



DATA NORMS FOR PRACTICE INCLUSION

Agricultural Conservation Practices

Abstract

The primary categories of information needed to track agricultural conservation practices are location, type of practice, when the practice was installed, and how much area is treated by the practice. Further, specifying a standard unit (area treated) was found by the Hypoxia Task Force Nonpoint Source Measures Workgroup to be an appropriate unit of measure.

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Purpose

Describe data elements needed to be included in tracking efforts for agricultural conservation practices providing water quality benefits. The primary categories are location, type of practice, when the practice was installed, and how much area is treated by the practice. With these primary elements, assumptions can be made on practice performance based on most water quality models.

Data Norms

The project team worked with the Hypoxia Task Force (HTF) Coordinating Committees (CC) Nonpoint Source Measures Workgroup (NPSMWG) to determine “minimum” or “common” measures for all states to track for each conservation practice (NPSMWG, 2018). This list has been developed and includes the parameters in Table 1. These parameters are defined in “Appendix A: Data Dictionary”.

Table 1. Common measure parameters based on the HTF CC NPSMWG recommendations.

Parameter	Importance
HUC 8	Required
HUC 12	Encouraged
State	Required
County Code	Optional
County	Required
NRCS Practice Code	Encouraged
Practice Name	Required
Program	Required
Fund Code	Optional
Applied Amount	Required
Practice Units	Required
Applied Date	Required
Funding	Optional

This parameter list was largely based on available data from the Natural Resources Conservation Service (NRCS), and several are optional. For example, the “NRCS Practice Code” for efforts falling outside NRCS funding would be meaningless. There are an additional 11 parameters (Table 2) to extend these data based on state specific assumptions. For example, an assumed practice life would be used to estimate the “Sunset Date” of the practice.

Table 2. Extended parameters based on HTF tracking needs.

Parameter	Importance
Sunset Date	Required
Total Project Costs	Optional
Water Quality Benefits	Optional

General Practice Name	Required
Practice Category	Optional
Pre-Implementation Land Use	Likely not enough information to assess this
Pre-Implementation Tillage	Likely not enough information to assess this
Area Treated (ac)	Required
Ancillary Benefits	Optional
Relative Phosphorus Reduction	Required Output
Relative Nitrogen Reduction	Required Output
Phosphorus Reduction (lbs)	Helpful to provide context
Nitrogen Reduction (lbs)	Helpful to provide context

The additional parameters add value to the original dataset and allow grouping/aggregating practices into, for example, a “General Practice Name”. Further, the final output “Relative Phosphorus Reduction” and “Relative Nitrogen Reduction” are the culmination of conservation efforts across the HTF region and are the final output for tracking. Phosphorus and nitrogen reduction estimates require two primary pieces of information:

- 1) A static accounting system that allows the determination of a relative importance of each watershed.
 - a. The framework developed here is accounting system agnostic, meaning any model estimating nitrogen and phosphorus loss from all of the HUC 8 watersheds in the MARB could be used.
 - i. The current relative importance model being used is the 2002 SPARROW model (USGS, 2014).
 - b. The relative impact of each HUC 8 watershed can be used to normalize nitrogen and phosphorus loss to the “Baseline” period of 1980 to 1996. This has been done using the USGS Weighted Regressions on Time, Discharge and Season (WRTDS; (Hirsch & De Cicco, 2015)) estimates (USGS, 2018).
- 2) A relative measure of conservation practice impact on nitrogen and phosphorus reduction.
 - a. Several states have developed their own methods for estimating these benefits.
 - b. Estimates can still be made in states lacking a defined procedure by using default values. These values can be updated at any time, and updates are retro-active.
 - c. An important note: only a small portion of all of the conservation practices highlighted in the Summary of “Eligible” Agricultural Non-Point Source Conservation Practices document have been evaluated by any of the states. This means there are substantial gaps in overall nutrient loss reduction estimates. These gaps will continue to close as additional practices are considered by each state.

The base unit for all conservation efforts is “Area Treated (ac)”, which was determined to be the common unit of measure by the CC. Ongoing work is being done to determine how conversions from other units (e.g., feet and number of facilities) might be done in the pilot states as well as other states. Discussions about these conversions has independently started in Iowa and Minnesota, and the topic has been raised in Illinois, Indiana, and Arkansas.

Gross data is available through the Natural Resources Conservation Service (NRCS) Resource Conservation Act (RCA) report (USDA, 2018). Though this information is incredibly useful when trying to understand conservation in a given state, these data lack spatial resolution. Additionally, these reports note, “Totals presented here are not comparable to program enrollment acres or contract acres,” since these reports are based on “land unit acreage” rather than treated acreage. However, relative comparisons can be made between years using these data since all federal programs are included (Agricultural Conservation Easement Program (ACEP) Agricultural Water Enhancement Program (AWEP) Conservation Reserve Program (CRP) Conservation Technical Assistance (CTA) Emergency Watershed Protection Program (EWP) Environmental Quality Incentives Program (EQIP) Grassland Reserve Program (GRP) Regional Conservation Partnership Program (RCPP) Watershed Protection and Flood Prevention Program (WFPO) Wetlands Reserve Program (WRP) Wildlife Habitat Incentive Program (WHIP)).

Initial conversion estimates were made using land unit area for a specific conservation practice from the RCA report divided by practice count (Table 3). For comparison, the Iowa Science Assessment team has started investigating these conversions for a select few practices of importance in the state. These comparisons are included in Table 3 where applicable. The conversion for Wetland Creation was not included, since wetland drainage areas tend to be much larger than the actual reported wetland area. Additionally, no instances of denitrifying bioreactors were included in the Arkansas, Indiana, or Iowa RCA reports.

Table 3. Initial estimates of converting number of conservation practices to area treated. Estimates from the Iowa Science Assessment team are also included, where applicable.

Practice	Unit	Arkansas	Indiana	Iowa
		Acres per unit		
Animal Mortality Facility	no	16.5	21.6	10.2
Composting Facility	no	18	15.5	28.6
Grade Stabilization Structure	no	73.2	40.9	54 (32 ¹)
Sediment Basin	no	158.7	76	32
Waste Facility Closure	no	14.3	13.3	9.4
Waste Storage Facility	no	21.4	26.9	23.3
Waste Transfer	no	36.3	40.1	23.9
Waste Treatment	no	7.3	5	
Waste Treatment Lagoon	no	38.2	52	22
Water and Sediment Control Basin	no	40	50.8	67 (32 ¹)
Irrigation System Tailwater Recovery	no	105.4		
Terrace	no ²		53.1	72.3
Vegetated Treatment Area	ac		7.3	14.8
Wetland Creation	ac			1,239 ¹
Denitrifying Bioreactor	no			50 ¹

¹ Unofficial estimates from discussions with the Iowa Science Assessment Team. These have not been published and were only included as an example of another potential source of information.

² Terraces, which are normally reported as feet, were reported as number in the RCA reports.

References

- Hirsch, R. M., & De Cicco, L. A. (2015). User Guide to Exploration and Graphics for RivEr Trends (EGRET) and dataRetrieval: R Packages for Hydrologic Data - Statistical Analysis. In *Hydrologic Analysis and Interpretation*: US Geological Survey.
- NPSMWG. (2018). *Progress Report on Coordination for Non-Point Source Measures in Hypoxia Task Force States*. Retrieved from https://www.epa.gov/sites/production/files/2018-05/documents/nps_measures_progress_report_1-may_2018.pdf
- USDA. (2018). Financial Management Modernization Initiative (FMMI) 2012-2017 Data October 2017; Foundation Financial Information System (FFIS) 2009-2011 Data; National Planning and Agreements Database October 2017; ProTracts Program Contracts System October 2017. Retrieved from https://www.nrcs.usda.gov/Internet/NRCS_RCA/reports/cp_ar.html
- USGS. (2014). SPARROW Decision Support System. Retrieved from <http://cida.usgs.gov/sparrow/#region=MD:const=SS:modelid=30>
- USGS. (2018). Nutrient Loading for the Mississippi River and Subbasins. Retrieved from https://nrtwq.usgs.gov/mississippi_loads/#/

Appendix A: Data Dictionary

This table described each parameter along with the level of importance associated with the data.

Entry	Parameter Name	Description	Level of Importance	Source/Notes
Manual Entry (or supplied by NRCS data)	HUC 8	8-digit hydrologic unit code number (not the name of the watershed) If the HUC 12 is provided, HUC 8 can be automatically populated and does not need to be entered	Critical The HUC 12 OR the HUC 8 is required.	Entered by the user and is used to help lookup watershed specific information such as SWAT or SPARROW loads.
	HUC 12	12-digit hydrologic unit code number (not the name of the watershed)	Helpful if more detail is needed or specific regions are of interest	Entered by the user.
	State	State where the practice is located.	Critical	This entered by the user and is used to help lookup state specific information like practice efficiency.
	County Code	FIPS code for the county where the practice is located. This is largely for clarification	Helpful if spelling issues in the county list	Entered by the user. Would only be used in error checking.
	County	County name If the FIPS code is provided, County name can be automatically populated and does not need to be entered	Critical The FIPS OR County name is required	Entered by the user and can be used to lookup background information of the county such as most probable land use or tillage prior to practice implementation
	NRCS Practice Code	Code identifying conservation practice activities. This can be the 3-digit EQIP code or the CSP code	Helpful for “common measure” practices	Entered by user, if known. Some state, private, or survey data may not include this information. Used to check practice name
	Practice Name	A descriptive name identifying the conservation activity	Critical	Entered by user. These entries get flattened to the “General Practice Name” below.
	Program	How the practice was funded (e.g., EQIP, Private, etc.)	Critical	Entered by user. This will be used for sorting, reporting, and limiting double counting.

	Fund Code	Specific fund or subprogram description	Helpful for aggregating by a specific fund or subprogram	Entered by user.
	Applied Amount	Number of feet, acres or quantity of a given practice	Critical	Entered by user. Without this number, there is no reason to have a line in the database. Used to determine "Acres Treated" below. The units entered should correspond to the NRCS practice standard unit, when using a defined practice code.
	Practice Units	Specifying the practice measurement unit: feet, acres, or quantity (number)	Critical	Entered by user. Used to determine "Acres Treated" below.
	Applied Date	Year practice was assumed to go in the ground	Critical	Entered by user. Used to lookup suggested NRCS practice life and calculate "Sunset Date" below. An assumption is made that the practice was implemented when the application was filed. This may be different from the actual implementation data, though actual implementation date is no available.
	Funding	How much funding through the specified program was allocated for this practice	Helpful if interested in tallying money spent	Entered by user. Used to generally represent level of effort in a given watershed.
Extended Calculations	Sunset Date	Last year practice is assumed to be persistent in the landscape.	Critical	Calculated by looking up the suggested NRCS practice life for the "General Practice Name" and adding it to "Applied Date"
	Total Project Costs	Cost of the project – factoring in both program contributions and private contributions	Helpful if interested in tallying money spent	Calculated by assuming a cost share level (e.g., 50%).
	Water Quality Benefits	The impact a practice has on water quality. Choices are N, P, N & P or None	Helpful if interested	Calculated by looking up the "General Practice Name" and

			in sorting by nutrient	returning a subjective note about practice benefits
General Practice Name	A descriptive and standardized name identifying the conservation activity		Critical	Calculated by looking up the "NRCS Practice Code" or the "Practice Name" and returning a consistent value (bypasses spelling issues or differences in practice name entry).
Practice Category	Where the practice is likely being done		Helpful if interested in sorting by practice type	Calculated by looking up the "General Practice Name" and returning a subjective note about if the practice is done in the field, at the edge of the field, or is more regional in nature.
Pre-Implementation Land Use	Likely land use before the conservation practice		Helpful if trying to determine specific land use information	This is a work in progress, we can skip this and assume a general "rowcrop" land use...
Pre-Implementation Tillage	Likely tillage before the conservation practice		Helpful if trying to determine specific tillage information	This is a work in progress, we can skip this and assume a general "rowcrop" land use...
Area Treated (ac)	Area treated by the practice, which is the base unit for tracking		Critical	Calculated by looking up the "General Practice Name" and assumptions about unit conversions or area treated.
Ancillary Benefits	Other benefits besides water quality		Helpful if interested in sorting by other benefits (e.g., soil health)	
Relative Phosphorus Reduction	Relative P reduction for the MRB		Critical	Use a base model (e.g., baseline average from Nutrient Loading for the Mississippi River and Subbasins) using 2002 SPARROW to determine the relative importance of each HUC 8, apply the conservation practice efficiency (specific to each state), and calculate the basin-wide

				effectiveness of the specific practice.
	Relative Nitrogen Reduction	Relative N reduction for the MRB	Critical	Use a base model (e.g., baseline average from Nutrient Loading for the Mississippi River and Subbasins) using 2002 SPARROW to determine the relative importance of each HUC 8, apply the conservation practice efficiency (specific to each state), and calculate the basin-wide effectiveness of the specific practice.
	Phosphorus Reduction (lbs)	Normalized to Nutrient Loading for the Mississippi River and Subbasins WRTDS Baseline Period between 1980 and 1996)	Helpful for context	Use relative reduction, area treated, and WRTDS normalized land use yield to estimate reductions from a given practice.
	Nitrogen Reduction (lbs)	Normalized to Nutrient Loading for the Mississippi River and Subbasins WRTDS Baseline Period between 1980 and 1996)	Helpful for context	Use relative reduction, area treated, and WRTDS normalized land use yield to estimate reductions from a given practice.

Appendix B: Data Corrections

While evaluating the entirety of the dataset provided by NRCS, we made several lines of inquiry. First, practice names were evaluated to note variations in spelling and alternative practice units reported (Table B 1). This table includes all the EQIP data, without regard to whether the practice was considered to have a benefit for water quality.

Table B 1. Environmental Quality Incentive Program (EQIP) practice codes with notes on practice name variants and practice unit entry.

Practice Code	Primary Practice Name (number of variants)	Primary and Secondary Units
100	Comprehensive Nutrient Management Plan (0)	no; ft
102	Comprehensive Nutrient Management Plan (8)	no; ac; blank
104	Nutrient Management Plan (3)	no
106	Forest Management Plan (7)	no; blank
110	Grazing Management Plan (3)	no
112	Prescribed Burning Plan (0)	no
114	Integrated Pest Management Plan (3)	no
118	Irrigation Water Management Plan (1)	no
122	Agricultural Energy Management Plan (14)	no; blank
124	Agricultural Energy Management Plan - Landscape (4)	no
128	Agricultural Energy Management Plan (AgEMP) (0)	no
128	Agricultural Energy Management Plan - Written (1)	no
130	Drainage Water Management Plan - Written (2)	no; blank
138	Conservation Plan Supporting Organic Transition - Written (8)	no
142	Fish and Wildlife Habitat Management Plan (0)	no
146	Pollinator Habitat Enhancement Plan (1)	no
150	Spill Prevention, Control, and Countermeasure (0)	no
154	IPM Herbicide Resistance Weed Conservation Plan - Written (7)	no
201	Edge of Field Water Quality Monitoring Data Collection and Evaluation (1)	ac
202	Edge of Field Water Quality System Installation (0)	no
297	Feral Swine Management Conservation Activity (2)	ac
309	Agrichemical Handling Facility (1)	no; ac
310	BEDDING (0)	ac
313	Waste Storage Facility (2)	no; ft; ac; blank
314	Brush Management (2)	ac; no; ft; blank
315	Herbaceous Weed Control (1)	ac; ft; no; blank
316	Animal Mortality Facility (1)	no; ac; ft; ani unt; blank
317	Composting Facility (2)	no; ac; ft
319	On-Farm Secondary Containment Facility (0)	no

324	CHISELING AND SUBSOILING (1)	ac
325	High Tunnel System (0)	sq ft; blank
327	Conservation Cover (2)	ac; no; ft; sq ft; blank
328	Conservation Crop Rotation (3)	ac; ft; no; blank
329	Residue and Tillage Management - No-Till (22)	ac; ft; no; blank
330	Contour Farming (0)	ac
332	Contour Buffer Strips (0)	ac
333	Amending Soil Properties with Gypsum Products (0)	ac
338	Prescribed Burning (2)	ac; ft; no; blank
340	Cover Crop (1)	ac; ft; no; sq ft; blank
342	Critical Area Planting (3)	ac; ft; no; sq ft; blank
344	Residue Management, Seasonal (4)	ac
345	Residue and Tillage Management, Mulch Till (8)	ac; no; blank
346	Residue and Tillage Management, Ridge Till (4)	ac
348	DAM DIVERSION (0)	no
350	Sediment Basin (0)	ac; no; blank
351	Well Decommissioning (2)	no; ac; ft; blank
355	Water Well Testing (1)	no
356	Dike (1)	ft; ac; no; blank
359	Waste Treatment Lagoon (2)	no; ft; ac
360	Closure of Waste Impoundment (3)	no; ac
362	Diversion (2)	ft; no; ac
365	Anaerobic Digester, Ambient Temperature (0)	no
366	Anaerobic Digester (0)	no
367	Roofs and Covers (3)	no; ac; ft; ani unt
370	Atmospheric Resource Quality Management (0)	ac
372	Combustion System Improvement (0)	no
374	Farmstead Energy Improvement (2)	no
378	Pond (4)	no; ft; ac; blank
380	Windbreak/Shelterbelt Establishment (5)	ft; ac; blank
381	Silvopasture Establishment (2)	ac
382	Fence (2)	ft; no; ac; sq ft; blank
384	Woody Residue Treatment (2)	ac
386	Field Border (3)	ac; ft; no; blank
390	Riparian Herbaceous Cover (1)	ac
391	Riparian Forest Buffer (2)	ac; no; ft
393	Filter Strip (2)	no; ac; ft
394	Firebreak (3)	ft; ac; blank
395	Stream Habitat Improvement and Management (1)	ac
396	Aquatic Organism Passage (0)	mi
397	AQUACULTURE PONDS (0)	ac

402	Dam (0)	ac-ft; ft
409	Prescribed Forestry (1)	ac
410	Grade Stabilization Structure (3)	no; ft; ac; blank
412	Grass Waterway (4)	ac; no; ft; blank
422	Hedgerow Planting (1)	ft; ac
430	Irrigation Pipeline (1)	ft; ac; no; blank; sq ft
430DD	Irrigation Water Conveyance Pipeline (8)	ft; ac; no
430EE	Irrigation Water Conveyance Pipeline (1)	ft; ac; no; blank
430FF	Irrigation Water Conveyance, Pipeline, Steel (2)	ft; ac
431	Above Ground, Multi-Outlet Pipeline (0)	ft
436	Irrigation Reservoir (4)	ac-ft; sq ft; no; ft; ac
441	Irrigation System, Microirrigation (5)	ac; ft; sq ft; no; blank
442	Irrigation System, Sprinkler (8)	ac; no; blank
443	Irrigation System, Surface and Subsurface (4)	ac; no
447	Irrigation System, Tailwater Recovery (2)	no; ft
449	Irrigation Water Management (2)	ac; ft; no; blank
450	Anionic Polyacrylamide (PAM) Application (0)	ac
460	Land Clearing (1)	ac; no; ft; sq ft
462	Precision Land Forming (0)	ac; blank
464	Irrigation Land Leveling (3)	ac; ft; no; ac-ft; blank
466	Land Smoothing (0)	ac
468	Lined Waterway or Outlet (2)	ft; no; ac
472	Access Control (4)	ac; no; ft
484	Mulching (2)	ac; no; ft; sq ft
490	Forest Site Preparation (6)	ac; ft; no; blank
500	Obstruction Removal (0)	ac; ft; no
511	Forage Harvest Management (2)	ac; ft; no
512	Forage and Biomass Planting (7)	ac; no; ft; blank
516	Livestock Pipeline (4)	ft; no; ac; blank
521A	POND SEALING OR LINER (1)	no; ac
521B	Pond Sealing or Lining, Soil Dispersant (0)	no
521C	Pond Sealing or Lining, Bentonite Sealant (0)	no
521D	Pond Sealing or Lining, Compacted Clay Treatment (4)	no; ac
527	Sinkhole and Sinkhole Area Treatment (No.) (2)	no
528	Prescribed Grazing (3)	ac; no; ft; blank
533	Pumping Plant (3)	no; ft; ac
548	Grazing Land Mechanical Treatment (0)	ac
552	Irrigation Regulating Reservoir (1)	no; ft; ac
554	Drainage Water Management (1)	ac; no; ft
558	Roof Runoff Structure (1)	no; ac; ft
560	Access Road (3)	ft; no; ac; ft

561	Heavy Use Area Protection (4)	ac; sq ft; ft; no; blank
570	Stormwater Runoff Control (0)	ac; no
572	Spoil Spreading (0)	ac; blank
574	Spring Development (4)	no; ft; ac
575	Trails and Walkways (4)	ft; ac; no
576	Livestock Shelter Structure (0)	no
578	Stream Crossing (3)	no; ft; ac
580	Streambank and Shoreline Protection (7)	ft; ac; no; blank
582	Open Channel (0)	ft
584	Channel Stabilization (2)	ft
585	Stripcropping (0)	ac
587	Structure for Water Control (0)	no; ac; ft; blank
590	Nutrient Management (4)	ac; no; ft; blank
591	Amendments for the Treatment of Agricultural Waste (4)	ani unt; no; ft; ac; blank
592	Feed Management (0)	no
595	Integrated Pest Management (7)	ac; ft; no; sq ft; blank
600	Terrace (1)	ft; ac; no; blank
601	VEGETATIVE BARRIER (2)	ft; ac
605	Denitrifying Bioreactor (0)	ac
606	Subsurface Drain (1)	ft; ac; no
607	Surface Drainage, Field Ditch (1)	ft; ac; no
608	Surface Drainage, Main or Lateral (1)	ft; ac
610	Salinity and Sodic Soil Management (0)	ac
612	Tree & Shrub Establishment (7)	ac; ft; no; blank
614	Watering Facility (6)	no; ft; ac; sq ft; blank
620	Underground Outlet (2)	ft; ac; no; blank
629	Waste Treatment (1)	no; ani unt; ft; blank
630	Vertical Drain (0)	no
632	Solid/Liquid Separation Facility (6)	no; ft
633	Waste Utilization (2)	ac; no; ft
634	Manure Transfer (3)	no; ac; ft
635	Vegetated Treatment Area (2)	ac; no; ft
638	Water and Sediment Control Basin (4)	no; ac; ft; blank
642	Water Well (3)	no; ft; ac; blank
643	Restoration and Management of Rare and Declining Habitats (6)	ac; sq ft; no
644	Wetland Wildlife Habitat Management (2)	ac
645	Upland Wildlife Habitat Management (3)	ac; no; ft; blank
646	Shallow Water Development and Management for Wildlife (6)	ac; ft; blank
647	Early Successional Habitat Development/Mgmt (7)	ac
649	Structures for Wildlife (0)	no; ac

650	Windbreak/Shelterbelt Renovation (0)	ft
654	Road / Trail / Landing Closure and Treatment (1)	ft
655	Forest Trails and Landings (1)	ac; ft
656	Constructed Wetland (0)	ac
657	Wetland Restoration (0)	ac
658	Wetland Creation (0)	ac
659	Wetland Enhancement (0)	ac
660	Tree Pruning (2)	ac
666	Forest Stand Improvement (3)	ac; ft; no; blank
670	Lighting System Improvement (0)	no
672	Building Envelope Improvement (0)	no
702	Agrichemical Mixing Facility (1)	no
710	Agricultural Secondary Containment Facility (0)	no
717	LIVESTOCK SHADE STRUCTURE (1)	no
720	CONTROLLED TRAFFIC FARMING (1)	ac
725	Sinkhole Treatment (0)	no
739	VEGETATED SUBSURFACE DRAIN OUTLET (0)	ft
747	Denitrifying Bioreactor (1)	ac
797	Terrestrial Invasive Plant Species Pest Management (0)	ac
798	Seasonal High Tunnel System for Crops (8)	sq ft; ac; ft; no; blank
799	Monitoring and Evaluation (0)	no; ac
801	Amending Soil Properties with Gypsiferous Products (0)	ac
910	TA Planning (0)	no
911	Technical Assistance Design (4)	no; ac; ft
912	Technical Assistance Application (6)	no; ac; ft
913	Technical Assistance Checkout (5)	no; ac; ft
ERP	Equitable Relief Payment (0)	No
EUP	Erroneous Underpayment (0)	No
JNP	Judicial or NAD Payment (0)	No
OTP	Other Payment (0)	No

These practices were additionally evaluated by noting the occurrence of the practice units. The majority of entries were appropriate, however, a small fraction were reported with alternative units (Table B 2). This list was put in order of increasing EQIP practice code but has been culled to only include the first assessment of conservation practices assumed to have water quality benefits. Most were very consistently reported by their dominant unit. The practice with the most variability in reporting was Heavy Use Area Protection (Practice Code 561), which was often reported as square feet. With the exception of Heavy Use Area Protection and Irrigation System, Microirrigation (Practice Code 441) (90.1% reported as dominant unit), all practices were reported at over 95% as the dominant unit.

Table B 2. Alternative unit occurrence across the NRCS conservation practice dataset.

Practice Code	Practice Name	Dominant Unit	Percentage of Dominant Unit
313	Waste Storage Facility	no	99.1%
316	Animal Mortality Facility	no	99.4%
317	Composting Facility	no	99.6%
322	Channel Bank Vegetation	ac	97.6%
327	Conservation Cover	ac	99.0%
328	Conservation Crop Rotation	ac	99.8%
329	Residue and Tillage Management - No-Till	ac	99.8%
330	Contour Farming	ac	100.0%
332	Contour Buffer Strips	ac	100.0%
340	Cover Crop	ac	99.7%
342	Critical Area Planting	ac	98.3%
345	Residue and Tillage Management, Mulch Till	ac	99.7%
346	Residue and Tillage Management, Ridge Till	ac	100.0%
350	Sediment Basin	no	98.5%
351	Well Decommissioning	no	98.9%
359	Waste Treatment Lagoon	no	97.5%
360	Closure of Waste Impoundment	no	99.3%
362	Diversion	ft	97.2%
380	Windbreak/Shelterbelt Establishment	ft	97.5%
390	Riparian Herbaceous Cover	ac	100.0%
391	Riparian Forest Buffer	ac	98.5%
393	Filter Strip	ac	96.1%
395	Stream Habitat Improvement and Management	ac	97.8%
410	Grade Stabilization Structure	no	97.7%
412	Grass Waterway	ac	99.0%
441	Irrigation System, Microirrigation	ac	90.1%
447	Irrigation System, Tailwater Recovery	no	99.1%
449	Irrigation Water Management	ac	99.4%
472	Access Control	ac	96.2%
484	Mulching	ac	98.1%
528	Prescribed Grazing	ac	96.9%
554	Drainage Water Management	ac	98.7%
558	Roof Runoff Structure	no	97.9%
560	Access Road	ft	98.0%
561	Heavy Use Area Protection	ac	88.1%
578	Stream Crossing	no	96.2%
580	Streambank and Shoreline Protection	ft	98.3%

585	Stripcropping	ac	100.0%
587	Structure for Water Control	no	97.3%
590	Nutrient Management	ac	99.4%
595	Integrated Pest Management	ac	99.4%
600	Terrace	ft	98.8%
605	Denitrifying Bioreactor	ac	100.0%
610	Salinity and Sodic Soil Management	ac	100.0%
612	Tree & Shrub Establishment	ac	99.7%
629	Waste Treatment	no	98.2%
633	Waste Utilization	ac	99.2%
634	Manure Transfer	no	98.4%
635	Vegetated Treatment Area	ac	95.3%
638	Water and Sediment Control Basin	no	96.1%
650	Windbreak/Shelterbelt Renovation	ft	100.0%
656	Constructed Wetland	ac	100.0%
657	Wetland Restoration	ac	100.0%
658	Wetland Creation	ac	100.0%
659	Wetland Enhancement	ac	100.0%
739	VEGETATED SUBSURFACE DRAIN OUTLET	ft	100.0%
747	Denitrifying Bioreactor	ac	100.0%

Unit discrepancies were coarsely corrected by using the state, year and practice average funding per unit funding values for the practice to “convert” back to the dominant unit. The idea here was to ensure all practices of the same type can be directly compared with each other – and, can be seamlessly converted into “acres treated” for comparison between practices (see previous discussion and Table 3). This procedure was used for obviously mis-reported data, as well. Since this list was very long it was not reported here; however, a record of this was developed and can be made available.