

Activity List For Participants Enhancements

Enhancement Code	Resource Concern	Resource Concern Cause	Crop (Annual and Mixed)	Crop (Perennial)	Pasture	Range	Forest	Associated Ag Land	Farmstead	Full Enhancement Name	Enhancement Description	Units	Enhancement Lifespan	Max years enh. can be contracted
E314133Z	DEGRADED PLANT CONDITION	Inadequate Structure and Composition			X	X	X			Brush management for improved structure and composition	Brush management is employed to create a desired plant community, consistent with the related ecological site steady state, which will maintain or enhance the wildlife habitat desired for the identified wildlife species. It will be designed to provide plant structure, density and diversity needed to meet those habitat objectives. This enhancement does not apply to removal of woody vegetation by prescribed fire or removal of woody vegetation to facilitate a land use change.	acre	10	up to 5
E314134Z	DEGRADED PLANT CONDITION	Excessive Plant Pest Pressure			X	X	X			Brush management that maintains or enhances wildlife or fish habitat	Brush management is employed to create a desired plant community, consistent with the related ecological site steady state, which will maintain or enhance the wildlife habitat desired for the identified wildlife species. It will be designed to provide plant structure, density and diversity needed to meet those habitat objectives. This enhancement does not apply to removal of woody vegetation by prescribed fire or removal of woody vegetation to facilitate a land use change.	acre	10	up to 5
E315132Z	DEGRADED PLANT CONDITION	Undesirable Plant Productivity and Health			X		X			Herbaceous weed treatment that helps create desired plant communities and habitats consistent with the ecological site	Mechanical, chemical, or biological, herbaceous weed treatment will be employed to control targeted, herbaceous weeds so as to create, release, or restore desired plant communities that are consistent with achievable, ecological site, steady state descriptions.	acre	5	up to 5
E315133Z	DEGRADED PLANT CONDITION	Inadequate Structure and Composition				X	X			Herbaceous weed treatment for inadequate structure and composition that helps create desired plant communities and habitats consistent with the ecological site	Mechanical, chemical, or biological, herbaceous weed treatment will be employed to control targeted, herbaceous weeds so as to create, release, or restore desired plant communities that are consistent with achievable, ecological site, steady state descriptions.	acre	5	up to 5
E315134Z	DEGRADED PLANT CONDITION	Excessive Plant Pest Pressure			X	X	X	X		Herbaceous weed treatment for plant pest pressures that helps create desired plant communities and habitats consistent with the ecological site	Mechanical, chemical, or biological, herbaceous weed treatment will be employed to control targeted, herbaceous weeds so as to create, release, or restore desired plant communities that are consistent with achievable, ecological site, steady state descriptions.	acre	5	up to 5
E327136Z1	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Food	X	X			X	X	X	Conservation cover to provide food habitat for pollinators and beneficial insects	Seed or plug nectar and pollen producing plants in non-cropped areas such as field borders, vegetative barriers, contour buffer strips, grassed waterways, shelterbelts, hedgerows, windbreaks, conservation cover, and riparian forest and herbaceous buffers.	acre	5	1
E327136Z2	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Food	X	X				X	X	Establish Monarch butterfly habitat	Seed or plug milkweed (<i>Asclepias</i> spp.), and high-value monarch butterfly nectar plants on marginal cropland, field borders, contour buffer strips, and similar areas.	acre	5	1
E327137Z	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Cover/Shelter	X	X			X	X	X	Conservation cover to provide cover and shelter habitat for pollinators and beneficial insects	Seed or plug nectar and pollen producing plants in non-cropped areas such as field borders, vegetative barriers, contour buffer strips, grassed waterways, shelterbelts, hedgerows, windbreaks, conservation cover, and riparian forest and herbaceous buffers.	acre	5	1
E327139Z	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Habitat Continuity (Space)	X	X			X	X	X	Conservation cover to provide habitat continuity for pollinators and beneficial insects	Seed or plug nectar and pollen producing plants in non-cropped areas such as field borders, vegetative barriers, contour buffer strips, grassed waterways, shelterbelts, hedgerows, windbreaks, conservation cover, and riparian forest and herbaceous buffers.	acre	5	1
E328101I	SOIL EROSION	Sheet and Rill Erosion	X							Improved resource conserving crop rotation to reduce water erosion	Improve an existing Resource Conserving Crop Rotation. Must enrich an existing rotation which already includes AT LEAST one resource conserving crop as determined by the State Conservationist in a minimum three year crop rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plant pest pressures.	acre	1	5
E328101R	SOIL EROSION	Sheet and Rill Erosion	X							Resource conserving crop rotation to reduce water erosion	Establish a Resource Conserving Crop Rotation. Rotation must include AT LEAST one resource conserving crop as determined by the State Conservationist in a minimum three year crop rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plant pest pressures.	acre	1	5

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E328101Z	SOIL EROSION	Sheet and Rill Erosion	X							Conservation crop rotation on recently converted CRP grass/legume cover for water erosion	Implement a crop rotation management system on crop land acres that have recently converted from CRP grass/legume conservation cover to annual planted crops. Crop rotation minimizes disturbance resulting in a Soil Tillage Intensity Rating (STIR) less than 10 and reduces soil erosion from water to below soil tolerance (T) level. The current NRCS wind and water erosion prediction technologies must be used to document the rotation, soil erosion estimate, and STIR calculations. *This enhancement is limited to acres where the conversion event took place not more than 2 years prior. Enhancement not applicable on hayland.	acre	1	5
E328102I	SOIL EROSION	Wind Erosion	X							Improved resource conserving crop rotation to reduce wind erosion	Improve an existing Resource Conserving Crop Rotation. Must enrich an existing rotation which already includes AT LEAST one resource conserving crop as determined by the State Conservationist in a minimum three year crop rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plant pest pressures.	acre	1	5
E328102R	SOIL EROSION	Wind Erosion	X							Resource conserving crop rotation to reduce wind erosion	Establish a Resource Conserving Crop Rotation. Rotation must include AT LEAST one resource conserving crop as determined by the State Conservationist in a minimum three year crop rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plant pest pressures.	acre	1	5
E328102Z	SOIL EROSION	Wind Erosion	X							Conservation crop rotation on recently converted CRP grass/legume cover for wind erosion	Implement a crop rotation management system on crop land acres that have recently converted from CRP grass/legume conservation cover to annual planted crops. Crop rotation minimizes disturbance resulting in a Soil Tillage Intensity Rating (STIR) less than 10 and reduces soil erosion from wind to below soil tolerance (T) level. The current NRCS wind and water erosion prediction technologies must be used to document the rotation, soil erosion estimate, and STIR calculations. *This enhancement is limited to acres where the conversion event took place not more than 2 years prior. Enhancement not applicable on hayland.	acre	1	5
E328106I	SOIL QUALITY DEGRADATION	Organic Matter Depletion	X							Improved resource conserving crop rotation for soil organic matter improvement	Improve an existing Resource Conserving Crop Rotation. Must enrich an existing rotation which already includes AT LEAST one resource conserving crop as determined by the State Conservationist in a minimum three year crop rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plant pest pressures.	acre	1	5
E328106R	SOIL QUALITY DEGRADATION	Organic Matter Depletion	X							Resource conserving crop rotation for soil organic matter improvement	Establish a Resource Conserving Crop Rotation. Rotation must include AT LEAST one resource conserving crop as determined by the State Conservationist in a minimum three year crop rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plant pest pressures.	acre	1	5
E328106Z1	SOIL QUALITY DEGRADATION	Organic Matter Depletion	X							Soil health crop rotation	Implement a crop rotation which addresses all four principle components of soil health: increases diversity of the cropping system; maintains residue throughout the year; keeps a living root; and minimizes soil chemical, physical and biological disturbance. The rotation will include at least 4 different crop and/or cover crop types (crop types include cool season grass, warm season grass, cool season broadleaf, warm season broadleaf) grown in a sequence that will produce a positive trend in the Organic Matter (OM) sub factor value over the life of the rotation, as determined by the Soil Conditioning Index (SCI). The current NRCS wind and water erosion prediction technologies must be used to document the rotation and SCI calculations.	acre	1	5

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E328106Z2	SOIL QUALITY DEGRADATION	Organic Matter Depletion	X							Modifications to improve soil health and increase soil organic matter	Use of soil health assessment to evaluate impact of current conservation crop rotation in addressing soil organic matter depletion (primary assessment made in Year 1). Modifications to the crop rotation and/or crop management will be made as a result of the assessment results (adding a new crop and/or cover crop to the rotation; making changes to planting and/or tillage system, harvest timing of crops, or termination timing of cover crops). During Year 3 a follow up assessment will be completed to allow time for the modifications to show increased soil organic matter. Modified system must produce a positive trend in the Organic Matter (OM) sub factor value over the life of the rotation, as determined by the Soil Conditioning Index (SCI). The current NRCS wind and water erosion prediction technologies must be used to document the rotation and SCI calculations.	acre	1	5
E328106Z3	SOIL QUALITY DEGRADATION	Organic Matter Depletion	X							Conservation crop rotation on recently converted CRP grass/legume cover for soil organic matter improvement	Implement a crop rotation management system on crop land acres that have recently converted from CRP grass/legume conservation cover to annual planted crops. The crop rotation adds diversity to the system; keeps a living root growing; and is managed to minimize soil chemical, physical and biological disturbance and maintain residue cover on the surface. The rotation includes crops and/or cover crops representing 3 of the 4 crop types during the planned crop sequence: warm season grass (WSG), warm season broadleaf (WSB), cool season grass (CSG), or cool season broadleaf (CSB). The crop rotation will produce a positive trend in the Organic Matter (OM) sub factor value over the life of the rotation, as determined by the SCI. Crop rotation minimizes disturbance and reduces soil erosion from wind to below soil tolerance (T) level. The current NRCS wind and water erosion prediction technologies must be used to document the rotation, STIR and SCI calculations. *This enhancement is limited to acres where the conversion event took place not more than 2 years prior. Enhancement not applicable on hayland.	acre	1	5
E328107I	SOIL QUALITY DEGRADATION	Compaction	X							Improved resource conserving crop rotation to improve soil compaction	Improve an existing Resource Conserving Crop Rotation. Must enrich an existing rotation which already includes AT LEAST one resource conserving crop as determined by the State Conservationist in a minimum three year crop rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plant pest pressures.	acre	1	5
E328107R	SOIL QUALITY DEGRADATION	Compaction	X							Resource conserving crop rotation to improve soil compaction	Establish a Resource Conserving Crop Rotation. Rotation must include AT LEAST one resource conserving crop as determined by the State Conservationist in a minimum three year crop rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plant pest pressures.	acre	1	5
E328109Z	SOIL QUALITY DEGRADATION	Concentration of Salts and other Chemicals	X							Conservation crop rotation to reduce the concentration of salts	Implement a crop rotation to reduce the concentration of salts and other chemicals from saline seeps. The rotation should include at least 3 crops and/or cover crops grown in a sequence in the recharge areas of saline seeps that have rooting depths and water requirements adequate to fully utilize all available soil water. Do not use summer fallow. Use an approved water balance procedure to determine crop selection and sequence. Select crops with a tolerance to salinity levels that match the salinity of the discharge area. (See state lists)	acre	1	5
E328134I	DEGRADED PLANT CONDITION	Excessive Plant Pest Pressure	X							Improved resource conserving crop rotation to relieve plant pest pressure	Improve an existing Resource Conserving Crop Rotation. Must enrich an existing rotation which already includes AT LEAST one resource conserving crop as determined by the State Conservationist in a minimum three year crop rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plant pest pressures.	acre	1	5

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E328134R	DEGRADED PLANT CONDITION	Excessive Plant Pest Pressure	X							Resource conserving crop rotation to relieve plant pest pressure	Establish a Resource Conserving Crop Rotation. Rotation must include AT LEAST one resource conserving crop as determined by the State Conservationist in a minimum three year crop rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plant pest pressures.	acre	1	5
E328136Z	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Food	X							Leave standing grain crops unharvested to benefit wildlife food sources	Implement a crop rotation which allows a portion of grain crops to be left in fields un-harvested to provide food and cover for wildlife during winter months.	acre	1	5
E328137Z	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Cover/Shelter	X							Leave standing grain crops unharvested to benefit wildlife cover and shelter	Implement a crop rotation which allows a portion of grain crops to be left in fields un-harvested to provide food and cover for wildlife during winter months.	acre	1	5
E329101Z	SOIL EROSION	Sheet and Rill Erosion	X							No till to reduce water erosion	Establish no till system to reduce sheet and rill erosion soil loss. Field(s) must have a soil loss at or below the soil tolerance (T) level for water erosion for the crop rotation and a Soil Tillage Intensity Rating (STIR) of no greater than 10 for each crop in the planned rotation. The current NRCS wind and water erosion prediction technologies must be used to calculate soil loss and STIR.	acre	1	5
E329102Z	SOIL EROSION	Wind Erosion	X							No till system to reduce wind erosion	Establish no till system to reduce wind erosion soil loss. Field(s) must have a soil loss at or below the soil tolerance (T) level for wind erosion for the crop rotation and a Soil Tillage Intensity Rating (STIR) of no greater than 10 for each crop in the planned rotation. The current NRCS wind and water erosion prediction technologies must be used to calculate soil loss and STIR.	acre	1	5
E329106Z	SOIL QUALITY DEGRADATION	Organic Matter Depletion	X							No till system to increase soil health and soil organic matter content	Establish a no till system to increase soil health and soil organic matter content. Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 20. The crop rotation must achieve a soil conditioning index (SCI) of zero or higher. The current NRCS wind and water erosion prediction technologies must be used to document STIR and SCI calculations. Residue shall not be burned, grazed, or harvested.	acre	1	5
E329114Z	INSUFFICIENT WATER	Inefficient Use of Irrigation Water	X							No till to increase plant-available moisture: irrigation water	Establish a no till system to increase plant-available moisture. Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 20. The current NRCS wind and water erosion prediction technologies must be used to document STIR calculations. Maintain a minimum 60 percent surface residue cover throughout the year to reduce evaporation from the soil surface.	acre	1	5
E329115Z	INSUFFICIENT WATER	Inefficient Moisture Management	X							No till to increase plant-available moisture: moisture management	Establish a no till system to increase plant-available moisture. Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 20. The current NRCS wind and water erosion prediction technologies must be used to document STIR calculations. Maintain a minimum 60 percent surface residue cover throughout the year to reduce evaporation from the soil surface.	acre	1	5
E329128Z	AIR QUALITY IMPACTS	Emissions of Particulate Matter (PM) and PM Precursors	X							No till to reduce tillage induced particulate matter	Establish no till system to reduce tillage induced particulate matter. Field(s) must have a soil loss at or below the soil tolerance (T) level for the crop rotation and a Soil Tillage Intensity Rating (STIR) of no greater than 10 for each crop in the planned rotation. The current NRCS wind and water erosion prediction technologies must be used to document soil loss and STIR calculations.	acre	1	5
E329144Z	INEFFICIENT ENERGY USE	Farming/Ranching Practices and Field Operations	X							No till to reduce energy	Establish a no till system which reduces total energy consumption associated with field operations by at least 25% compared to current tillage system (benchmark). Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 20. The current NRCS wind and water erosion prediction technologies must be used to document STIR calculations and energy consumption.	acre	1	5

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E334107Z	SOIL QUALITY DEGRADATION	Compaction	X	X						Controlled traffic farming to reduce compaction	Establish a controlled traffic system where no more than 25% of the surface is tracked with heavy axel loads to minimize soil compaction. For row crops (e.g. corn in 30-inch rows) no tire should run on a row except for flotation tires on combines and/or fertilizer and lime spreading trucks. If wide flotation tires are used, they must be big enough that the inflation pressure will be below 18 psi to minimize compaction on trafficked rows.	acre	5	1
E338134Z	DEGRADED PLANT CONDITION	Excessive Plant Pest Pressure				X				Strategically planned, patch burning for grazing distribution and wildlife habitat (undesirable plant pressure)	Patch burn grazing is the application of prescribed fires on portions of an identified grazing unit at different times of the year. Patch burn grazing allows grazing animals to select where they want to graze creating a mosaic of vegetation structures and diversity that will maintain or enhance the wildlife habitat desired for the identified wildlife species and maintain livestock production.	acre	1	5
E338135Z	DEGRADED PLANT CONDITION	Wildfire Hazard, Excessive Biomass Accumulation				X				Strategically planned, patch burning for grazing distribution and wildlife habitat (fuel loading)	Patch burn grazing is the application of prescribed fires on portions of an identified grazing unit at different times of the year. Patch burn grazing allows grazing animals to select where they want to graze creating a mosaic of vegetation structures and diversity that will maintain or enhance the wildlife habitat desired for the identified wildlife species and maintain livestock production.	acre	1	5
E338136Z	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Food					X			Short-interval burns to promote a healthy herbaceous plant community for wildlife food	The controlled use of fire is applied in a forest to restore fire-adapted plants while improving wildlife habitat, wildlife food supply, and reducing the risk of damage from intense, severe wildfires. The ideal interval between prescribed burns is not often achieved. To improve the effectiveness of prescribed burning, the frequency of prescribed burning is increased appropriately, for a specified time period, to help restore ecological conditions in forests and woodlands. Short return interval prescribed burning is used to regenerate desirable tree species, improve the condition of fire-adapted plants and native herbaceous vegetation, improve wildlife food supply, create wildlife habitat (snags and den/cavity trees), limit encroachment of competing vegetation including non-native species, and reduce the future risk of damage from intense, severe wildfires.	acre	1	5
E338137Z1	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Cover/Shelter					X			Sequential patch burning	Conduct prescribed under burning beneath the canopy of a conifer forest, burning a portion of the area each year to create a mosaic of vegetation in several stages of development, to provide a more diverse understory and contribute to wildlife habitat. The health of conifer forests, particularly longleaf pine with a characteristic herbaceous understory, is dependent on fire or another means of controlling encroaching woody vegetation. A healthy longleaf pine forest, as well as shortleaf and other pines, can support a wide array of wildlife including pollinators and several endangered or threatened species.	acre	1	5
E338137Z2	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Cover/Shelter					X			Short-interval burn	Increase the frequency of prescribed burning to help restore ecological conditions in forests and woodlands. Several years of intense burning in certain forest and woodland conditions can regenerate desirable tree species, improve the condition of fire-adapted plants and native herbaceous vegetation, create wildlife habitat (snags and den/cavity trees), limit encroachment of competing vegetation including non-native species, and reduce the future risk of damage from intense, severe wildfires.	acre	1	5
E338140Z	LIVESTOCK PRODUCTION LIMITATION	Inadequate Feed and Forage					X			Short-interval burns to promote a healthy herbaceous plant community	The controlled use of fire is applied in a forest to restore fire-adapted plants and forage while improving wildlife habitat and reducing the risk of damage from intense, severe wildfires. The ideal interval between prescribed burns is not often achieved. To improve the effectiveness of prescribed burning, the frequency of prescribed burning is increased appropriately, for a specified time period, to help restore ecological conditions in forests and woodlands. Short return interval prescribed burning is used to regenerate desirable tree species, improve the condition of fire-adapted plants and native herbaceous vegetation, improve forage quantity and quality, create wildlife habitat (snags and den/cavity trees), limit encroachment of competing vegetation including non-native species, and reduce the future risk of damage from intense, severe wildfires.	acre	1	5

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E340101Z	SOIL EROSION	Sheet and Rill Erosion	X	X						Cover crop to reduce water erosion	Cover crop added to current crop rotation to reduce soil erosion from water to below soil tolerance (T) level. Cover crops grown during critical erosion period(s). Species are selected that will have physical characteristics to provide adequate erosion protection.	acre	1	5
E340102Z	SOIL EROSION	Wind Erosion	X	X						Cover crop to reduce wind erosion	Cover crop added to current crop rotation to reduce soil erosion from wind to below the soil tolerance (T) level. Cover crops grown during critical erosion period(s). Species are selected that will have physical characteristics to provide adequate erosion protection.	acre	1	5
E340106Z1	SOIL QUALITY DEGRADATION	Organic Matter Depletion	X							Intensive cover cropping to increase soil health and soil organic matter content	Implementation of cover crop mix to provide soil coverage during ALL non-crop production periods in an annual crop rotation. Cover crop shall not be harvested or burned. Planned crop rotation including cover crops and associated management activities must achieve a soil conditioning index (SCI) of zero or higher. The current NRCS wind and water erosion prediction technologies must be used to document SCI calculations.	acre	1	5
E340106Z2	SOIL QUALITY DEGRADATION	Organic Matter Depletion	X	X						Use of multi-species cover crops to improve soil health and increase soil organic matter	Implement a multi-species cover crop to add diversity and increase biomass production to improve soil health and increase soil organic matter. Cover crop mix must include a minimum of 4 different species. The cover crop mix will increase diversity of the crop rotation by including crop types currently missing, e.g. Cool Season Grass (CSG), Cool Season Broadleaves (CSB), Warm Season Grasses (WSG), Warm Season Broadleaves (WSB).	acre	1	5
E340106Z3	SOIL QUALITY DEGRADATION	Organic Matter Depletion		X						Intensive cover cropping (orchard/vineyard floor) to increase soil health and soil organic matter content	Implementation of cover crops to provide orchard or vineyard floor coverage throughout the year. Cover crop shall not be harvested, grazed, or burned. Planned cover crop management activities must achieve a soil conditioning index (SCI) of zero or higher and produce a positive trend in the Organic Matter (OM) subfactor over the life of the crop rotation. The current NRCS wind and water erosion prediction technologies must be used to document SCI calculations.	acre	1	5
E340106Z4	SOIL QUALITY DEGRADATION	Organic Matter Depletion	X							Use of soil health assessment to assist with development of cover crop mix to improve soil health and increase soil organic matter	Use of a soil health assessment to evaluate impact of current conservation crop rotation in addressing soil organic matter depletion (primary assessment made in Year 1). Soil health assessment results and client's objectives will be utilized to determine a multi-species cover crop mix that will be added to the crop rotation. During Year 3 a follow up assessment will be completed to allow time for the addition of a cover crop to increase soil organic matter.	acre	1	5
E340107Z	SOIL QUALITY DEGRADATION	Compaction	X	X						Cover crop to minimize soil compaction	Establish a cover crop mix that includes plants with both fibrous root and deep rooted systems. Fibrous to treat and prevent both near surface (0-4") and deep (>4") soil compaction and deep rooted to break up deep compacted soils. Cover crop shall not be harvested, grazed, or burned.	acre	1	5
E340118Z	WATER QUALITY DEGRADATION	Nutrients in Surface Water	X	X						Cover crop to reduce water quality degradation by utilizing excess soil nutrients-surface water	Establish a cover crop mix to take up excess soil nutrients. Select cover crop species for their ability to effectively utilize nutrients. Terminate the cover crop as late as practical to maximize plant biomass production and nutrient uptake. Cover crop shall not be harvested, grazed, or burned.	acre	1	5
E340119Z	WATER QUALITY DEGRADATION	Nutrients in Ground Water	X	X						Cover crop to reduce water quality degradation by utilizing excess soil nutrients-ground water	Establish a cover crop mix to take up excess soil nutrients. Select cover crop species for their ability to effectively utilize nutrients. Terminate the cover crop as late as practical to maximize plant biomass production and nutrient uptake. Cover crop shall not be harvested, grazed, or burned.	acre	1	5
E340134Z	DEGRADED PLANT CONDITION	Excessive Plant Pest Pressure	X	X						Cover crop to suppress excessive weed pressures and break pest cycles	Establish a cover crop mix to suppress excessive weed pressures and break pest cycles. Select cover crop species for their life cycles, growth habits, and other biological, chemical and/or physical characteristics. Select cover crop species that do not harbor pests or diseases of subsequent crops in the rotation. Cover crop shall not be harvested, grazed, or burned.	acre	1	5
E345101Z	SOIL EROSION	Sheet and Rill Erosion	X							Reduced tillage to reduce water erosion	Establish a reduced tillage system to reduce sheet and rill erosion soil loss. Field(s) must have a soil loss at or below the soil tolerance (T) level for water erosion for the crop rotation and a Soil Tillage Intensity Rating (STIR) of no greater than 40 for each crop in the planned rotation. The current NRCS wind and water erosion prediction technologies must be used to calculate soil loss and STIR.	acre	1	5

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E345102Z	SOIL EROSION	Wind Erosion	X							Reduced tillage to reduce wind erosion	Establish a reduced tillage system to reduce wind erosion soil loss. Field(s) must have a soil loss at or below the soil tolerance (T) level for water erosion for the crop rotation and a Soil Tillage Intensity Rating (STIR) of no greater than 40 for each crop in the planned rotation. The current NRCS wind and water erosion prediction technologies must be used to calculate soil loss and STIR.	acre	1	5
E345106Z	SOIL QUALITY DEGRADATION	Organic Matter Depletion	X							Reduced tillage to increase soil health and soil organic matter content	Establish a reduced till system to increase soil health and soil organic matter content. Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 80. The crop rotation must achieve a soil conditioning index (SCI) of zero or higher and produce a positive trend in the Organic Matter (OM) subfactor over the life of the crop rotation. The current NRCS wind and water erosion prediction technologies must be used to document STIR and SCI calculations. Residue shall not be burned, grazed, or harvested.	acre	1	5
E345114Z	INSUFFICIENT WATER	Inefficient Use of Irrigation Water	X							Reduced tillage to increase plant-available moisture: irrigation water	Establish a reduced till system to increase plant-available moisture. Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 80. The current NRCS wind and water erosion prediction technologies must be used to document STIR calculations. Maintain a minimum 60 percent surface residue cover throughout the year to reduce evaporation from the soil surface.	acre	1	5
E345115Z	INSUFFICIENT WATER	Inefficient Moisture Management	X							Reduced tillage to increase plant-available moisture: moisture management	Establish a reduced till system to increase plant-available moisture. Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 80. The current NRCS wind and water erosion prediction technologies must be used to document STIR calculations. Maintain a minimum 60 percent surface residue cover throughout the year to reduce evaporation from the soil surface.	acre	1	5
E345128Z	AIR QUALITY IMPACTS	Emissions of Particulate Matter (PM) and PM Precursors	X							Reduced tillage to reduce tillage induced particulate matter	Establish a reduced tillage system to reduce tillage induced particulate matter. Field(s) must have a soil loss at or below the soil tolerance (T) level for the crop rotation and a Soil Tillage Intensity Rating (STIR) of no greater than 40 for each crop in the planned rotation. The current NRCS wind and water erosion prediction technologies must be used to document soil loss and STIR calculations.	acre	1	5
E345144Z	INEFFICIENT ENERGY USE	Farming/Ranching Practices and Field Operations	X							Reduced tillage to reduce energy use	Establish a reduced tillage system which reduces total energy consumption associated with field operations by at least 25% compared to conventional tillage systems (benchmark). Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 80. The current NRCS wind and water erosion prediction technologies must be used to document STIR calculations and energy consumption.	acre	1	5
E374144Z1	INEFFICIENT ENERGY USE	Farming/Ranching Practices and Field Operations	X	X	X			X	X	Install variable frequency drive(s) on pump(s)	Install Variable Frequency Drive(s) (VFD) on Pumping Plant (Conservation Practice Standard CPS 533) with the correct sensors, on all pumps indicated in the energy audit.	no	10	1
E374144Z2	INEFFICIENT ENERGY USE	Farming/Ranching Practices and Field Operations	X	X	X			X	X	Switch fuel source for pump motor(s)	Switch the fuel source for the pump motor(s) indicated in the energy audit to a renewable source (wind, solar, geothermal, etc.). (CPS 533 Pumping Plant)	no	10	1
E381133Z	DEGRADED PLANT CONDITION	Inadequate Structure and Composition			X			X		Silvopasture for wildlife habitat (structure and composition)	Establishing a combination of trees or shrubs and compatible forages on the same acreage, providing forage, shade, and/or shelter for livestock and including a purpose of enhancing wildlife habitat.	acre	15	1
E381137Z	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Cover/Shelter			X			X		Silvopasture for wildlife habitat (cover and shelter)	Establishing a combination of trees or shrubs and compatible forages on the same acreage, providing forage, shade, and/or shelter for livestock and including a purpose of enhancing wildlife cover and shelter.	acre	15	1

Activity List For Participants Enhancements

Enhancement Code	Resource Concern	Resource Concern Cause	Crop (Annual and Mixed)	Crop (Perennial)	Pasture	Range	Forest	Associated Ag Land	Farmstead	Full Enhancement Name	Enhancement Description	Units	Enhancement Lifespan	Max years enh. can be contracted
E382136Z	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Food			X	X				Incorporating "wildlife friendly" fencing for connectivity of wildlife food resources	Retrofitting or constructing fences that provide a means to control movement of animals, people, and vehicles, but minimizes wildlife movement impacts.	ft	20	1
E383135Z	DEGRADED PLANT CONDITION	Wildfire Hazard, Excessive Biomass Accumulation				X	X			Grazing-maintained fuel break to reduce the risk of fire	The area has existing fuel break(s) of 30 to 60 feet in width, supporting a mixture of woody sprouts and some herbaceous vegetation. Warm-season perennial vegetation will be established on the fuel breaks, and will be over-seeded with cool-season annual forages in the fall. Grazing will be managed on the fuel breaks to remove or modify the fine fuel vegetation, thus reducing the risk of fire spread from ground fires. Ground cover will be maintained to control soil erosion and facilitate prescribed burning.	acre	10	1
E384135Z	DEGRADED PLANT CONDITION	Wildfire Hazard, Excessive Biomass Accumulation					X	X		Biochar production from woody residue	Utilizes woody debris remaining after fuel reduction harvests or wildfires to create biochar. Biochar stores carbon and is a useful soil amendment that improves SOM and water-holding capacity.	acre	10	1
E386101Z	SOIL EROSION	Sheet and Rill Erosion	X	X				X		Enhanced field borders to reduce water induced erosion along the edge(s) of a field	Enhance existing field borders to a width of at least 30 feet and establish a single species or mixture of species that provide a dense ground cover along the edge(s) of the field.	acre	10	1
E386102Z	SOIL EROSION	Wind Erosion	X	X				X		Enhanced field borders to reduce wind induced erosion along the edge(s) of a field	Enhance existing field borders to a width of at least 30 feet and establish a single species or mixture of species that provide a dense ground cover along the edge(s) of the field.	acre	10	1
E386106Z	SOIL QUALITY DEGRADATION	Organic Matter Depletion	X	X				X		Enhanced field borders to increase carbon storage along the edge(s) of the field	Enhance existing field borders to a width of at least 30 feet and establish a single species or mixture of species that provide a dense ground cover and dense rooting system along the edge(s) of the field.	acre	10	1
E386128Z	AIR QUALITY IMPACTS	Emissions of Particulate Matter (PM) and PM Precursors	X	X				X		Enhanced field borders to decrease particulate emissions along the edge(s) of the field	Enhance existing field borders to a width of at least 40 feet and establish a mixture of species that decrease the particulate emissions along the edge(s) of the field.	acre	10	1
E386136Z	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Food	X	X				X		Enhanced field borders to increase food for pollinators along the edge(s) of a field	Enhance existing field borders to a width of at least 40 feet and establish a mixture of species that provide food for pollinators along the edge(s) of the field.	acre	10	1
E386137Z	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Cover/Shelter	X	X				X		Enhanced field borders to increase wildlife food and cover along the edge(s) of a field	Enhance existing field borders to a width of at least 40 feet and establish a mixture of species that provide wildlife food and cover along the edge(s) of the field.	acre	10	1
E386139Z	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Habitat Continuity (Space)	X	X				X		Enhanced field border to provide wildlife habitat continuity along the edge(s) of a field	Enhance existing field borders to a width of at least 40 feet and establish a mixture of species that provide wildlife habitat continuity along the edge(s) of the field.	acre	10	1
E390118Z	WATER QUALITY DEGRADATION	Nutrients in Surface Water	X	X						Increase riparian herbaceous cover width for nutrient reduction	Where an existing herbaceous riparian buffer is located along a river, stream, pond, lake, or other waterbody, increase the width of the buffer in order to allow a greater percentage of nutrient removal from surface and subsurface flows.	acre	5	1
E390126Z	WATER QUALITY DEGRADATION	Excessive Sediment in Surface Water	X	X						Increase riparian herbaceous cover width to reduce sediment loading	Where an existing herbaceous riparian buffer is located along a river, stream, pond, lake, or other waterbody, increase the width of the buffer in order to allow a greater percentage of sediment removal from surface flows.	acre	5	1
E390136Z	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Food	X	X	X	X		X	X	Increase riparian herbaceous cover width to enhance wildlife habitat	Where an existing herbaceous riparian buffer is located along a river, stream, pond, lake, or other waterbody, increase the diversity of native species, control invasive species, install fencing and relocate equipment operations, trails, and livestock, and increase the width of the buffer.	acre	5	1
E391118Z	WATER QUALITY DEGRADATION	Nutrients in Surface Water	X	X						Increase riparian forest buffer width for nutrient reduction	Where an existing forested riparian area is located along a river, stream, pond, lake, or other waterbody, increase the width of the buffer in order to allow a greater percentage of nutrient removal from surface and subsurface flows.	acre	15	1
E391126Z	WATER QUALITY DEGRADATION	Excessive Sediment in Surface Water	X	X						Increase riparian forest buffer width to reduce sediment loading	Where an existing forested riparian area is located along a river, stream, pond, lake, or other waterbody, increase the width of the buffer in order to allow a greater percentage of sediment removal from surface flows.	acre	15	1

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Enhancement Code	Resource Concern	Resource Concern Cause	Crop (Annual and Mixed)	Crop (Perennial)	Pasture	Range	Forest	Associated Ag Land	Farmstead	Full Enhancement Name	Enhancement Description	Units	Enhancement Lifespan	Max years enh. can be contracted
E391127Z	WATER QUALITY DEGRADATION	Elevated Water Temperature	X	X	X	X	X	X	X	Increase stream shading for stream temperature reduction	Riparian area tree canopy cover density is increased and the extent of the forested riparian area is increased to provide greater stream shading.	acre	15	1
E391136Z	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Food	X	X	X	X	X	X	X	Increase riparian forest buffer width to enhance wildlife habitat	Where an existing riparian forest buffer is located along a river, stream, pond, lake, or other waterbody, increase the diversity of native species, control invasive species, install fencing and relocate equipment operations, trails, and livestock to increase the functional width of the buffer.	acre	15	1
E393118Z	WATER QUALITY DEGRADATION	Nutrients in Surface Water	X	X				X		Extend existing filter strip to reduce excess nutrients in surface water	Extend existing filter strips for water quality protection (reduce excess nutrients in surface water). Extend the existing buffer for a total of 60 feet or more to enhance water quality functions. The extended buffers must be composed of at least 5 species of non-noxious, wildlife friendly grasses and/or perennial forbs best suited to site conditions. Include species that provide pollinator food and habitat where possible.	acre	10	1
E393122Z	WATER QUALITY DEGRADATION	Excess Pathogens and Chemicals from Manure, Biosolids or Compost Applications in Surface Water	X	X				X		Extend existing filter strip to reduce excess pathogens and chemicals in surface water	Extend existing filter strips for water quality protection (reduce excess pathogens and chemicals from manure, biosolids or compost applications in surface waters). Extend the existing buffer for a total of 60 feet or more to enhance water quality functions. The extended buffers must be composed of at least 5 species of non-noxious, wildlife friendly grasses and/or perennial forbs best suited to site conditions. Include species that provide pollinator food and habitat where possible.	acre	10	1
E393126Z	WATER QUALITY DEGRADATION	Excessive Sediment in Surface Water	X	X				X		Extend existing filter strip to reduce excess sediment in surface water	Extend existing filter strips for water quality protection (reduce excess sediment in surface waters). Extend the existing buffer for a total of 60 feet or more to enhance water quality functions. The extended buffers must be composed of at least 5 species of non-noxious, wildlife friendly grasses and/or perennial forbs best suited to site conditions. Include species that provide pollinator food and habitat where possible.	acre	10	1
E449114Z5	INSUFFICIENT WATER	Inefficient Use of Irrigation Water	X	X	X			X		Complete pumping plant evaluation for all pumps on a farm	Evaluation of all pumping plants to determine the potential to rehabilitate/replace/reconfigure pump performance to improve water delivery efficiency 10% or more. Evaluate to determine if a Variable Frequency Drive motor controller(s) is recommended and the simple payback in terms of energy savings is less than 10 years.	acre	1	1
E449114Z7	INSUFFICIENT WATER	Inefficient Use of Irrigation Water	X	X	X					Advanced Automated IWM-Year 2-5, Soil moisture monitoring	Advanced automated irrigation water management using soil moisture or water level monitoring (one sensor per 40 acres or less) with data loggers. Record keeping is such that a daily water balance is calculated and future irrigation is forecast. Equipment was bought in year one, this is monitoring for future years. Subscription service may be used as source for monitoring. System will be monitored and controlled using remote devices.	acre	1	5
E449114Z8	INSUFFICIENT WATER	Inefficient Use of Irrigation Water	X	X	X					Advanced Automated IWM-Year 1, Equipment and soil moisture or water level monitoring	This activity includes installing and monitoring soil moisture or water leveling equipment for advanced automated irrigation water management. The equipment includes field specific weather station data with soil moisture monitoring (one sensor station per 40 acres or less), data loggers and telemetry. Sensor stations will include a minimum of 2 sensors per site at depths appropriate for the crop and soils. If rice is the major crop, water level sensors may be substituted for the soil moisture sensors. Monitoring will be for the entire irrigation season and data gathered will be used to predict and manage irrigation water on crop grown.	acre	1	1
E449144Z	INEFFICIENT ENERGY USE	Farming/Ranching Practices and Field Operations	X	X	X			X		Complete pumping plant evaluation for all pumps on a farm	Evaluation of all pumping plants to determine the potential to rehabilitate/replace/reconfigure to perform 10% more efficiently. Evaluate to determine if a Variable Frequency Drive motor controller(s) is recommended and the simple payback in terms of energy savings is less than 10 years.	acre	1	1
E472118Z	WATER QUALITY DEGRADATION	Nutrients in Surface Water	X	X	X	X	X	X	X	Manage livestock access to streams, ditches, and other waterbodies to reduce nutrients in surface water	Installation of structures and implementation of grazing management actions that restrict livestock access to streams, ditches, and other waterbodies in order to reduce nutrient loading to surface waters.	ft	10	1

Activity List For Participants Enhancements

Enhancement Code	Resource Concern	Resource Concern Cause	Crop (Annual and Mixed)	Crop (Perennial)	Pasture	Range	Forest	Associated Ag Land	Farmstead	Full Enhancement Name	Enhancement Description	Units	Enhancement Lifespan	Max years enh. can be contracted
E472122Z	WATER QUALITY DEGRADATION	Excess Pathogens and Chemicals from Manure, Biosolids or Compost Applications in Surface Water	X	X	X	X	X	X	X	Manage livestock access to streams, ditches, and other waterbodies to reduce pathogens in surface water	Installation of structures and implementation of grazing management actions that restrict livestock access to streams, ditches, and other waterbodies in order to reduce the introduction of pathogens to surface waters.	ft	10	1
E484106Z	SOIL QUALITY DEGRADATION	Organic Matter Depletion	X							Mulching to improve soil health	Implement a crop rotation which utilizes mulch and addresses all four principle components of soil health: increases diversity of the cropping system; maintains residue throughout the year; keeps a living root; and minimizes soil chemical, physical and biological disturbance. Plant-based mulching materials will be applied at least once during the rotation. The rotation will include at least 4 different crops and/or cover crops grown in a sequence that will produce a positive trend in the Organic Matter (OM) subfactor value over the life of the rotation, as determined by the Soil Conditioning Index (SCI). The current NRCS wind and water erosion prediction technologies must be used to document the rotation and SCI calculations.	acre	1	5
E511137Z1	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Cover/Shelter	X	X						Harvest of crops (hay or small grains) using conservation measures that allow desired species to flush or escape	Harvest of crops (hay or small grains) using conservation measures that allow desired species to flush or escape. (For species list see State Wildlife Action Plan) Conservation measures include timing of harvest, idling land during the nesting or fawning period, and applying harvest techniques that reduce mortality to wildlife.	acre	1	5
E511137Z2	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Cover/Shelter	X	X	X					Forage harvest management that helps maintain or improve wildlife habitat (cover and shelter)	The timely cutting and removal of forages from the field as hay, green-chop, or ensilage in such as way and time frames so as to optimize both forage yield/quality and wildlife cover and shelter.	acre	1	5
E511139Z2	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Habitat Continuity (Space)	X	X	X					Forage harvest management that helps maintain wildlife habitat continuity (space)	The timely cutting and removal of forages from the field as hay, green-chop, or ensilage in such as way and time frames so as to optimize both forage yield/quality and wildlife cover and shelter for habitat and/or continuity between otherwise disconnected habitats.	acre	1	5
E512101Z1	SOIL EROSION	Sheet and Rill Erosion	X	X						Cropland conversion to grass-based agriculture to reduce water erosion	Conversion of cropped land to grass-based agriculture. Mixtures of perennial grasses, forbs, and/or legume species are established on cropland where annually-seeded cash crops have been grown.	acre	5	1

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E512101Z2	SOIL EROSION	Sheet and Rill Erosion			X					Forage and biomass planting for water erosion to improve soil health	Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production that can provide for reduced soil erosion, improving soil health.	acre	5	1
E512102Z	SOIL EROSION	Wind Erosion	X	X						Cropland conversion to grass-based agriculture to reduce wind erosion	Conversion of cropped land to grass-based agriculture. Mixtures of perennial grasses, forbs, and/or legume species are established on cropland where annually-seeded cash crops have been grown.	acre	5	1
E512106Z1	SOIL QUALITY DEGRADATION	Organic Matter Depletion	X	X						Cropland conversion to grass-based agriculture for soil organic matter improvement	Conversion of cropped land to grass-based agriculture. Mixtures of perennial grasses, forbs, and/or legume species are established on cropland where annually-seeded cash crops have been grown.	acre	5	1
E512106Z2	SOIL QUALITY DEGRADATION	Organic Matter Depletion			X					Forage plantings that can help increase organic matter in depleted soils	Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production that can help improve soil quality of depleted sites through increase or conservation of the organic matter in the soil.	acre	5	1
E512132Z1	DEGRADED PLANT CONDITION	Undesirable Plant Productivity and Health	X	X						Forage and biomass planting that produces feedstock for biofuels or energy production	Conversion of cropped land to grass-based agriculture. Mixtures of perennial grasses, forbs, and/or legume species are established on cropland where annually-seeded cash crops have been grown.	acre	5	1
E512132Z2	DEGRADED PLANT CONDITION	Undesirable Plant Productivity and Health			X					Native grasses or legumes in forage base to improve plant productivity and health	Establishing adapted and/or compatible species, varieties, or cultivars of perennial, herbaceous species that can provide the structure and composition needed to enhance livestock and wildlife habitat, particularly when targeted forage supply and quality, cover, and shelter are not available in other pastures.	acre	5	1
E512133Z1	DEGRADED PLANT CONDITION	Inadequate Structure and Composition			X			X		Native grasses or legumes in forage base to improve plant community structure and composition	Establishing adapted and/or compatible species, varieties, or cultivars of perennial, herbaceous species that can provide the structure and composition needed to enhance livestock and wildlife habitat, particularly when targeted forage supply and quality, cover, and shelter are not available in other pastures.	acre	5	1
E512133Z2	DEGRADED PLANT CONDITION	Inadequate Structure and Composition			X			X		Forage plantings that enhance bird habitat (structure and composition)	Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production that can provide cover and shelter components of bird habitat.	acre	5	1
E512136Z1	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Food			X					Establish pollinator and/or beneficial insect habitat	Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species that can provide nectar for pollinators and forage and other habitat values for wildlife and livestock, particularly at times when targeted nectar, forage supply and quality, cover, and shelter are not available in other pastures.	acre	5	1
E512136Z2	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Food			X					Native grass or legumes in forage base to provide wildlife food	Establishing adapted and/or compatible species, varieties, or cultivars of perennial, herbaceous species that can provide the structure and composition needed to enhance livestock and wildlife habitat, particularly when targeted forage supply and quality, cover, and shelter are not available in other pastures.	acre	5	1
E512137Z	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Cover/Shelter			X					Forage plantings that enhance bird habitat (cover and shelter)	Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production that can provide cover and shelter components of bird habitat.	acre	5	1
E512138Z	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Water			X			X	X	Establish wildlife corridors to enhance access to water	Establishing adapted and/or compatible species, varieties, or cultivars of perennial, herbaceous species that can provide cover needed for wildlife species of concern to move from food/cover/water sources to other food/cover/water sources as needed for their life cycles, and/or to enhance the utility of underused wildlife habitat areas.	acre	5	1
E512139Z1	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Habitat Continuity (Space)			X			X	X	Establish wildlife corridors to provide habitat continuity	Establishing adapted and/or compatible species, varieties, or cultivars of perennial, herbaceous species that can provide cover needed for wildlife species of concern to move from food/cover/water sources to other food/cover/water sources as needed for their life cycles, and/or to enhance the utility of underused wildlife habitat areas.	acre	5	1

**Activity List For Participants
Enhancements**

Enhancement Code	Resource Concern	Resource Concern Cause	Crop (Annual and Mixed)	Crop (Perennial)	Pasture	Range	Forest	Associated Ag Land	Farmstead	Full Enhancement Name	Enhancement Description	Units	Enhancement Lifespan	Max years enh. can be contracted
E512139Z2	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Habitat Continuity (Space)			X			X	X	Establish pollinator and/or beneficial insect habitat continuity (space)	Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species that can provide nectar for pollinators and forage and other habitat values for wildlife and livestock, particularly at times when targeted nectar, forage supply and quality, cover, and shelter are not available in other pastures.	acre	5	1
E512139Z3	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Habitat Continuity (Space)			X			X	X	Establish Monarch butterfly habitat in pastures	Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species that can provide nectar for Monarch butterflies and forage and other habitat values for wildlife and livestock, particularly at times when targeted nectar, forage supply and quality, cover, and shelter are not available in other pastures.	acre	5	1
E512140Z	LIVESTOCK PRODUCTION LIMITATION	Inadequate Feed and Forage		X	X			X		Native grasses or legumes in forage base	Establishing adapted and/or compatible species, varieties, or cultivars of perennial, herbaceous species that can provide the structure and composition needed to enhance livestock and wildlife habitat, particularly when targeted forage supply and quality, cover, and shelter are not available in other pastures.	acre	5	1
E528101Z	SOIL EROSION	Sheet and Rill Erosion				X				Improved grazing management for water erosion through monitoring activities	Three predominant key grazing areas are evaluated utilizing the Rangeland Health Assessment protocols to determine how well the ecological processes of the site(s) are functioning. Departure from reference categories will be determined, justified, and ratings described for soil and site stability, hydrologic function, and biotic integrity. Utilizing knowledge learned from this as a part of the ranch resource assessment, a qualifying professional, as detailed in the enhancement criteria, will provide recommendations or follow-up evaluations toward mitigating some of the degradation risks that are initially identified.	acre	1	5
E528102Z	SOIL EROSION	Wind Erosion				X				Improved grazing management for wind erosion through monitoring activities	Three predominant key grazing areas are evaluated utilizing the Rangeland Health Assessment protocols to determine how well the ecological processes of the site(s) are functioning. Departure from reference categories will be determined, justified, and ratings described for soil and site stability, hydrologic function, and biotic integrity. Utilizing knowledge learned from this as a part of the ranch resource assessment, a qualifying professional, as detailed in the Documentation and Implementation Requirements, will provide recommendations or follow-up evaluations toward mitigating some of the degradation risks that are initially identified.	acre	1	5
E528104Z	SOIL EROSION	Classic Gully Erosion			X	X				Grazing management that protects sensitive areas from gully erosion	Grazing management employed will provide cover and density needed in the watershed in order to protect sensitive areas such as sinkholes, streams, highly erodible areas, or locations with plants that cannot tolerate defoliation.	acre	1	5

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Enhancements**

Enhancement Code	Resource Concern	Resource Concern Cause	Crop (Annual and Mixed)	Crop (Perennial)	Pasture	Range	Forest	Associated Ag Land	Farmstead	Full Enhancement Name	Enhancement Description	Units	Enhancement Lifespan	Max years enh. can be contracted
E528105Z	SOIL EROSION	Streambank, Shoreline, Water Conveyance Channels			X	X	X			Prescribed grazing that improves or maintains riparian and watershed function-erosion	Grazing management employed will provide cover and density needed in the watershed in order to reduce runoff, improve infiltration, provide for above ground water filtration and sustain applicable fish and wildlife species habitat.	acre	1	5
E528107Z1	SOIL QUALITY DEGRADATION	Compaction			X					Improved grazing management for soil compaction on pasture through monitoring activities	Manage the harvest of vegetation with grazing and/or browsing animals as adjusted when following recommendations of a qualifying professional, as detailed in the enhancement criteria, generated through pasture condition scoring (PCS).	acre	1	5
E528107Z2	SOIL QUALITY DEGRADATION	Compaction				X				Improved grazing management for soil compaction on rangeland through monitoring activities	Three predominant key grazing areas are evaluated utilizing the Rangeland Health Assessment protocols to determine how well the ecological processes of the site(s) are functioning. Departure from reference categories will be determined, justified, and ratings described for soil and site stability, hydrologic function, and biotic integrity. Utilizing knowledge learned from this as a part of the ranch resource assessment, a qualifying professional, as detailed in the enhancement criteria, will provide recommendations or follow-up evaluations toward mitigating some of the degradation risks that are initially identified.	acre	1	5
E528118Z1	WATER QUALITY DEGRADATION	Nutrients in Surface Water			X					Prescribed grazing on pastureland that maintains/improves riparian and watershed function impairment from nutrients	Grazing management employed will provide cover and density needed in the watershed in order to reduce runoff, improve infiltration, provide for above ground water filtration and sustain applicable fish and wildlife species habitat.	acre	1	5
E528118Z2	WATER QUALITY DEGRADATION	Nutrients in Surface Water				X				Grazing management that protects sensitive areas-surface water from nutrients	Grazing management employed will provide cover and density needed in the watershed in order to protect sensitive areas such as sinkholes, streams, highly erodible areas, or locations with plants that cannot tolerate defoliation.	acre	1	5
E528119Z	WATER QUALITY DEGRADATION	Nutrients in Ground Water			X	X				Grazing management that protects sensitive areas-ground water from nutrients	Grazing management employed will provide cover and density needed in the watershed in order to protect sensitive areas such as sinkholes, streams, highly erodible areas, or locations with plants that cannot tolerate defoliation.	acre	1	5
E528122Z	WATER QUALITY DEGRADATION	Excess Pathogens and Chemicals from Manure, Biosolids or Compost Applications in Surface Water			X					Prescribed grazing on pastureland that maintains/improves riparian/ and watershed function impairment from pathogens/chemicals.	Grazing management employed will provide cover and density needed in the watershed in order to reduce runoff, improve infiltration, provide for above ground water filtration and sustain applicable fish and wildlife species habitat.	acre	1	5
E528126Z	WATER QUALITY DEGRADATION	Excessive Sediment in Surface Water			X					Prescribed grazing on pastureland that maintains/improves riparian and watershed function through minimizing sediment in surface water	Grazing management employed will provide cover and density needed in the watershed in order to reduce runoff, improve infiltration, provide for above ground water filtration and sustain applicable fish and wildlife species habitat.	acre	1	5
E528127Z	WATER QUALITY DEGRADATION	Elevated Water Temperature				X				Prescribed grazing that improves or maintains riparian and watershed function-elevated water temperature	Grazing management employed will provide cover and density needed in the watershed in order to reduce runoff, improve infiltration, provide for above ground water filtration and sustain applicable fish and wildlife species habitat.	acre	1	5

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Enhancement Code	Resource Concern	Resource Concern Cause	Crop (Annual and Mixed)	Crop (Perennial)	Pasture	Range	Forest	Associated Ag Land	Farmstead	Full Enhancement Name	Enhancement Description	Units	Enhancement Lifespan	Max years enh. can be contracted
E528132Z1	DEGRADED PLANT CONDITION	Undesirable Plant Productivity and Health			X					Improved grazing management on pasture for plant productivity and health through monitoring activities	Managing the harvest of vegetation with grazing and/or browsing animals as adjusted when following recommendations of a qualifying professional, as detailed in the enhancement criteria, generated through pasture condition scoring (PCS).	acre	1	5
E528132Z2	DEGRADED PLANT CONDITION	Undesirable Plant Productivity and Health			X			X		Stockpiling cool season forage to improve plant productivity and health	Grazing management employed to stop grazing events of selected paddock(s) to allow pasture forages to grow to maximum vegetative biomass accumulation before the end of the growing season.	acre	1	5
E528132Z3	DEGRADED PLANT CONDITION	Undesirable Plant Productivity and Health				X				Improved grazing management on rangeland for plant productivity and health through monitoring activities	Three predominant key grazing areas are evaluated utilizing the Rangeland Health Assessment protocols to determine how well the ecological processes of the site(s) are functioning. Departure from reference categories will be determined, justified, and ratings described for soil and site stability, hydrologic function, and biotic integrity. Utilizing knowledge learned from this as a part of the ranch resource assessment, a qualifying professional, as detailed in the enhancement criteria, will provide recommendations or follow-up evaluations toward mitigating some of the degradation risks that are initially identified.	acre	1	5
E528133Z1	DEGRADED PLANT CONDITION	Inadequate Structure and Composition			X			X		Stockpiling cool season forage to improve structure and composition	Grazing management employed will stop grazing events of selected paddock(s) to allow pasture forages to grow to maximum vegetative biomass accumulation before the end of the growing season.	acre	1	5
E528133Z2	DEGRADED PLANT CONDITION	Inadequate Structure and Composition			X	X		X		Grazing management for improving quantity and quality of plant structure and composition for wildlife	Managing the harvest of vegetation with grazing and/or browsing animals for the purpose of improving the quantity and quality of the structure and composition of the plant community that is available for wildlife.	acre	1	5
E528133Z3	DEGRADED PLANT CONDITION	Inadequate Structure and Composition				X				Improved grazing management for plant structure and composition through monitoring activities	Three predominant key grazing areas are evaluated utilizing the Rangeland Health Assessment protocols to determine how well the ecological processes of the site(s) are functioning. Departure from reference categories will be determined, justified, and ratings described for soil and site stability, hydrologic function, and biotic integrity. Utilizing knowledge learned from this as a part of the ranch resource assessment, a qualifying professional, as detailed in the enhancement criteria, will provide recommendations or follow-up evaluations toward mitigating some of the degradation risks that are initially identified.	acre	1	5
E528134Z	DEGRADED PLANT CONDITION	Excessive Plant Pest Pressure				X				Improved grazing management that reduces undesirable plant pest pressure through monitoring activities	Three predominant key grazing areas are evaluated utilizing the Rangeland Health Assessment protocols to determine how well the ecological processes of the site(s) are functioning. Departure from reference categories will be determined, justified, and ratings described for soil and site stability, hydrologic function, and biotic integrity. Utilizing knowledge learned from this as a part of the ranch resource assessment, a qualifying professional, as detailed in the enhancement criteria, will provide recommendations or follow-up evaluations toward mitigating some of the degradation risks that are initially identified.	acre	1	5
E528136Z1	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Food			X	X	X			Grazing management for improving quantity and quality of food for wildlife	Grazing management employed will provide plant structure, density and diversity needed for the desired wildlife species of concern.	acre	1	5

Activity List For Participants Enhancements

Enhancement Code	Resource Concern	Resource Concern Cause	Crop (Annual and Mixed)	Crop (Perennial)	Pasture	Range	Forest	Associated Ag Land	Farmstead	Full Enhancement Name	Enhancement Description	Units	Enhancement Lifespan	Max years enh. can be contracted
E528136Z2	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Food			X	X				Incorporating wildlife refuge areas in contingency plans for prescribed grazing for wildlife food	A prescribed grazing plan that includes 18 month (or longer) deferral of a grazing unit that consists of native grasses and/or legumes and/or perennial forbs for the purpose of meeting the needs for drought/disaster contingency plans that will also provide wildlife habitat for a period of time.	acre	1	5
E528137Z1	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Cover/Shelter			X	X	X			Grazing management for improving quantity and quality of cover and shelter for wildlife	Grazing management employed will provide plant structure, density and diversity needed for the desired wildlife species of concern.	acre	1	5
E528137Z2	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Cover/Shelter			X	X				Incorporating wildlife refuge areas in contingency plans for prescribed grazing for wildlife cover and shelter	A prescribed grazing plan that includes 18 month (or longer) deferral of a grazing unit that consists of native or adapted grasses and/or legumes and/or perennial forbs for the purpose of meeting the needs for drought/disaster contingency plans that will also provide wildlife habitat for a period of time.	acre	1	5
E528138Z	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Water			X	X				Incorporating wildlife refuge areas in contingency plans for prescribed grazing for wildlife access to water	A prescribed grazing plan that includes 18 month (or longer) deferral of a grazing unit that consists of native or adapted grasses and/or legumes and/or perennial forbs for the purpose of meeting the needs for drought/disaster contingency plans that will also provide wildlife habitat for a period of time.	acre	1	5
E528140Z1	LIVESTOCK PRODUCTION LIMITATION	Inadequate Feed and Forage			X	X		X		Maintaining quantity and quality of forage for animal health and productivity	Managing the harvest of vegetation with grazing and/or browsing animals for the purposes of maintaining desired pasture composition/plant vigor and improving/maintaining quantity and quality of forage for the animals' health and productivity following the recommendations of a qualifying professional, as detailed in the documentation and implementation requirements.	acre	1	5
E528140Z2	LIVESTOCK PRODUCTION LIMITATION	Inadequate Feed and Forage			X	X				Incorporating wildlife refuge areas in contingency plans for prescribed grazing for livestock feed and forage	A prescribed grazing plan that includes 18 month (or longer) deferral of a grazing unit that consists of native grasses and/or legumes and/or perennial forbs for the purpose of meeting the needs for drought/disaster contingency plans that will also provide wildlife habitat for a period of time.	acre	1	5
E550106Z	SOIL QUALITY DEGRADATION	Organic Matter Depletion	X	X		X				Range planting for increasing/maintaining organic matter	Establishment of adapted perennial or self-sustaining vegetation such as grasses, forbs, legumes, shrubs and trees for the purpose of increasing or maintaining organic matter levels in the soil.	acre	5	1
E550136Z	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Food	X	X		X				Range planting for improving forage, browse, or cover for wildlife	Establishment of adapted perennial or self-sustaining vegetation such as grasses, forbs, legumes, shrubs and trees for the purpose of improving forage, browse, or cover for wildlife on areas that have been degraded beyond recovery via ecological principles, or old crop fields and pastures devoid of desirable, native rangeland species that range within an ecological site description steady state.	acre	5	1
E554118Z1	WATER QUALITY DEGRADATION	Nutrients in Surface Water	X	X				X		Installation of end of pipe or ditch treatment for phosphorus	Add end of pipe/ditch treatment. If dissolved Phosphorus is the pollutant of concern, use Interim CPS 782, Phosphorus Treatment Structure for each drainage outlet in a field.	no	1	1
E554118Z2	WATER QUALITY DEGRADATION	Nutrients in Surface Water	X	X				X		Saturated buffer drain outlet	Install Conservation Practice Standard 604, Saturated Buffer so all of the drain outlets on a field are routed through an appropriate buffer.	acre	1	1
E578139X	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Habitat Continuity (Space)	X	X	X	X	X	X	X	Stream crossing elimination	Existing stream crossings on an operation are consolidated into fewer crossings in order to reduce impacts to stream habitat.	no	10	1
E580105Z	SOIL EROSION	Streambank, Shoreline, Water Conveyance Channels	X	X	X	X	X	X	X	Stream corridor bank stability improvement	Stream corridor bank vegetation components are established to provide additional streambank stability.	ft	20	1
E580137Z	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Cover/Shelter	X	X	X	X	X	X	X	Stream corridor bank vegetation improvement	Stream corridor bank vegetation components are established to improve ecosystem functioning and stability.	acre	20	1

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E590118X	WATER QUALITY DEGRADATION	Nutrients in Surface Water	X	X						Reduce risks of nutrient losses to surface water by utilizing precision agriculture technologies to plan and apply nutrients	Utilize precision application technology and techniques to reduce risk of nutrients in surface water by reducing total amount of applied and reducing the potential for delivery of nutrients into water bodies. Precision agriculture technology is utilized to plan and apply nutrients to improve nutrient use efficiency and reduce risk of nutrient losses.	acre	1	5
E590118Z	WATER QUALITY DEGRADATION	Nutrients in Surface Water	X	X						Improving nutrient uptake efficiency and reducing risk of nutrient losses to surface water	Nutrient management encompasses managing the amount, source, placement, and timing of the application of plant nutrients and soil amendments. Nutrients are currently being applied on the farm based on the 4R nutrient stewardship principles. Enhanced nutrient use efficiency strategies or technologies are utilized to improve nutrient use efficiency and reduce risk of nutrient losses.	acre	1	5
E590119X	WATER QUALITY DEGRADATION	Nutrients in Ground Water	X	X						Reduce risks of nutrient losses to ground water by utilizing precision agriculture technologies to plan and apply nutrients	Utilize precision application technology and techniques to reduce risk of nutrients in ground water by reducing total amount of applied and reducing the potential for delivery of nutrients into ground water. Precision agriculture technology is utilized to plan and apply nutrients to improve nutrient use efficiency and reduce risk of nutrient losses.	acre	1	5
E590119Z	WATER QUALITY DEGRADATION	Nutrients in Ground Water	X	X						Improving nutrient uptake efficiency and reducing risk of nutrient losses to groundwater	Nutrient management encompasses managing the amount, source, placement, and timing of the application of plant nutrients and soil amendments. Nutrients are currently being applied on the farm based on the 4R nutrient stewardship principles. Enhanced nutrient use efficiency strategies or technologies are utilized to improve nutrient use efficiency and reduce risk of nutrient losses.	acre	1	5
E590130Z	AIR QUALITY IMPACTS	Emission of Greenhouse Gases (GHGs)	X	X						Improving nutrient uptake efficiency and reducing risks to air quality – emissions of greenhouse gases (GHGs)	Nutrient management encompasses managing the amount, source, placement, and timing of the application of plant nutrients and soil amendments. Nutrients are currently being applied on the farm based on the 4R nutrient stewardship principles. Enhanced nutrient use efficiency strategies or technologies are utilized to improve nutrient use efficiency and reduce risks to air quality by reducing emissions of Greenhouse Gases (GHGs).	acre	1	5
E595116X	WATER QUALITY DEGRADATION	Pesticides in Surface Water	X	X						Reduce risk of pesticides in surface water by utilizing precision pesticide application techniques	Utilize precision application techniques to reduce risk of pesticides in surface water by reducing total amount of chemical applied and reducing the potential for delivery of chemicals into water bodies.	acre	1	5
E595116Z	WATER QUALITY DEGRADATION	Pesticides in Surface Water	X	X	X					Reduce risk of pesticides in surface water by utilizing IPM PAMS techniques	Utilize integrated pest management (IPM) prevent, avoidance, monitoring, and suppression (PAMS) techniques to reduce risk of pesticides in surface water and reducing the potential for delivery of chemicals into water bodies.	acre	1	5
E595116Z2	WATER QUALITY DEGRADATION	Pesticides in Surface Water	X							Reducing routine neonicotinoid seed treatments on corn and soybean crops	Eliminate routine use of neonicotinoid seed treatments to reduce risk of pesticides in surface water by reducing the total amount of chemical applied and reducing the potential for delivery of chemicals into water bodies that would impair water quality and fish and wildlife habitat.	acre	1	5
E595129Z	AIR QUALITY IMPACTS	Emissions of Ozone Precursors	X	X	X					Reduce ozone precursor emissions related to pesticides by utilizing IPM PAMS techniques	Utilize integrated pest management (IPM) prevent, avoidance, monitoring, and suppression (PAMS) techniques to reduce ozone precursor emissions related to pesticides.	acre	1	5
E612126Z	WATER QUALITY DEGRADATION	Excessive Sediment in Surface Water	X	X						Cropland conversion to trees or shrubs for long term improvement of water quality	Cropland conversion to trees and shrubs for long term erosion control and improvement of water quality. Trees and shrubs are established on cropland where annually-seeded cash crops have been grown. Tree and/or shrub species are selected for their efficacy in holding soil, and the planting design is configured to control runoff and trap sediment.	acre	15	1
E612130Z	AIR QUALITY IMPACTS	Emission of Greenhouse Gases (GHGs)	X	X	X	X	X	X	X	Planting for high carbon sequestration rate	Plant tree species and use stocking levels for higher growth to increase the rate of carbon sequestration (capture). Use species with a longer life span as well as relatively fast growth, and species suitable for durable manufactured products. Increase stocking levels in forests that are not fully stocked. Implement afforestation on appropriate open lands.	acre	15	1

**Activity List For Participants
Enhancements**

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E612132Z	DEGRADED PLANT CONDITION	Undesirable Plant Productivity and Health				X	X	X		Establishing tree/shrub species to restore native plant communities	Establish trees and/or shrubs to restore elements of plant diversity that have been lost through past diseases or improper management. For example, disease-resistant varieties of elm and chestnut can be established to restore the ecological functions of American elm and American chestnut. At the stand level, past forest management may have eliminated certain native tree species. Restoring stand-level diversity and function addresses a wide array of resource concerns and strengthens ongoing management activities. This enhancement improves a forest that is already in good condition by increasing plant diversity, and improving health and vigor through adding plants with resistance to disease, pests, or other local hazards. Additional benefits include contributing to carbon storage, and providing diversity in wildlife habitat and food sources.	acre	15	1
E612133X1	DEGRADED PLANT CONDITION	Inadequate Structure and Composition	X	X	X	X	X	X	X	Adding food-producing trees and shrubs to existing plantings	Plant food-producing trees and shrubs for wildlife or human consumption within windbreaks, alley cropping, multi-story cropping, silvopasture systems, and/or riparian forest buffers.	acre	15	1
E612133X2	DEGRADED PLANT CONDITION	Inadequate Structure and Composition			X	X	X	X	X	Cultural plantings	Plant trees and shrubs that are of cultural significance, such as those species utilized by Tribes in traditional practices, medicinal plants, species used in basket-making, etc. (e.g., paper birch, slippery elm, witch hazel).	acre	15	1
E612133X3	DEGRADED PLANT CONDITION	Inadequate Structure and Composition					X	X	X	Sugarbush management	Establish or maintain species diversity in a sugarbush to enhance pollinator and wildlife needs. Maintain at least 20% of basal area in species other than sugar maple (<i>Acer saccharum</i>) to provide species diversity. Half of the trees that are not sugar maples (10%) will be mast producing species (hard or soft mass). Use maple tree tapping guidelines that minimize tree damage.	acre	15	1
E612136Z	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Food	X	X	X	X	X	X	X	Tree/shrub planting for wildlife food	Tree or shrub planting to enhance habitat for native wildlife. A minimum of five tree or shrub species will be used; they will be species that provide food and/or cover for identified wildlife species.	acre	15	1
E612137Z	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Cover/Shelter	X	X	X	X	X	X	X	Tree/shrub planting for wildlife cover	Tree or shrub planting to enhance habitat for native wildlife. A minimum of five tree or shrub species will be used; they will be species that provide food and/or cover for identified wildlife species.	acre	15	1
E643139X	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Habitat Continuity (Space)						X		Creating native plant refugia	Provide protection from adverse environmental conditions to create refugia for documented occurrences of sensitive plant communities.	ft	1	5
E644136Z	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Food	X	X	X					Managing Flood-Irrigated Landscapes for Wildlife	Developing and implementing a conservation plan that supports maintenance of flood-irrigation in key landscapes to provide important foraging habitat for local breeding and migratory waterfowl and waterbirds.	acre	1	5
E645137Z	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Cover/Shelter	X	X	X	X	X	X	X	Reduction of attractants to human-subsidized predators in sensitive wildlife species habitat	Reduction of artificial perching sites, nest sites, food, and water available to subsidized predators in areas where human-subsidized predators are a threat to sensitive wildlife species. Human-subsidized predators may include ravens, crows, magpies, coyotes, foxes, skunks, raccoons, and other species. Activities under this enhancement may include removal of non- native or invasive trees; removal of unused power poles, corrals, windmills, buildings, and other vertical structures; and/or removal or management of watering facilities, dead livestock, road kill, garbage, animal feed, dumps, and other non-natural food sources.	acre	1	5

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E647136Z1	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Food	X							Manipulate vegetation on fields where rainfall is to be captured and retained to provide enhanced food sources for wildlife	Harvested and idled agricultural lands, notably those occurring within rice rotations, contain high densities of residual (i.e., waste) grain and natural seeds following harvest. Seed densities in harvested rice fields may rival those documented in intensively managed moist-soil units, especially in the Gulf Coast and Central Valley of California. When flooded to shallow depths during fall and winter, these agricultural fields provide ideal foraging habitat for myriad species of waterfowl and wading birds. In addition, flooded conditions promote establishment of aquatic invertebrate populations, thus providing protein-rich food sources for shorebirds as well as waterfowl and wading birds. In many cases, light manipulation of dense vegetation is needed to improve the accessibility of food resources to waterfowl, wading birds, and shorebirds.	acre	1	5
E666106Z1	SOIL QUALITY DEGRADATION	Organic Matter Depletion					X	X		Implementing sustainable practices for pine straw raking	Adopts guidelines for sustaining soil quality and wildlife habitat on sites where pine straw raking is currently practiced. Raking and removal of pine needles ("pine straw") provides valuable landscaping material but at a high cost to soil fertility, soil organic matter, wildlife habitat, and in some cases, soil compaction, soil erosion and water quality degradation. Straw removal also makes prescribed burning less feasible by removal of the fine fuels needed to carry frequent surface fires that maintain longleaf pine and its characteristic understory. This enhancement is most applicable to longleaf pine forestland because: (1) longleaf-dominated ecosystems with their characteristic suite of flora and fauna historically predominated in most places where pines are currently grown in the Southeast, and (2) longleaf is the favored species for pine straw operations.	acre	10	1
E666106Z2	SOIL QUALITY DEGRADATION	Organic Matter Depletion					X			Maintaining and improving forest soil quality	Adopts guidelines for maintaining and improving soil quality on sites where forest management activities are practiced. These guidelines will increase soil organic matter content, improve nutrient cycling, and increase infiltration and retention of precipitation. Avoiding soil compaction will allow for greater root development and tree growth, limit windthrow, and reduce drought stress. Increasing carbon storage on site will maintain the soil microbial community and provide wildlife benefits.	acre	10	1
E666107Z	SOIL QUALITY DEGRADATION	Compaction					X			Maintaining and improving forest soil quality by limiting compaction	Adopts guidelines for maintaining and improving soil quality on sites where forest management activities are practiced. These guidelines will increase soil organic matter content, improve nutrient cycling, and increase infiltration and retention of precipitation. Avoiding soil compaction will allow for greater root development and tree growth, limit windthrow, and reduce drought stress. Increasing carbon storage on site will maintain the soil microbial community and provide wildlife benefits.	acre	10	1
E666115Z1	INSUFFICIENT WATER	Inefficient Moisture Management					X			Converting loblolly and slash pine plantations to longleaf pine to retain soil moisture	Longleaf pine has greater wildlife habitat value, is more resistant to insects and disease, and is better able to withstand hurricane-force winds than other southern pines, particularly loblolly and slash pines. Because of rapid early growth, loblolly and slash pines have often been planted on soils and sites better suited to longleaf. Loblolly has a higher rate of evapotranspiration than longleaf and can deplete soil moisture. Loblolly and slash pine plantations can be converted to longleaf by clearcutting and planting seedlings but mature tree cover is then lost for 20 or more years. This enhancement will gradually convert an existing loblolly or slash pine plantation to longleaf while at the same time maintaining mature tree cover with the associated benefits of wildlife habitat and visual quality, and moderating effects on soil temperature, soil moisture and understory plants.	acre	10	1

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Enhancements**

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E666115Z2	INSUFFICIENT WATER	Inefficient Moisture Management					X			Forest Stand Improvement to manage understory vegetation to aid in moisture management	Forest stand improvement to manage the structure and composition of overstory and understory vegetation so that additional moisture is captured and filtered through the vegetation and soil. Managing the understory vegetation will increase available water to the plants, minimize run-off and erosion, and improve water quality. An adequately stocked forest provides inputs of leaves, needles, and woody twigs and stems to the forest floor, adding to soil organic matter and contributing to forest soil health. Desirable tree species and understory vegetation, with spacing that allows ground cover to develop, will allow moisture to infiltrate and be stored in the soil, releasing moisture over longer periods of time. This enhancement provides for management of the understory vegetation in a forested area, using mechanical, chemical or manual methods to improve the plant species mix and the health of the residual vegetation. These practices encourage development of a forested ecosystem that efficiently utilizes available water.	acre	10	1
E666118Z	WATER QUALITY DEGRADATION	Nutrients in Surface Water					X			Enhance development of the forest understory to capture nutrients in surface water	Forest stand improvement to manage the structure and composition of overstory and understory vegetation so that additional moisture is captured and filtered through the vegetation and soil, thus minimizing nutrient loss through ground water. Managing the understory vegetation will increase available water to plants, minimize run-off and erosion, and improve water quality. This enhancement provides for management of the understory vegetation in a forested area, using mechanical, chemical or manual methods to improve the plant species mix and the health of the residual vegetation. These practices encourage development of a forested ecosystem that efficiently utilizes available water and captures nutrients.	acre	10	1
E666119Z	WATER QUALITY DEGRADATION	Nutrients in Ground Water					X			Enhance development of the forest understory to capture nutrients and limit their movement into ground water	Forest stand improvement to manage the structure and composition of overstory and understory vegetation so that additional moisture is captured and filtered through the vegetation and soil, thus minimizing nutrient loss through ground water. Managing the understory vegetation will increase available water to the plants, minimize run-off and erosion, and improve water quality. This enhancement provides for management of the understory vegetation in a forested area, using mechanical, chemical or manual methods to improve the plant species mix and the health of the residual vegetation. These practices encourage development of a forested ecosystem that efficiently utilizes available water and captures nutrients.	acre	10	1
E666130Z	AIR QUALITY IMPACTS	Emission of Greenhouse Gases (GHGs)					X	X	X	Increase on-site carbon storage	Use forest management techniques to maintain and increase on-site carbon storage. These include, but are not limited to, applying uneven-aged management, using longer rotations, retaining cavity/den trees, snags, and down woody debris, and protecting or increasing soil organic material.	acre	10	1
E666132Z1	DEGRADED PLANT CONDITION	Undesirable Plant Productivity and Health					X	X	X	Crop tree management for mast production	Forest stand improvement using crop tree management techniques to increase mast production	acre	10	1
E666132Z2	DEGRADED PLANT CONDITION	Undesirable Plant Productivity and Health					X			Reduce forest stand density to improve a degraded plant community	Reducing forest stand density creates open forest conditions with a low basal area which promotes the health and vigor of the residual trees. The open stand structure allows a significant amount of sunlight to reach the forest floor and stimulates the growth of understory vegetation. Understory vegetation management, along with the wide spacing between trees or clumps of trees, provides visual appeal, lowers the risk of wildfire, and provides habitat for many at-risk and listed wildlife species. The enhancement creates conditions that facilitate a follow-up treatment with prescribed burning. This enhancement provides for management of the understory vegetation in a forested area, using mechanical, chemical or manual methods to improve the plant species mix and the health of the residual vegetation.	acre	10	1

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Enhancements**

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E666133Z1	DEGRADED PLANT CONDITION	Inadequate Structure and Composition					X	X	X	Creating structural diversity with patch openings	Forest stand improvement that creates patch openings. Size and shape of patches will be based on characteristic natural wind disturbances, which will vary geographically and by forest type.	acre	10	1
E666133Z2	DEGRADED PLANT CONDITION	Inadequate Structure and Composition					X			Converting loblolly and slash pine to longleaf plantations with forest stand improvement and prescribed burning	Longleaf pine has greater wildlife habitat value, is more resistant to insects and disease, and is better able to withstand hurricane-force winds than other southern pines, particularly loblolly and slash pines. Because of rapid early growth, loblolly and slash pines have often been planted on soils and sites better suited to longleaf. Loblolly and slash pine plantations can be converted to longleaf by clearcutting and planting seedlings but mature tree cover is then lost for 20 or more years. This enhancement will gradually convert an existing loblolly or slash pine plantation to longleaf while at the same time maintaining mature tree cover with the associated benefits of wildlife habitat and visual quality, and moderating effects on soil temperature, soil moisture and understory plants.	acre	10	1
E666133X	DEGRADED PLANT CONDITION	Inadequate Structure and Composition					X			Forest Stand Improvement to rehabilitate degraded hardwood stands	Hardwood forestland has been subject to poor logging practices ("high-grading") for decades. Without professional forestry assistance the best species and individual trees are removed, often before maturity ("diameter-limit cutting"), leaving the poorest species and individual trees to regenerate the stand. Reversing this process requires cutting or killing poor quality trees while retaining any desirable species that might still be present. A combination of 3 silvicultural methods are applied: crop tree release, group selection (all trees removed from an area 0.25 to 1.0 acre in size) and small clear-cuts (all trees removed from an area 1-3 acres in size).	acre	10	1
E666134Z	DEGRADED PLANT CONDITION	Excessive Plant Pest Pressure					X			Enhance development of the forest understory to create conditions resistant to pests	Forest stand improvement that manages the structure and composition of overstory and understory vegetation to reduce vulnerability to damage by insects and diseases of forest trees. Managing the understory vegetation will also reduce the risk of wildfire, and promote development of herbaceous plants that benefit wildlife. This enhancement provides for management of the understory vegetation in a forested area, using mechanical, chemical or manual methods to improve the plant species mix and the health of the residual vegetation. These practices encourage the development of a less dense forested ecosystem. The canopy gaps and open understory allow for air circulation that reduces the incidence of disease, and the improved health of the residual trees increases their ability to withstand insect attacks. Forest stand improvement (FSI) activities are used to remove trees of undesirable species, form, quality, condition, or growth rate. The quantity and quality of forest for wildlife and/or timber production will be increased by manipulating stand density and structure. These treatments can also reduce wildfire hazards, improve forest health, restore natural plant communities, and achieve or maintain a desired native understory plant community for soil health, wildlife, grazing, and/or browsing.	acre	10	1
E666135Z1	DEGRADED PLANT CONDITION	Wildfire Hazard, Excessive Biomass Accumulation					X			Reduce height of the forest understory to limit wildfire risk	Forest stand improvement that manages forest structure to reduce the risk of wildfire, and creates conditions that facilitate prescribed burning. The fire risk reduction is accomplished by reducing the height of the woody understory and midstory, creating space between the ground cover and the tree canopy. This enhancement provides for management of the understory vegetation in a forested area, using mechanical, chemical or manual methods to improve the plant species mix and the health of the residual vegetation, and reduce the risk of wildfire. In appropriate stands, the treatment creates conditions that favor prescribed burning. Forest stand improvement (FSI) activities are used to remove trees of undesirable species, form, quality, condition, or growth rate. The quantity and quality of forest for wildlife and/or timber production will be increased by manipulating stand density and structure. These treatments can also reduce wildfire hazards, improve forest health, restore natural plant communities, and achieve or maintain a desired native understory plant community for soil health, wildlife, grazing, and/or browsing.	acre	10	1

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Enhancements

Enhancement Code	Resource Concern	Resource Concern Cause	Crop (Annual and Mixed)	Crop (Perennial)	Pasture	Range	Forest	Associated Ag Land	Farmstead	Full Enhancement Name	Enhancement Description	Units	Enhancement Lifespan	Max years enh. can be contracted
E666135Z2	DEGRADED PLANT CONDITION	Wildfire Hazard, Excessive Biomass Accumulation					X			Reduce forest density and manage understory along roads to limit wildfire risk	Opening the tree canopy along roads ("daylighting"), and providing space between ground vegetation and tree crowns, minimizes the spread of wildfires that often start along roads. Additionally, opening the canopy will allow more sunlight to reach the forest floor and promote flowering plants, and will reduce maintenance needs by allowing moisture to evaporate from roads. The area along a forest road will have some trees removed through harvesting, cutting, mulching, or another option available at the site, with the objective of creating a partially open forest canopy bordering the road. The semi-open canopy provides a greater amount of sunlight reaching the forest floor, which with appropriate management will increase herbaceous ground cover. The open canopy and herbaceous understory minimizes woodland fuel and reduces the intensity of wildfires.	acre	10	1
E666136Z1	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Food					X			Reduce forest density and manage understory along roads to improve wildlife food sources	Opening the tree canopy along roads ("daylighting") allows more sunlight to reach the forest floor and promotes the growth of herbaceous plants. The resulting condition is more visually appealing for users of the roadway, and improves wildlife habitat and food sources for many wildlife species. The area along a forest road will have some trees removed through harvesting, cutting, mulching, or another option available at the site, with the objective of creating a partially open forest canopy bordering the road. The semi-open canopy provides a greater amount of sunlight reaching the forest floor, which with appropriate management will increase herbaceous ground cover. The open canopy and herbaceous understory provides diverse habitat and food for wildlife.	acre	10	1
E666136Z2	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Food					X			Reduce forest stand density to improve wildlife food sources	Reducing forest stand density creates open forest conditions with a low basal area which promotes the health and vigor of the residual trees while promoting wildlife food sources in the understory. The open stand structure allows a significant amount of sunlight to reach the forest floor and stimulates the growth of understory vegetation. Understory vegetation management, along with the wide spacing between trees or clumps of trees, provides visual appeal, lowers the risk of wildfire, and provides food, cover, and shelter for many at-risk and listed wildlife species. The enhancement creates conditions that facilitate a follow-up treatment with prescribed burning. This enhancement provides for management of the understory vegetation in a forested area, using mechanical, chemical or manual methods to improve the plant species mix and the health of the residual vegetation.	acre	10	1
E666136Z3	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Food					X			Create patch openings to enhance wildlife food sources and availability	Forest stand improvement that creates patch openings. Size, shape, and arrangement of patches will be based on natural features, and emulate patches that would result from natural disturbance regimes of wind or fire, varying geographically and by forest type, and by tree species desired from natural regeneration. The treatment will create diversity in stand composition and structure, and enhance wildlife food availability. Forest stand improvement (FSI) can be used to create small openings where all of the trees are removed. Creating openings may serve to restore natural plant communities, and achieve or maintain a desired understory plant community to provide wildlife habitat. Habitat for certain wildlife species is improved by increasing by the amount of edge, cover and diversity of the tract.	acre	10	1
E666137Z1	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Cover/Shelter					X	X	X	Snags, den trees, and coarse woody debris for wildlife habitat	Improve wildlife habitat through creation and retention of snags, den trees, forest stand structural diversity, and coarse woody debris on the forest floor, to provide cover/shelter for native wildlife species.	acre	10	1

**Activity List For Participants
Enhancements**

Enhancement Code	Resource Concern	Resource Concern Cause	Crop (Annual and Mixed)	Crop (Perennial)	Pasture	Range	Forest	Associated Ag Land	Farmstead	Full Enhancement Name	Enhancement Description	Units	Enhancement Lifespan	Max years enh. can be contracted
E666137Z2	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Cover/Shelter					X	X	X	Summer roosting habitat for native forest-dwelling bat species	Create new potential roost trees within upland and riparian forests to achieve desired summer habitat for forest-dwelling bat species.	acre	10	1
E666137Z3	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Cover/Shelter					X	X	X	Increase diversity in pine plantation monocultures	Create small openings to provide diversity in pine plantations, which are typically monocultures and inhospitable to wildlife. Small openings are one-half (0.5) to three (3) acres in size. The cleared area will have the vegetation removed through cutting, mulching, or other means compatible with the site.	acre	10	1
E666137Z6	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Cover/Shelter					X			Create patch openings to enhance wildlife cover and shelter	Forest stand improvement that creates patch openings. Size, shape, and arrangement of patches will be based on natural features, and emulate patches that would result from natural disturbance regimes of wind or fire, varying geographically and by forest type, and by tree species desired from natural regeneration. The treatment will create diversity in stand composition and structure, and enhance the availability of wildlife cover and shelter. Forest stand improvement can be used to create small openings where all of the trees are removed. Creating openings may serve to restore natural plant communities, and achieve or maintain a desired understory plant community to provide wildlife habitat. Habitat for certain wildlife species is improved by increasing by the amount of edge, cover and diversity of the tract.	acre	10	1
E666137Z7	FISH and WILDLIFE-INADEQUATE HABITAT	Inadequate Habitat-Cover/Shelter					X			Enhance development of the forest understory to provide wildlife cover and shelter	Forest stand improvement that manages the structure and composition of overstory and understory vegetation to improve the quantity and quality of wildlife cover and shelter. Reducing the number of trees per acre provides canopy openings that allow sunlight to reach the forest floor and promote the growth of herbaceous plants, improving wildlife shelter and cover in the forest understory. The treatment also creates conditions that facilitate the use of prescribed burning as a follow-up practice to maintain wildlife shelter and cover in fire-adapted forests. This enhancement provides for management of the understory vegetation in a forested area, using mechanical, chemical or manual methods to improve the plant species mix and the health of the residual vegetation. Where wildlife species have inadequate habitat or food, managing the understory in a forest can provide excellent food, shelter and cover.	acre	10	1

Activity List For Participants Bundles

Bundle Code	Eligible Land Uses							Bundle Name	Bundle Description	Units	Bundle Lifespan	Max years bundle can be contracted
	Crop (Annual and Mixed)	Crop (Perennial)	Pasture	Range	Forest	Associated Ag Land	Farmstead					
B000BFF1	X	X				X		Buffer Bundle#1	Extend existing Buffers to address water quality degradation, fish/wildlife inadequate habitat, degraded plant condition plus an option for air quality impacts. Adopt E393118Z, E327136Z1, and E612133X1 as well as one of the following enhancements: E612130Z, E612136Z.	acre	15	1
B000BFF2	X	X				X		Buffer Bundle#2	Extend existing Buffers to address water quality degradation, fish/wildlife inadequate habitat, degraded plant condition plus an option for air quality impacts. Adopt E393126Z, E327137Z, and E612133X1 as well as one of the following enhancements: E612130Z, E612136Z.	acre	15	1
B000CPL1	X							Crop Bundle#1 - Precision Ag, No till	Address water quality degradation, air quality, and fish/wildlife inadequate habitat plus an option for soil erosion or soil quality degradation. Adopt E595116X, E590118X, E329128Z, and E328137Z as well as one of the following: E340101Z, E340102Z, or E340107Z.	acre	1	5
B000CPL2	X							Crop Bundle#2 - Precision Ag, Reduced till	Address water quality degradation, air quality, and fish/wildlife inadequate habitat plus an option for soil erosion or soil quality degradation. Adopt E595116X, E590118X, E345128Z, and E328137Z as well as one of the following: E340101Z, E340102Z, or E340107Z.	acre	1	5
B000CPL3	X							Crop Bundle#3 - Soil health rotation, No till	Address soil quality degradation, insufficient water, water quality degradation, and fish/wildlife inadequate habitat. Adopt E328106Z1, E329115Z, E595116X, E590118X, and E327136Z1.	acre	5	5
B000CPL4	X							Crop Bundle#4 - Soil health rotation, Reduced till	Address soil quality degradation, insufficient water, water quality degradation, and fish/wildlife inadequate habitat. Adopt E328106Z1, E345115Z, E595116X, E590118X, and E327136Z1.	acre	5	5
B000CPL5	X							Crop Bundle#5 - Soil Health Assessment, No till	Address soil quality degradation, insufficient water, water quality degradation, and fish/wildlife inadequate habitat. Adopt E328106Z2, E329115Z, E595116Z, E590118Z, and E327136Z1.	acre	5	5
B000CPL6	X							Crop Bundle#6 - Soil Health Assessment, Reduced till	Address soil quality degradation, insufficient water, water quality degradation, and fish/wildlife inadequate habitat. Adopt E328106Z2, E345115Z, E595116Z, E590118Z, and E327136Z1.	acre	5	5
B000CPL7	X							Crop Bundle#7 - Soil Health -"Organic"	Address soil quality degradation, water quality degradation, and degraded plant condition. Adopt E484106Z, E595116Z, E590118Z, E393126Z, and E612133X1.	acre	15	5
B000CPL8	X							Crop Bundle#8 - "Organic", Water erosion	Address soil erosion, soil quality degradation, and water quality degradation plus an option for fish/wildlife inadequate habitat. Adopt E340101Z, E328106Z2, E345106Z, and E590118Z as well as one of the following: E327136Z1, E327137Z, or E595116Z.	acre	5	5
B000CPL9	X							Crop Bundle#9 - "Organic", Wind erosion	Address soil erosion, soil quality degradation, and water quality degradation plus an option for fish/wildlife inadequate habitat. Adopt E340102Z, E328106Z2, E345106Z, and E590118Z as well as one of the following: E327136Z1, E327137Z, or E595116Z.	acre	5	5
B000FST1					X			Forest Bundle#1	Address forest management on sites that are not adapted to natural fire disturbances. Address soil quality degradation, degraded plant condition, fish/wildlife inadequate habitat, and insufficient water. Adopt E666106Z2, E666132Z1, E666137Z1, E612137Z, and E666115Z2.	acre	15	1
B000LLP1					X			Longleaf Pine Bundle#1	Improve conifer forest health through prescribed burning and grazing management. Address water quality degradation, degraded plant condition, and fish/wildlife inadequate habitat. Adopt E666137Z1, E338137Z1, E472118Z, E314133Z, and E391126Z.	acre	15	5
B000LLP2					X			Longleaf Pine Bundle#2	Improve conifer forest health through prescribed burning and forest stand management. Address insufficient water, degraded plant condition, and fish/wildlife inadequate habitat. Adopt E666137Z1, E666133Z1, E666115Z2, E338137Z1, and E327136Z1.	acre	10	5

Activity List For Participants Bundles

Bundle Code	Eligible Land Uses							Bundle Name	Bundle Description	Units	Bundle Lifespan	Max years bundle can be contracted
	Crop (Annual and Mixed)	Crop (Perennial)	Pasture	Range	Forest	Associated Ag Land	Farmstead					
B000LLP3					X			Longleaf Pine Bundle#3	Improve forest health and wildlife habitat through forest stand management. Address insufficient water, degraded plant condition, and fish/wildlife inadequate habitat. Adopt E666115Z2, E338137Z1, E666133Z1, E666137Z1, and E645137Z.	acre	10	5
B000LLP4					X			Longleaf Pine Bundle#4	Improves forest health and wildlife habitat through conversion of forest stands that are not predominantly longleaf pine. Address insufficient water, degraded plant condition, and fish/wildlife inadequate habitat. Adopt E666115Z1, E338137Z1, E666133Z1, E666137Z1, and E666136Z2.	acre	1	5
B000LLP5					X			Longleaf Pine Bundle#5	Improves conifer forest health through prescribed burning and forest stand management, and reduction of pine straw raking. Address soil quality degradation, degraded plant condition, insufficient water, and fish/wildlife inadequate habitat. Adopt E666137Z1, E666133Z1, E338137Z1, E666106Z1, and E666115Z2.	acre	1	5
B000MRB1	X							MRBI Bundle#1 - Irrigated Cropland	Address soil erosion, insufficient water, and water quality degradation. Adopt E340101Z and E449114Z8 as well as one of the following: E595116X or E595116Z, and one of the following: E590118X or E590118Z.	acre	1	1
B000MRB2	X							MRBI Bundle#2 - Non-Irrigated Cropland #1	Address soil erosion, soil quality degradation, and water quality degradation. Adopt E340101Z and E345106Z as well as one of the following: E590118X or E590118Z, and one of the following: E595116X or E595116Z.	acre	1	5
B000MRB3	X							MRBI Bundle#3 - Non-Irrigated Cropland #2	Address soil erosion, soil quality degradation, and water quality degradation. Adopt E340101Z and E328106Z1 as well as one of the following: E590118X or E590118Z, and one of the following: E595116X or E595116Z.	acre	1	5
B000MRB4	X							MRBI Bundle#4 - Cropland with Waterbodies, No till	Address soil erosion, soil quality degradation, and water quality degradation. Adopt E340101Z, E329106Z, E595116Z, E590118Z and one of the following: E391118Z, E391126Z, E390118Z, E390126Z, E393118Z, or E393126Z.	acre	15	5
B000MRB5	X							MRBI Bundle#5 - Cropland with Waterbodies, Reduced till	Address soil erosion, soil quality degradation, and water quality degradation. Adopt E340101Z, E345106Z, E595116Z, E590118Z and one of the following: E391118Z, E391126Z, E390118Z, E390126Z, E393118Z, or E393126Z.	acre	15	5
B000MRB6			X					MRBI Bundle#6 - Pastureland	Address soil quality degradation, water quality degradation, and fish/wildlife inadequate habitat plus an option for soil erosion. Adopt E512106Z2, E472118Z, and one of the following: E528105Z or E528118Z1, and one of the following: E390136Z or E391136Z.	acre	15	5
B000MRB7				X				MRBI Bundle#7 - Rangeland	Address soil erosion, water quality degradation, and fish/wildlife inadequate habitat. Adopt E528105Z, E472118Z, and one of the following: E390136Z or E391136Z.	acre	15	5
B000OGL1	X							Ogallala Bundle#1	Address insufficient water, water quality degradation, and inefficient energy use plus an option for soil quality degradation. Adopt E329114Z, E449114Z8, E449144Z, and one of the following: E340106Z2, E340118Z, or E340119Z, and one of the following: E590118X, E590118Z, E590119Z.	acre	1	1
B000OGL2	X							Ogallala Bundle#2	Address insufficient water, water quality degradation, and inefficient energy use plus an option for soil quality degradation. Adopt E345114Z, E449114Z8, E449144Z, and one of the following: E340106Z2, E340118Z, or E340119Z, and one of the following: E590118X, E590118Z, or E590119Z.	acre	1	1
B000PST1			X					Pasture Bundle#1 - Organic	Address water quality degradation, degraded plant condition, and fish/wildlife inadequate habitat. Adopt E472118Z, E528132Z1, E512136Z1, and one of the following: E382136Z or E315134Z.	acre	10	5
B000PST2			X					Pasture Bundle#2	Address soil quality degradation, water quality degradation, and degraded plant condition. Adopt E512106Z2, E528126Z, and E315132Z.	acre	15	5

Activity List For Participants Bundles

Bundle Code	Eligible Land Uses							Bundle Name	Bundle Description	Units	Bundle Lifespan	Max years bundle can be contracted
	Crop (Annual and Mixed)	Crop (Perennial)	Pasture	Range	Forest	Associated Ag Land	Farmstead					
B000PST3			X					Pasture Bundle#3 -- Soil Health	Address soil quality degradation, water quality degradation, and degraded plant condition. Adopt E512106Z2, E314134Z, and one of the following: E528118Z1, E472118Z or E528132Z2.	acre	10	5
B000PST4			X					Pasture Bundle#4 - Monarch butterfly	Address soil erosion and fish/wildlife inadequate habitat. Adopt E512139Z3, E512138Z, E528105Z, and on all areas where applicable E645137Z.	acre	5	5
B000RNG1				X				Range Bundle#1 - Organic	Address degraded plant condition, fish/wildlife inadequate habitat and an option for livestock production limitation. Adopt E382136Z, E338134Z, and one of the following: E528136Z2, E528137Z1, or E528140Z2.	acre	20	5
B000RNG2				X				Range Bundle#2	Address degraded plant condition, fish/wildlife inadequate habitat and livestock production limitation. Adopt E528140Z2, E314133Z, and E382136Z.	acre	20	5
B000RNG3				X				Range Bundle#3 - Soil Health	Address soil quality degradation, degraded plant condition, and an option for fish/wildlife inadequate habitat. Adopt E528107Z2, and one of the following: E550106Z or E550136Z, and one of the following: E338134Z or E338135Z.	acre	1	5
B000WLW				X				Working Lands for Wildlife Bundle	Address fish/wildlife inadequate habitat, degraded plant condition, and one of the following: soil quality degradation or water quality degradation. Adopt E382136Z and E528133Z2, and three of the following: E314134Z, E315133Z, E390136Z, E391127Z or E391136Z, E550106Z, or E645137Z.	acre	20	5

Activity List For Participants

Practices

Practice Code	Crop (Annual and Mixed)	Crop (Perennial)	Pasture	Range	Forest	Associated Ag Land	Farmstead	Practice Name	Units	lifespan
314			X	X	X			Brush Management	ac	10
315			X	X	X	X	X	Herbaceous Weed Control	ac	5
319	X	X	X	X	X	X	X	On-Farm Secondary Containment Facility	no	15
324	X	X						Deep Tillage	ac	1
327	X	X			X	X	X	Conservation Cover	ac	5
328	X							Conservation Crop Rotation	ac	1
329	X							Residue and Tillage Management, No Till	ac	1
334	X	X						Controlled Traffic Farming	ac	5
338				X	X			Prescribed Burning	ac	1
340	X	X						Cover Crop	ac	1
342	X	X	X	X	X	X	X	Critical Area Planting	ac	10
345	X							Residue and Tillage management, Reduced till	ac	1
348	X	X			X	X	X	Dam, Diversion	no	15
374	X	X	X		X	X	X	Farmstead Energy Improvement	no	10
378				X				Pond	no	20
380	X	X		X		X		Windbreak/Shelterbelt Establishment	ft	15
381			X			X		Silvopasture Establishment	ac	15
382			X	X				Fence	ft	20
383	X	X	X	X	X	X	X	Fuelbreak	ac	10
384					X	X		Woody Residue Treatment	ac	10
386	X	X				X		Field Border	ac	10
390	X	X	X	X		X	X	Riparian Herbaceous Cover	ac	5
391	X	X	X	X	X	X	X	Riparian Forest Buffer	ac	15
393	X	X				X	X	Filter Strip	ac	10

Activity List For Participants

Practices

Practice Code	Crop (Annual and Mixed)	Crop (Perennial)	Pasture	Range	Forest	Associated Ag Land	Farmstead	Practice Name	Units	lifespan
394	X	X	X	X	X	X	X	Firebreak	ft	5
410	X	X				X		Grade Stabilization Structure	no	15
412	X	X				X	X	Grassed Waterway	ac	10
430	X							Irrigation Pipeline	ft	20
441					X			Irrigation System, Microirrigation	ac	15
442	X	X	X					Sprinkler system	ac	15
443	X	X	X					Irrigation System, Surface and Subsurface	ac	15
449	X	X	X			X		Irrigation Water Management	ac	1
464	X							Irrigation Land Leveling	ac	15
472	X	X	X	X	X	X	X	Access Control	ac	10
484	X							Mulching	ac	1
490					X			Tree/Shrub Site Preparation	ac	1
511	X	X	X					Forage Harvest Management	ac	1
512	X	X	X			X	X	Forage and Biomass Planting	ac	5
528			X	X	X	X		Prescribed Grazing	ac	1
533	X							Pumping Plant	no	15
550				X				Range Planting	ac	5
554	X	X				X		Drainage Water Management	ac	1
558						X	X	Roof Runoff Structure	no	15
561							X	Heavy Use Area Protection	sq ft	10
576			X	X		X		Livestock Shelter Structure	no	10
578	X	X	X	X	X	X	X	Stream Crossing	no	10
580	X	X	X	X	X	X	X	Streambank and Shoreline Protection	ft	20
587	X							Structure for Water Control	no	20

Activity List For Participants
Practices

Practice Code	Crop (Annual and Mixed)	Crop (Perennial)	Pasture	Range	Forest	Associated Ag Land	Farmstead	Practice Name	Units	lifespan
590	X	X	X		X			Nutrient Management	ac	1
595	X	X	X	X	X		X	Integrated Pest Management	ac	1
606						X		Subsurface Drain	ft	20
610	X	X				X		Salinity and Sodic Soil Management	ac	1
612	X	X	X	X	X	X	X	Tree/Shrub Establishment	ac	15
614			X	X		X		Watering Facility	no	10
643				X	X			Restoration and Management of Rare and Declining Habitats	ac	1
644	X	X	X	X	X	X	X	Wetland Wildlife Habitat Management	ac	1
645	X	X	X	X	X	X	X	Upland Wildlife Habitat Management	ac	1
647	X	X	X	X	X	X	X	Early Successional Habitat Development/Management	ac	1
649	X	X	X	X		X		Structures for Wildlife	no	5
650	X	X		X		X		Windbreak/Shelterbelt Renovation	ft	15
654	X	X	X	X		X	X	Road/Trail/Landing Closure and Treatment	ft	10
666					X	X	X	Forest Stand Improvement	ac	10