

# **Crosswalk of EPA's Ecological Mitigation Measures with USDA NRCS Conservation Practices in Support of EPA's Endangered Species Strategies**

Version 1.2

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## 2. Purpose

This crosswalk document is intended to help pesticide users understand and employ mitigation measures from EPA’s Runoff/Erosion Mitigation Menu and explain how existing best management practices and conservation practices (such as USDA Natural Resources Conservation Service (NRCS) Conservation Practice Standards and Farm Service Agency (FSA) Conservation Practices) may satisfy EPA pesticide labeling requirements. Pesticide product labeling may direct users to EPA’s mitigation menu website and can include the number of required runoff/erosion mitigation points<sup>1</sup> users must achieve through runoff/erosion mitigation and/or mitigation relief measures in order to apply the pesticide. The Mitigation Menu website includes the list of available mitigation measures and the assigned points. The Runoff/Erosion Mitigation Menu, and other support material is hosted on EPA’s Mitigation Menu website: [www.epa.gov/pesticides/mitigation-menu](http://www.epa.gov/pesticides/mitigation-menu).

This document is presented as guidance only and provides examples of how pesticide users can look to existing conservation practices or qualifying conservation programs to meet the associated points on pesticide product labeling. This crosswalk is for informational purposes only. Pesticide users are only obligated to implement mitigation measures as required by pesticide labeling. This crosswalk does not require any pesticide user to implement any particular conservation practice referenced or participate in the referenced programs. EPA understands that no federal, state, or local conservation program will change its requirements to meet EPA’s purposes nor are they required to ensure that their participants meet EPA’s requirements. EPA also does not expect that a user implementing a measure on EPA’s Runoff/Erosion Mitigation Menu would impact their eligibility to participate in a voluntary program.

## 3. Using Standards or Practices Developed by Non-EPA Programs to Meet Pesticide Product Labeling Requirements

Many standards and practices developed or used by federal, state, and local conservation programs would be equivalent to the mitigation measures EPA has identified as efficacious if they were placed on-field or down gradient from the pesticide application area. EPA’s review determined that these practices would capture, reduce, or delay pesticide runoff/erosion equivalent to or better than EPA’s mitigation measures established and discussed in the Ecological Mitigation Support Document<sup>2</sup>. EPA included these practices as ones that could be employed to achieve a number of mitigation points, as may appear on a pesticide product labeling.

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<sup>1</sup> Mitigation requirements may be on the physical label and/or through Bulletins Live Two!, a website that delineates geographically and species-specific mitigation.

<sup>2</sup> *Ecological Mitigation Support Document to Support Endangered Species Strategies Version 1.0*. This document is available in the docket at <https://www.regulations.gov/docket/EPA-HQ-OPP-2024-0299>

Practices developed or used by qualifying conservation programs may be developed for a variety of purposes other than reducing off-site movement of pesticides to protect non-target species (e.g., reducing soil compaction, reducing energy use). While these other purposes may be beneficial for a variety of reasons, the purpose of the mitigation measures identified by EPA is to reduce off-site movement of pesticides to reduce exposure to species listed under the Endangered Species Act. For example, a saturated buffer implemented according to the USDA NRCS's Conservation Practice Standard (CPS) for Saturated Buffer (Code 604) is intended to remove excess nitrogen from agriculture drainage water by passing water exiting a subsurface drain through a 30-foot buffer of soil. The surface of that buffer is a 30-foot vegetated area which EPA considers equivalent to its Vegetative Filter Strip mitigation measure. A grower who implements a saturated buffer according to the NRCS CPS 604 will be able to count the associated points with EPA's Vegetative Filter Strip mitigation measure.

The conservation practices referenced in this crosswalk document are provided to help growers and applicators understand EPA's mitigation measures and to meet runoff/erosion mitigation points that may appear on pesticide labeling. In selecting and implementing mitigation measures or conservation practices on their fields, EPA encourages growers, applicators, and land managers to consult other sources of information such as the referenced conservation practices, federal, state, or local conservation programs for their area; state extension information; local runoff/erosion specialists; and best management practices (BMPs) developed for their cropping system or area. Not all mitigation menu items will be feasible or practical in every region, crop, or field. Growers on rented land may not be able to install structural mitigation measures without working closely with the landowner. Because implementation and best practices for mitigation measures will vary by crop and location, local resources may assist growers in planning, building, and maintaining mitigation measures in a way that is tailored to their individual needs while also reducing pesticide runoff from fields. Within USDA NRCS, there are state-specific CPS that are implemented which may have additional criteria. For simplicity, individual state standards are not referenced in this crosswalk document, but pesticide users who wish to implement one of the practices are encouraged to consult the CPS in their state. Implementation of a state CPS that is based on the national CPS or is more restrictive than those listed in this document would also meet EPA's requirements and earn points toward EPA's mitigation menu. NRCS practices have both general criteria that all users will implement, plus additional criteria when the practice is implemented for specific purposes, which can include pesticide impacts. When using an NRCS conservation practice to meet the requirements on a pesticide label, the user must implement the general criteria listed in the CPS, the additional criteria relevant to pesticides in the CPS if applicable, plus any additional requirements listed in EPA's mitigation measure description. EPA's additional requirements, if applicable, are provided in the descriptions on its Mitigation Menu website.

Conservation Reserve Program (CRP) practices may also satisfy EPA pesticide labeling requirements. Practices used in the CRP are applied using NRCS's Conservation Practice Standards and each CRP participant receives a conservation plan detailing the location and extent of each NRCS CPS to be applied through CRP participation. The documentation includes site specific information on how to install and maintain the CPS. Pesticide users can reference their conservation plan for specific NRCS CPSs that are associated with their program participation and use the table below to understand how they align with EPA's Mitigation Measures.

#### **4. EPA's Runoff/Erosion Mitigation Measures and Crosswalk with NRCS Conservation Practice Standards**

The crosswalk table below shows EPA's mitigation measures, other practices that would qualify under that mitigation measure, and examples of practices from federal, state, and local conservation programs that would qualify for mitigation points.

**Table 1. Crosswalk Between EPA Runoff/Erosion Mitigation Measures, Other Practices that Qualify, Examples of Existing Conservation Practices that Meet the Mitigation Measures Identified by EPA**

EPA Mitigation Measure Title <small>Error! Bookmark not defined.</small>	Conditions that Qualify <sup>3,4</sup>	Points for Mitigation Measure on Mitigation Menu	Example Conservation Program Practices		
			Practice Name	NRCS Conservation Practice Code <sup>5,6,7</sup>	Version Date
Application Parameters					
Annual Application Rate Reduction	Any application 10% to <30% less than the maximum labeled annual application rate	1	No equivalent conservation practices identified		
	Any application 30% to <60% less than the maximum labeled annual application rate	2			
	Any application ≥60% less than the maximum labeled annual application rate	3			
Reduction in Proportion of Field Treated	10 to <30% of Field Area not treated (Banded application, partial treatment, precision sprayers)	2	No equivalent conservation practices identified		
	30 to <60% of Field Area not treated (Banded application, partial treatment, precision sprayers)	3			
	>60% of Field Area not treated (Banded application, partial treatment, precision sprayers)	4			

<sup>3</sup> Mitigation measures specific to pesticides were published in the Ecological Mitigation Support Document to Support Endangered Species Strategies Version 1.0 (USEPA, 2024). Not all measures are applicable to all fields and crops.

<sup>4</sup> Only one of the practices that qualify from a 'mitigation measure' can be used. For example, a user could get credit for cover cropping or double cropping but not both.

<sup>5</sup> Conservation Reserve Program (CRP) practices are applied using NRCS CPS and each CRP participant receives a conservation plan detailing the location and extent of each NRCS CPS to be applied through CRP participation including site specific information on how to install and maintain the CPS. Pesticide users can reference their conservation plan for CPS that are associated with their program participation.

<sup>6</sup> NRCS CPS codes listed refer to the national CPS. If a state has a more restrictive version of the CPS, that may be followed instead.

<sup>7</sup> When using a NRCS conservation practice to accumulate mitigation measure points, the user must implement ALL criteria listed under the *General Criteria* heading within the conservation practice standard (CPS) in effect at the time of installation. In addition to the *General Criteria*, any *Additional Criteria* listed for situations where pesticides are used MUST also be met, PLUS any additional requirements listed in the [EPA's mitigation measure description](#).

EPA Mitigation Measure Title	Conditions that Qualify <sup>3,4</sup>	Points for Mitigation Measure on Mitigation Menu	Example Conservation Program Practices		
			Practice Name	NRCS Conservation Practice Code <sup>5,6,7</sup>	Version Date
Soil Incorporation	Watering-in or mechanical incorporation before runoff producing rain event. Mitigation relief may not be appropriate for end-use products that require soil incorporation on the product label that was accounted for in the MoD.	1	No equivalent conservation practices identified		
Field Characteristics <sup>8</sup>					
Field with slope $\leq 3\%$	Naturally low slope or flat fields; flat laser leveled fields	2	Irrigation Land Leveling Precision Land Forming and Smoothing	NRCS CPS 464 NRCS CPS 462	10/2020 07/2021
Predominantly Sandy Soils <sup>9</sup>	Fields with 10-20% clay and 50-90% sand (includes loam, silt loam, or silt soil) without a restrictive layer that impedes the movement of water through the soil impedes the movement of water through the soil (HSG B soils)	2	No equivalent conservation practices identified		
	Fields with $\leq 10\%$ clay and $\geq 90\%$ sand (includes sand, loamy sand, or sandy loam soil) without a restrictive layer that impedes the movement of water through the soil (HSG A soils)	3	No equivalent conservation practices identified		
In-Field Mitigation Measures					
Reduced Tillage Management	Reduced tillage, mulch tillage, strip till, ridge tillage	2	Residue and Tillage Management, Reduced Till	NRCS CPS 345	09/2016
	No-till	3	Residue and Tillage Management, No Till	NRCS CPS 329	09/2016

<sup>8</sup>Multiple field characteristics may apply to an individual field.

<sup>9</sup>Soil texture is as defined by USDA's soil classification system. See USDA's Web Soil Survey tool to determine soil texture: <https://websoilsurvey.nrcs.usda.gov/app/>.

EPA Mitigation Measure Title <small>Error! Bookmark not defined.</small>	Conditions that Qualify <sup>3,4</sup>	Points for Mitigation Measure on Mitigation Menu	Example Conservation Program Practices		
			Practice Name	NRCS Conservation Practice Code <sup>5,6,7</sup>	Version Date
Reservoir Tillage	Reservoir tillage, furrow diking, basin tillage	3	No equivalent conservation practices identified		
Contour Farming	Contour farming, contour tillage, contour orchard and perennial crops	2	Contour Farming Contour Orchards and Other Perennial Crops	NRCS CPS 330 NRCS CPS 331	10/2017 09/2015
In-field Vegetative Strips	Inter-row vegetated strips, strip cropping, alley cropping, prairie strips, contour buffer strips, contour strip cropping, prairie strip, alley cropping, vegetative barrier (occurring in a contoured field)	2	Filter Strip Strip Cropping Alley Cropping Contour Buffer Strips	NRCS CPS 393 NRCS CPS 585 NRCS CPS 311 NRCS CPS 332	09/2016 10/2017 10/2017 09/2014
Terrace Farming	Terrace farming, terracing, field terracing	2	Terrace Rock Terrace <sup>10</sup> Diversion	NRCS CPS 600 NRCS CPS 555 NRCS CPS 362	09/2020 09/2020 07/2022
Cover Crop/Continuous Ground Cover	Cover crop, double cropping, relay cropping	1 (tillage used)	Conservation Crop Rotation Cover Crop	NRCS CPS 328 NRCS CPS 340	09/2014 05/2024
		2 (no tillage, short term)			
		3 (no tillage, long term)			
Irrigation Water Management	Use of soil moisture sensors/evapotranspiration meters with center pivots & sprinklers; above ground	2 (general irrigation management)	Irrigation Water Management Irrigation System, Microirrigation Sprinkler System	NRCS CPS 449 NRCS CPS 441 NRCS CPS 442	09/2020 09/2020 07/2021

<sup>10</sup> Rock Terraces are currently, as of publication of this document in July 2024, only used in NRCS programs in Guam and Puerto Rico, and are likely not applicable to cropping systems in the rest of the United States.

EPA Mitigation Measure Title <small>Error! Bookmark not defined.</small>	Conditions that Qualify <sup>3,4</sup>	Points for Mitigation Measure on Mitigation Menu	Example Conservation Program Practices		
			Practice Name	NRCS Conservation Practice Code <sup>5,6,7</sup>	Version Date
	drip tape, drip emitters; micro-sprinklers; computerized hole selection & surge values for furrow irrigation		Irrigation System, Surface and Subsurface	NRCS CPS 443	07/2022
	Below tarp irrigation, below ground drip tape; dry farming, non-irrigated lands	3 (subsurface irrigation; no Irrigation)			
Anionic Polyacrylamide (PAM)	Use of water-soluble formulations of anionic polyacrylamide in irrigation water	2	Anionic Polyacrylamide (PAM) Application	NRCS CPS 450	09/2020
Mulching with Natural and Artificial Materials	Mulching with artificial materials (i.e., landscape fabrics, synthetic mulches)	1	Mulching	NRCS CPS 484	10/2017
	Mulching with natural materials	3			
Erosion Barriers	Wattles, Silt Fences	2	Utilization of Compost Filter Socks	NRCS TN 190-AGR-4 (Amendment 1)	03/2014
Adjacent to Field Mitigation Measures <sup>11</sup>					
Grassed Waterway	Grassed waterway	2	Grassed Waterway	NRCS CPS 412	09/2020
Vegetative Filter Strips - Adjacent to the Field	20 to <30 ft Vegetative filter strip (VFS), field border	1	Field Border Filter Strip	NRCS CPS 386	09/2016
	30 to <60 ft Vegetative filter strip (VFS), field border	2	Vegetative Barrier Saturated Buffer	NRCS CPS 393	09/2016
	≥60 ft Vegetative filter strip (VFS), field border	3		NRCS CPS 601	07/2021
Vegetated Ditch	Vegetated ditch	1	No equivalent conservation practices identified		
Riparian Area	Riparian forest buffer, riparian herbaceous cover 20 to <30 ft	1	Riparian Forest Buffer	NRCS CPS 391	10/2020

<sup>11</sup>Adjacent to the field mitigations should be located down-gradient from a treated field to effectively reduce pesticide exposure in runoff and erosion.

EPA Mitigation Measure Title	Conditions that Qualify <sup>3,4</sup>	Points for Mitigation Measure on Mitigation Menu	Example Conservation Program Practices		
			Practice Name	NRCS Conservation Practice Code <sup>5,6,7</sup>	Version Date
	Riparian forest buffer, riparian herbaceous cover 30 to <60 ft	2	Riparian Herbaceous Cover Stream Habitat Improvement and Management Streambank and Shoreline Protection	NRCS CPS 390	11/2022
	Riparian forest buffer, riparian herbaceous cover ≥60 ft	3		NRCS CPS 395	05/2019
	Riparian forest buffer, riparian herbaceous cover ≥60 ft	3	Streambank and Shoreline Protection	NRCS CPS 580	10/2020
Constructed and Natural Wetlands	Constructed wetlands, Wetland and Riparian Landscape/Habitat Improvement	3	Wetland Wildlife Habitat Management Constructed Wetland Wetland Restoration Wetland Creation Wetland Enhancement	NRCS CPS 644	11/2022
				NRCS CPS 656	03/2022
				NRCS CPS 657	09/2010
				NRCS CPS 658	07/2022
				NRCS CPS 659	11/2022
Terrestrial Habitat Landscape Improvement	Terrestrial landscape/habitat improvement 20 to <30 ft	1	Critical Area Planting Cross Wind Trap Strips Hedgerow Planting Herbaceous Wind Barriers Tree-Shrub Establishment Windbreak-Shelterbelt Establishment and Renovation Tree-Shrub Planting Forest Stand Improvement Upland Wildlife Habitat Management	NRCS CPS 342	09/2016
	Terrestrial landscape/ habitat improvement 30 to <60 ft	2		NRCS CPS 589C	2023
	Terrestrial landscape/ habitat improvement ≥60 ft	3		NRCS CPS 422	01/2024
				NRCS CPS 603	08/2023
				NRCS CPS 612	08/2023
				NRCS CPS 380	07/2021
				NRCS CPS 660	07/2022
				NRCS CPS 666	11/2022
				NRCS CPS 645	11/2022
Filtering Devices with Activated Carbon or Compost Amendments	Filters, sleeves, socks, or filtration units containing activated carbon	3	Utilization of Compost Filter Socks	NRCS TN 190-AGR-4 - (Amendment 1)	03/2014
	Filters, sleeves, socks, or filtration units containing compost	1			
Systems that Capture Runoff and Discharge					



EPA Mitigation Measure Title <small>Error! Bookmark not defined.</small>	Conditions that Qualify <sup>3,4</sup>	Points for Mitigation Measure on Mitigation Menu	Example Conservation Program Practices		
			Practice Name	NRCS Conservation Practice Code <sup>5,6,7</sup>	Version Date
Water Retention Systems	Retention pond, sediment basins, catch basins, sediment traps	2	Drainage Water Management Structure for Water Control Sediment Basin Water and Sediment Control Basin Irrigation Reservoir Pond Stormwater Runoff Control	NRCS CPS 554 NRCS CPS 587 NRCS CPS 350 NRCS CPS 638  NRCS CPS 436 NRCS CPS 378 NRCS CPS 570	02/2023 10/2017 05/2016 10/2017  09/2020 07/2022 09/2020
Subsurface Drainages and Tile Drainage Installed <i>without</i> Controlled Drainage Structure	Subsurface tile drains, tile drains	1	Subsurface Drain	NRCS CPS 606	07/2022
Other Mitigation Measures					
Mitigation measures from multiple categories ( <i>i.e.</i> , in-field, adjacent to the field, or systems that	See measures in categories above. Practices must be used from <u>at least 2</u> of the following categories: in-field, field- adjacent, or systems that capture runoff and discharge.	1	No equivalent conservation practices identified		

EPA Mitigation Measure Title <small>Error! Bookmark not defined.</small>	Conditions that Qualify <sup>3,4</sup>	Points for Mitigation Measure on Mitigation Menu	Example Conservation Program Practices		
			Practice Name	NRCS Conservation Practice Code <sup>5,6,7</sup>	Version Date
capture runoff and discharge) are utilized. <sup>12</sup>					

**Table 2. Crosswalk Between EPA' Other Mitigation Considerations for Runoff/Erosion and Examples of Existing Conservation Practices that Meet EPA's Minimum Requirements**

Other Mitigation Considerations <sup>13</sup>	General Description of Qualifying Practices	Points for Mitigation Measure on Mitigation Menu	Example Conservation Program Practices		
			Practice Name	NRCS Conservation Practice Code <sup>14</sup>	Version Date
Additional considerations associated with the extent of mitigation associated with any particular field/area					
Pesticide Runoff Vulnerability	County based mitigation relief, see description below	0 to 6 relief points based on location <sup>15</sup>	No equivalent conservation practices identified		
Environmental Quality Incentives Program (EQIP)	Participating in an EPA Qualified Conservation Pro	9 <sup>16</sup>	Pest Management Conservation System <sup>17</sup>	NRCS CPS 595	10/2019

<sup>12</sup>For example, if a cover cropping and adjacent to the field VFS are both utilized, the efficacy of the mitigation measures in combination may be increased.

<sup>13</sup>Mitigation measures specific to pesticides were published in the Ecological Mitigation Support Document to Support Endangered Species Strategies Version 1.0 (USEPA, 2024). Not all measures are applicable to all fields and crops.

<sup>14</sup>NRCS CPS codes listed refer to the national CPS. If a state has a more restrictive version of the CPS, that may be followed instead.

<sup>15</sup>See Appendix B of the Herbicide Strategy for a list of mitigation relief points by State and County, available in the Herbicide Strategy docket (EPA-HQ-OPP-2023-0365) at <https://www.regulations.gov/document/EPA-HQ-OPP-2023-0365-1135>.

<sup>16</sup>Nine (9) points are achieved when all elements in footnote 16 are met AND practices for runoff/erosion purpose are in place at the time of application

<sup>17</sup>NRCS conservation practice standard Pest Management Conservation System (NRCS CPS 595) is not defined as a "program" by NRCS. EPA specifically evaluated the EQIP program where participants are focused on planning runoff/erosion mitigation for agriculture. EQIP uses the NRCS CPS 595 for implementing runoff/erosion mitigations. When those mitigations are in place at the time of application of pesticides, EQIP would effectively meet 9 mitigation points. Implementation must meet NRCS CPS 595 *General Criteria* and *Additional Criteria* in settings where pesticides are applied. The additional criteria require the use of the Windows Pesticide Screening Tool (WIN-PST) to screen environmental risks.

Other Mitigation Considerations <sup>13</sup>	General Description of Qualifying Practices	Points for Mitigation Measure on Mitigation Menu	Example Conservation Program Practices		
			Practice Name	NRCS Conservation Practice Code <sup>14</sup>	Version Date
Follow Recommendations from a Runoff/Erosion Specialist	Working with a runoff/erosion technical specialist	1	No equivalent conservation practices identified		
Mitigation Tracking	Mitigation measure tracking	1	No equivalent conservation practices identified		
Managed Areas are Located 1,000 ft Down-Gradient from the Treated Farm/Field <sup>18</sup>	Managed areas are areas where there is not a potential for population-level impacts from off-site exposure to runoff/erosion from pesticide applications.	No additional mitigation needed	No equivalent conservation practices identified		
Mitigation Measures that in and of Themselves Reduce Exposure Such That Potential Population-Level Impacts are Unlikely					
Soil Injection		No additional mitigation needed	No equivalent conservation practices identified		
Tree Injection		No additional mitigation needed	No equivalent conservation practices identified		
Chemigation applied subsurface and under impermeable plastic mulch		No additional mitigation needed	No equivalent conservation practices identified		
Less than 1/10 Acre Treated or Spot Treatment (<1000 sq ft)		No additional mitigation needed	No equivalent conservation practices identified		
Systems with berms are treated fields that are surrounded by an elevated border or perimeter ( <i>e.g.</i> , berms) are in place at the time of application and carried through the cropping season		No additional mitigation needed	Dike and Levee	NRCS CPS 356	03/2022
Irrigation Tailwater Return Systems		No additional mitigation needed	Irrigation and Drainage Tailwater Recovery	NRCS CPS 447	02/2023
Subsurface or Tile Drainage with Controlled Outlet	Tile drainage with a water control structure and controlled outlet	No additional mitigation needed	Subsurface Drain Must be connected to a controlled outlet; see description below	NRCS CPS 606	07/2022

<sup>18</sup>Runoff/erosion mitigation points are not required if the areas within 1,000 ft down-gradient from the treated farm/field are comprised entirely of managed areas. Managed areas are defined as: a. Agricultural fields, including untreated portions of the treated field; b. Roads, paved or gravel surfaces, mowed grassy areas adjacent to field, and areas of bare ground from recent plowing or grading that are contiguous with the treated area; c. Buildings and their perimeters, silos, or other man-made structures with walls and/or roof; d. Areas maintained as a mitigation measure for runoff/erosion or spray drift control, such as vegetative filter strips (VFS), field borders, hedgerows, Conservation Reserve Program lands (CRP), and other mitigation measures identified by EPA on the mitigation menu; e. Managed wetlands including constructed wetlands on the farm; and f. On-farm contained irrigation water resources that are not connected to adjacent water bodies, including on-farm irrigation canals and ditches, water conveyances, managed irrigation/runoff retention basins, and tailwater collection ponds.