wildlife, woodland and recreational management	34	29%	16%	25%	26%	3%
Cropland management	60	52%	51%	41%	51%	34%
Livestock and waste management	69	59%	55%	43%	63%	25%
Other (please specify)	7	6%	1%	7%	7%	N/A

Notes:

Other responses: Grassed waterways, earthen dams, streambank protection, waste facility closure
Vegetated stormwater channels
Stream and shoreline management
Streambank protection, waterways, ford crossings
Stream bank.
Water quality. Runoff.

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 (NRCS) standards are being considered for WI revisions in the next 2 years. Based on your knowledge, indicate 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."

69 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.

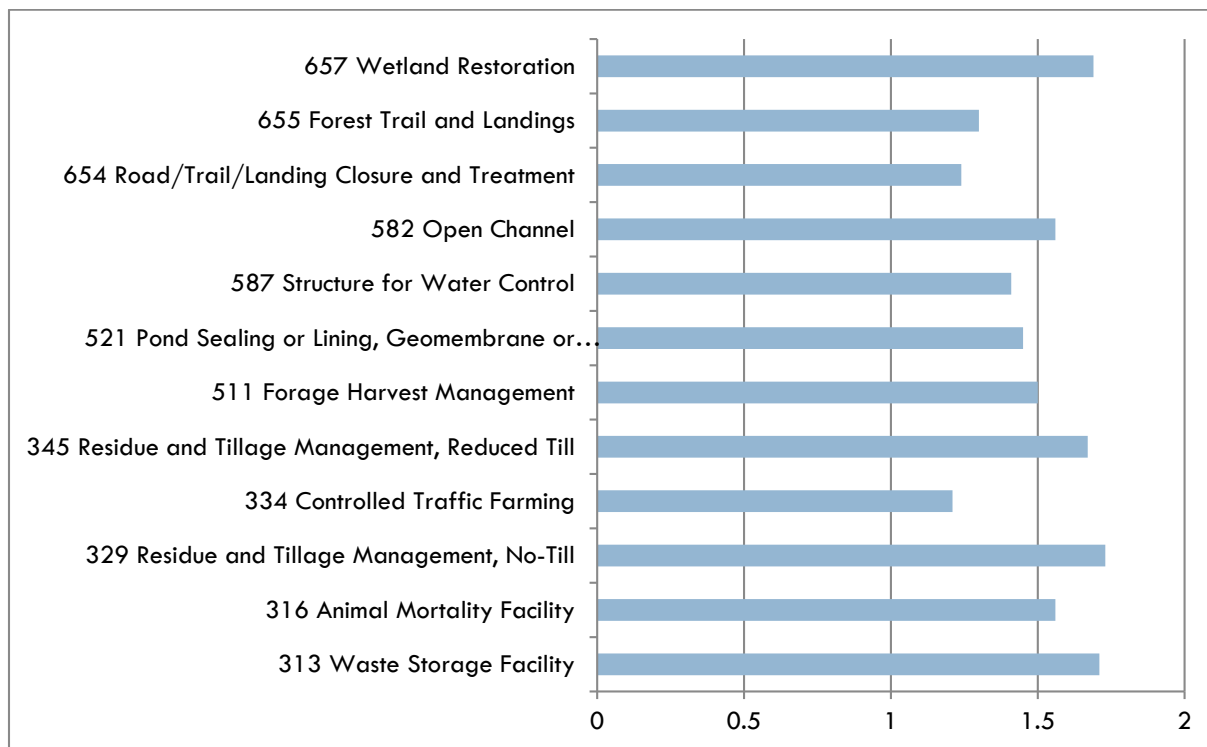


Figure 5. Weighted average score for the importance of revising a given agricultural standard.
(Note: higher numbers were those ranked as needing more substantial revisions.)

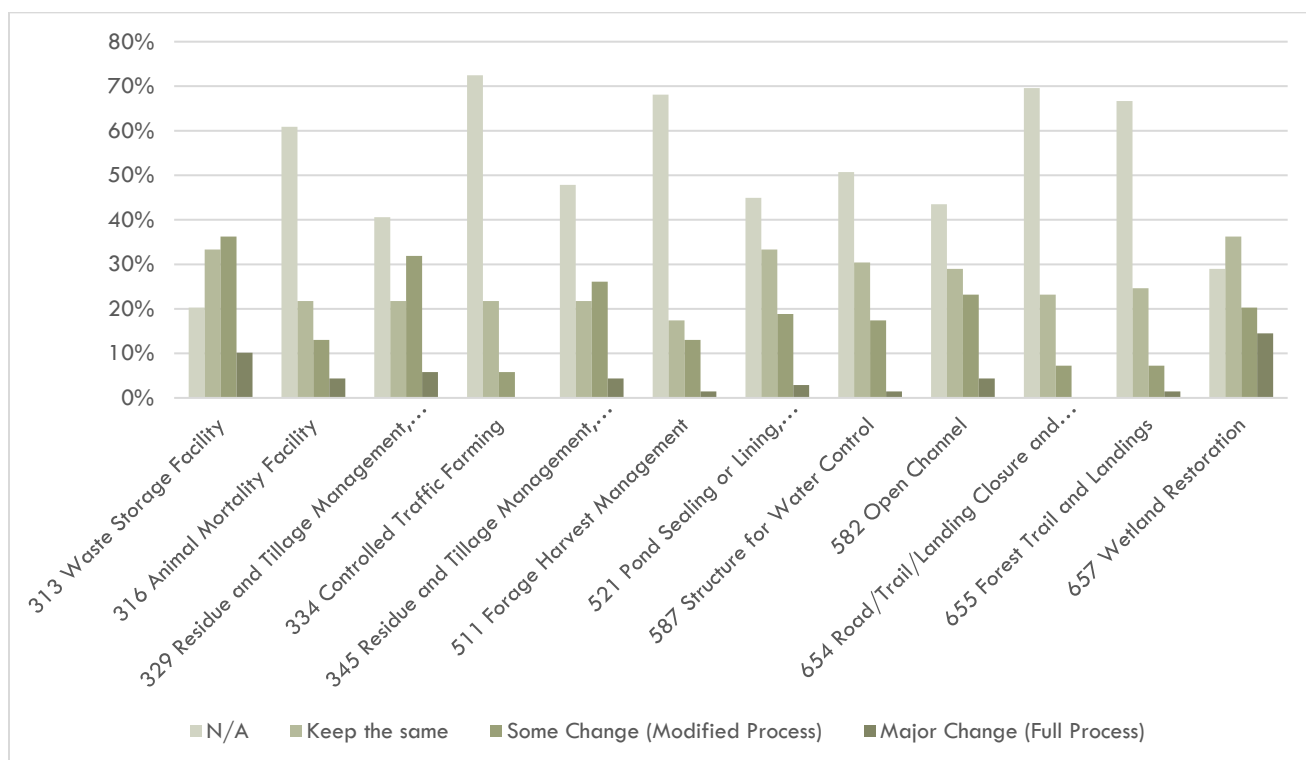


Figure 6. Individual rating results for rating whether substantial revision is needed for a given agricultural standard.

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

General Comments Received:

- Double check them all for relevance toward, and proper BMP's of water quality standards.
- Unsure but the wetland restoration is important.
- CAFO regulation and permitting.

Standard-Specific Comments Received:

- All the pond sealing and lining standards will have carry-over changes from the 313 standard update.
- Soils information in 313 the definition of ""distinct"" means some to soil scientists and should be defined or a reference added to the standard.
- Designed our way out of SES has shown that we will never use most the design criteria for an SES site. That need to be reevaluated in 313 and 522.
- In 313, Structural is spelled "Structutural" on page 10.
- 313 - Removal of the requirement for maximum of 100' of wall spacing for vertical wall joints should be considered. If T&S steel is designed properly, this joint requirement isn't founded through engineering principles. Creating unnecessary joints is inviting more potential for leakage.
- 313 manure stacking rules should be revised for composting. Raw manure and active compost are not one in the same and should not be treated as such.
- 316 - address off-farm composting facilities that are constructed specifically for secondary market services of animal carcass disposal. Air quality and runoff from these facilities can be an extreme contaminant source without regulation beyond DNR solid waste permitting. Also address handling and disposal of large animal skeletal remains not completely composted. Consider limits regulating retention and stockpiling of such remaining wastes.

9. Which other agricultural technical standards, if any, do you think need to be created or revised? Please write which standards or topics and a brief explanation of your recommendation.

Comments Received:

- All standards need tweaks to make them easier and more simple to understand and implement. Complex standards lead to improper application and time consuming construction planning, design and oversight.
- More standards to support transitioning marginal lands and/or low productivity areas of crop fields to grasslands, prairie, or pollinator habitat.
- A standard specifically for Prairie Strips would be helpful.
- Buffer and filter strips located within or at the bottom of cropland
- 782 Phosphorus Removal System - This standard is currently interim/"under evaluation." More and more counties and agencies are interested in using this standard, so additional WI-based design criteria would be helpful.
- CPS 522 Pond Sealing or Lining, Concrete - In the section titled "Additional Criteria for Waste Storage Facilities (WI CPS 313)", the second paragraph states "No control joints are required."
 - Identified scenario: When joining a new concrete liner to an existing concrete liner, a cold joint will be created. It is assumed that this joint should be a construction joint with rebar dowelled and

epoxied in place into the existing slab to create the effect of continuous steel. Rebar dowelled into the existing slab without securing with epoxy will create a control joint that would allow lateral movement and open a potential gap between the existing and new slabs. The statement “Maintain continuous reinforcing steel through all construction joints” leaves room for argument that an isolation joint was installed rather than a construction joint. Isolation joints or other joints which allow lateral movement should not be allowed in WSF construction without waterstop.

- Proposed Revision: After “No control joints are required.” Add “All joints between new and existing slabs shall be construction joints with reinforcement bars drilled and epoxied in place in the existing slab.”
- Proposed Revision: Modify the definition of Construction Joints. Suggest edit to “These joints are used where a fresh pour of concrete abuts an existing recent pour concrete. Construction joints where the steel is continuous through the joint are considered to be monolithic if constructed properly.” This eliminates interpretation of what is considered a recent pour and would include all existing concrete.
- Proposed Revision: Define Continuous Steel. Steel reinforcement rebar tied together with proper overlapping to provide continuous transfer of loading within a reinforced concrete slab. Steel may be considered continuous through a construction joint if rebars are dowelled into the existing slab and epoxied in place to prevent lateral movement between the existing and new slab.
- CPS 634 Waste Transfer
 - 634-CPS-5. Reception Tanks & Hoppers. Consider requirement for one day’s storage for a hopper. Piston pumps can be manufactured with a smaller prefabricated metal hopper that is cast into the floor of a barn. Consider why a day’s storage is required for these systems. There may be storage within a barn gutter or barn cleaner gutter with capacity in case maintenance is needed.
 - 634-CPS-6. Requirement for no pipe joints within 10’ of waste storage structures is shown under the “Pipelines-Pressure” heading. Should this be moved to be under “Pipelines and conduits – General”? Is there a reason only pressure pipes were required to be more than 10’ away? Gravity flow pipes may be just as big of a concern. Concrete restraints for pipe joints within 25’ of the liner should also be considered for both scenarios since we can’t fix a separated joint under the liner.”
- 340 - Cover Crop. With the soil health movement over the past 8-10 years, there are lots of new species being used and should be considered. Along with that, we have learned a lot about cover crops and seeding dates/rates, interseeding, aerial seeding, full season cover crops, harvesting cover crops (mechanical/grazed) that should be looked at and updated. Not only the standard, but Tech Note 7 (now Guidance Document) along with the Implementation Requirements (IR) and cover crop seed calculator.
- Fencing standard
- 590
- Need to look at use of Snap Plus and delivery calculations for estimating phosphorus load reductions.
- Nutrient management plans
- Streambank and Shoreline Protection
- 580 - The new requirement for additional assessment criteria needed from CPS 582 is too restrictive and is discouraging/eliminating use of the standard due to lack of expertise in use of HEC-RAS available for analysis.
- VTA and the availability of using the standard in the driftless region.

10. 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 like to receive training.

102 respondents contributed to the results in Figure 7.

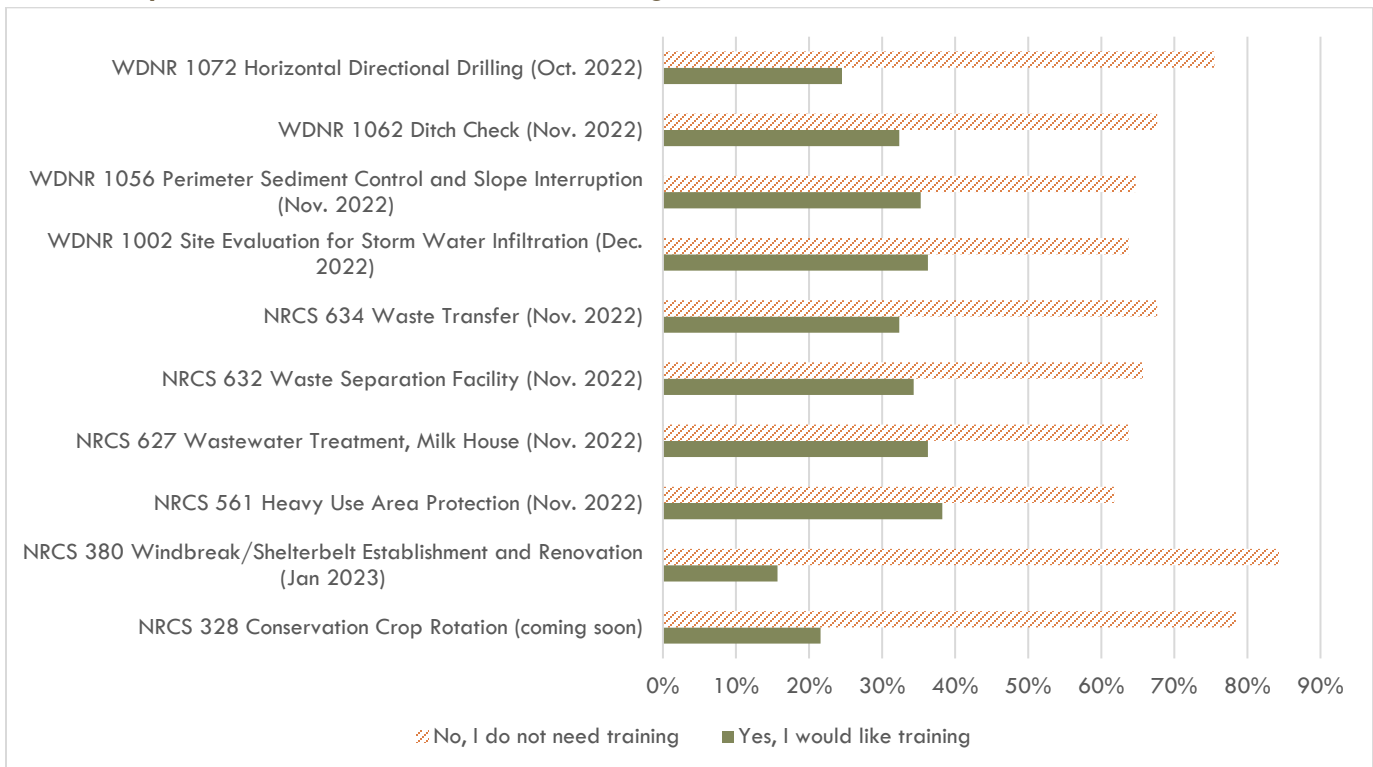


Figure 7. Standard-related training needs expressed by respondents.

11. What other standard-related training, if any, would you be interested in for your work? List the standard and any specific components of the training you would want to see.

10 of 120 respondents provided feedback on this question.

General Comments Received Related to Training:

- All standards that are incorporated within WI NR151 Ag Performance Standards
- Never know which standard will come up next with a complaint, initiative or request. If we are made aware of changes to standards and have access to them we are grateful for the efforts, process and product we can use in our varying day to day projects.
- WinSLAMM, NR151
- Silvopasture

Standard-Specific Comments Received Related to Training:

- 582 Open Channel: HEC-RAS modeling pertaining to the standard and two-stage ditch.
- 584 Channel Bed Stabilization: HEC-RAS modeling pertaining to the standard

- 635 VTA: Training on the revised standard once it is completed."
- Animal lot runoff collection, solids separation and runoff treatment.
- There was a significant increase in the amount of documentation needed to use septic tank as part of the recent change to 634 with no additional training. Changes like this shouldn't occur without corresponding training for field staff.

12. Please use the space below if you have any other comments for SOC or the Custodian agencies regarding SOC's process for technical standard revisions and development.

8 of 122 respondents commented on this question.

- Keep up the good work, it is a thankless job.
- Thanks and keep doing what you do!
- Maybe not all along the way..... but somewhere, vet this stuff with contractors and farmers.
- Develop a good base for each standard. Keep simple (but not vague) and try not to include too many complex scenarios in the text to cover everything with options. Design to meet most situations or safety factor. Leave complex designs to area engineers on case by case basis.
- Nothing at this time.
- Have experience developing erosion control standards for WisDOT and the concrete washout. Familiar with bioretention and engineered soils.
- NRCS standards should be uniformly applied across the state. Individual interpretation from different reviews results in lost time and funds expended.
- Soil & Site evaluation tech standard (from DNR) can be very confusing when it comes to exemptions. More information on the exemptions and how to go about proving those on a site would be helpful.