

Natural Resources Conservation Service

Climate-Smart Agriculture and Forestry (CSAF) Mitigation Activities List^[1] FY2023



Climate Change Mitigation Practice Categories	Code	Conservation Practice Standard Name ^[2] (units)	CSP Enhancement Code	Conservation Stewardship Program (CSP) Bundle and Enhancement Activity	
Soil Health			B000BFF1	Buffer Bundle#1*	
			B000CPL24	Cropland soil health management system*	
			B000CPL25	Climate smart advanced soil health*	
		327	Conservation Cover (acres)	E327A	Conservation cover for pollinators and beneficial insects
				E327B	Establish Monarch butterfly habitat
		328	Conservation Crop Rotation (acres)	E328A	Resource conserving crop rotation
				E328B	Improved resource conserving crop rotation
				E328E	Soil health crop rotation
				E328F	Modifications to improve soil health and increase soil organic matter
				E328G	Crop rotation on recently converted CRP grass/legume cover for soil organic matter improvement
				E328N	Intercropping to improve soil health
				E328O	Perennial grain crop conservation rotation
		329	Residue and Tillage Management, No Till (acres)	E329A	No till to reduce soil erosion
				E329B	No till to reduce tillage induced particulate matter
				E329C	No till to increase plant-available moisture
				E329D	No till system to increase soil health and soil organic matter content
				E329E	No till to reduce energy
		332	Contour Buffer Strips (acres)	None Available	
		340	Cover Crop (acres)	E340A	Cover crop to reduce soil erosion
				E340B	Intensive cover cropping to increase soil health and soil organic matter content
				E340C	Use of multi-species cover crops to improve soil health and increase soil organic matter
				E340D	Intensive orchard/vineyard floor cover cropping to increase soil health
				E340F	Cover crop to minimize soil compaction
				E340G	Cover crop to reduce water quality degradation by utilizing excess soil nutrients
				E340H	Cover crop to suppress excessive weed pressures and break pest cycles
				E340I	Using cover crops for biological strip till
		345	Residue and Tillage Management, Reduced Till (acres)	E345A	Reduced tillage to reduce soil erosion
				E345B	Reduced tillage to reduce tillage induced particulate matter
				E345C	Reduced tillage to increase plant-available moisture
				E345D	Reduced tillage to increase soil health and soil organic matter content
				E345E	Reduced tillage to reduce energy use
		386	Field Border (acres)	E386A	Enhanced field borders to reduce soil erosion along the edge(s) of a field
	E386B			Enhanced field borders to increase carbon storage along the edge(s) of the field	
	E386C			Enhanced field borders to decrease particulate emissions along the edge(s) of the field	
	E386D			Enhanced field borders to increase food for pollinators along the edge(s) of a field	
	E386E			Enhanced field borders to increase wildlife food and habitat along the edge(s) of a field	
	393	Filter Strips (acres)	E393A	Extend existing filter strip to reduce water quality impacts	
	412	Grassed Waterways (acres)	E412A	Enhance a grassed waterway	
	484	Mulching (acres)	E484A	Mulching to improve soil health	
			E484B	Reduce particulate matter emissions by using orchard or vineyard generated woody materials as mulch	
			E484C	Reduce particulate matter emissions by using orchard or vineyard generated woody materials as mulch	
	585	Stripcropping (acres)	None Available		
	601	Vegetative Barriers (feet)			
	603	Herbaceous Wind Barriers (feet)			

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Nitrogen Management	590	Nutrient Management (acres)	E590A	Improving nutrient uptake efficiency and reducing risk of nutrient losses
			E590B	Reduce risks of nutrient loss to surface water by utilizing precision agriculture technologies
			E590C	Improving nutrient uptake efficiency and reducing risk of nutrient losses on pasture
			E590D	Reduce risks of nutrient losses to surface and groundwater by increasing setback awareness via precision technology
Livestock Partnership	366	Anaerobic Digester (number)	None Available	
	632	Waste Separation Facility (number)*		
Grazing and Pasture	512	Pasture and Hay Planting (acres)	E512A	Cropland conversion to grass-based agriculture to reduce soil erosion
			E512B	Forage plantings that help increase organic matter in depleted soils
			E512C	Cropland conversion to grass for soil organic matter improvement
			E512D	Forage plantings that help increase organic matter in depleted soils
			E512E	Forage and biomass planting that produces feedstock for biofuels or energy production
			E512I	Establish pollinator and/or beneficial insect and/or monarch habitat
			E512J	Establish wildlife corridors to provide habitat continuity or access to water
			E512L	Diversifying forage base with interseeding forbs and legumes to increase pasture quality
			E512M	Forage plantings that improve wildlife habitat cover and shelter or structure and composition
	528	Prescribed Grazing (acres)	E528A	Maintaining quantity and quality of forage for animal health and productivity
			E528D	Grazing management for improving quantity and quality of food or cover and shelter for wildlife
			E528E	Improved grazing management for enhanced plant structure and composition for wildlife
			E528F	Stockpiling cool season forage to improve structure and composition or plant productivity and health
			E528G	Improved grazing management on pasture for plant productivity and health with monitoring activities
			E528H	Prescribed grazing to improve/maintain riparian and watershed function-elevated water temperature
			E528I	Grazing management that protects sensitive areas -surface or ground water from nutrients
			E528J	Prescribed grazing on pastureland that improves riparian and watershed function
			E528L	Prescribed grazing that improves or maintains riparian and watershed function-erosion
			E528M	Grazing management that protects sensitive areas from gully erosion
			E528O	Clipping mature forages to set back vegetative growth for improved forage quality
			E528P	Implementing Bale or Swath Grazing to increase organic matter and reduce nutrients in surface water
			E528R	Management intensive rotational grazing
			E528S	Soil Health Improvements on Pasture
	E528T	Grazing to Reduce Wildfire Risks on Forests		
	550	Range Planting (acres)	E550A	Range planting for increasing/maintaining organic matter
			E550B	Range planting for improving forage, browse, or cover for wildlife

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Agroforestry, Forestry and Upland Wildlife Habitat	311	Alley Cropping (acres)	None Available	None Available
	342	Critical Area Planting (acres)		
	379	Forest Farming (acres)		
	380 650	Windbreaks/Shelterbelt Establishment and Renovation (feet)		
	381	Silvopasture (acres)		
	390	Riparian Herbaceous Cover (acres)	E390A	Increase riparian herbaceous cover width for sediment and nutrient reduction
			E390B	Increase riparian herbaceous cover width to enhance wildlife habitat
	391	Riparian Forest Buffer (acres)	E391A	Increase riparian forest buffer width for sediment and nutrient reduction
			E391B	Increase stream shading for stream temperature reduction
			E391C	Increase riparian forest buffer width to enhance wildlife habitat
	420	Wildlife Habitat Planting (acres)*	E420A	Establish pollinator habitat*
			E420B	Establish monarch butterfly habitat*
	422	Hedgerow Planting (feet)	None Available	
	612	Tree/Shrub Establishment (acres)	E612A	Cropland conversion to trees or shrubs for long term improvement of water quality
			E612B	Planting for high carbon sequestration rate
			E612C	Establishing tree/shrub species to restore native plant communities
			E612G	Tree/shrub planting for wildlife food
	645	Upland Wildlife Habitat Management (acres)	E645B	Manage existing shrub thickets to provide adequate shelter for wildlife
			E645C	Edge feathering for wildlife cover
	666	Forest Stand Improvement (acres)*	E666A	Maintaining and improving forest soil quality*
E666D			Forest management to enhance understory vegetation*	
E666E			Reduce height of the forest understory to limit wildfire risk*	
E666F			Reduce forest stand density to create open stand structure*	
E666H			Increase on-site carbon storage*	
E666I			Crop tree management for mast production*	
E666J			Facilitating oak forest regeneration*	
E666K			Creating structural diversity with patch openings*	
E666L			Forest Stand Improvement to rehabilitate degraded hardwood stands*	
E666P			Summer roosting habitat for native forest-dwelling bat species*	
E666R	Forest songbird habitat maintenance*			
E666S	Facilitating longleaf pine regeneration and establishment*			
Restoration of Disturbed Lands	453	Land Reclamation, Landslide Treatment (acres)	None Available	
	543	Land Reclamation, Abandoned Mined Land (acres) ^[3]		
Energy, Combustion, and Electricity Efficiency	372	Combustion System Improvement (number)	None Available	
	374	Energy Efficient Agricultural Operation (number)*		
			E533C	Install VFDs on pumps ^[4] *
			E533D	Switch fuel source for pumps ^[4] *
	672	Energy Efficient Building Envelope (number)*	None Available	
670	Energy Efficient Lighting System (number)*			
Wetlands	657	Wetland Restoration (acres)*	None Available	
Rice	449	Irrigation Water Management (acres) ^[4]	E449B	Alternated Wetting and Drying (AWD) of rice fields

NOTES:

In addition to the designated CSAF mitigation activities listed, conservation practices that facilitate the management or the function of a CSAF mitigation activity but may not achieve the desired effects on their own (and may not have a quantifiable benefit) may be planned as applicable. Examples: Tree/Shrub Establishment (612) may need facilitating practices such as Tree/Shrub Site Preparation (490) or Access Control (472). Conservation Crop Rotation (328) may need facilitating practices such as Pest Management Conservation System (595), Cover Crops (340), or Irrigation Water Management (449). Waste Separation Facility may need facilitating practices such as Waste Transfer (634) or Roofs and Covers (367). Prescribed Grazing (528) may need facilitating practices such as Watering Facility (614), Stream Crossing (578), Fence (382), or Livestock Shelter Structure (576). Upland Wildlife Habitat Management (645) may need facilitating practices such as Brush Management (314), Herbaceous Weed Treatment (315), or Prescribed Grazing (528).

Activities highlighted have been added to the list in FY23.

*Noted activities are added to the list as “provisional.” These practices, associated enhancements, and bundles are being added under the premise that they may provide benefits, and a quantification methodology will be evaluated during the fiscal year. Practices may be removed from the mitigation practice list in a subsequent fiscal year if quantification is not possible.

- [1] Unless otherwise noted, listed practices have quantifiable carbon sequestration and/or GHG reduction methodologies described in COMET-Planner (www.comet-planner.com). New practices will be added as science progresses and scientifically defensible quantification methodologies are identified to accompany existing and new NRCS conservation practice standards.
- [2] The included Conservation Practice Standard links provide national information. Please consult the NRCS office at your local USDA Service Center for any local and state level criteria. Visit farmers.gov/service-locator to find contact information for your local office.
- [3] Effective Oct 1, 2022, Land Reclamation, Currently Mined Land (544) was archived and has been removed from this mitigation list, the practice was combined into Land Reclamation, Abandoned Mined Land (543). See NHCP Notice 172 for more information.
- [4] Conservation Practice Standards Irrigation Water Management (449) and Pumping Plant (533) are not GHG mitigation practice standards. The only atmospheric-beneficial applications are with Enhancement Activities E533C, E533D, and E449B or when 449 is implemented as part of an alternated wetting and drying (AWD) system in rice fields.

