

Activity List For Participants

| Enhancement Code | Resource Concern | Resource Concern Cause | Crop (Annual and Mixed) | Crop (Perennial) | Pasture | Forest | Associated Ag Land | Farmstead | Enhancement Name | Enhancement Description | Units | Lifespan | Suitable for Land Use Conversion |
|------------------|--------------------------------------|---|-------------------------|------------------|---------|--------|--------------------|-----------|--|---|-------|----------|----------------------------------|
| 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 | NA |
| E327137Z | FISH and WILDLIFE-INADEQUATE HABITAT | Inadequate Habitat-Cover/Shelter | 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 | NA |
| E327139Z | FISH and WILDLIFE-INADEQUATE HABITAT | Inadequate Habitat-Habitat Continuity (Space) | 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 | NA |
| E328101I | SOIL EROSION | Sheet and Rill Erosion | X | | | | | | Improved resource conserving crop rotation to reduce water erosion | Improve an existing Resource Conserving Crop Rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plan pest pressures. | acre | 1 | NA |
| 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 plan pest pressures. | acre | 1 | NA |
| 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. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plan pest pressures. | acre | 1 | NA |
| 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 plan pest pressures. | acre | 1 | NA |
| 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 | NA |
| E328107I | SOIL QUALITY DEGRADATION | Compaction | X | | | | | | Improved resource conserving crop rotation to improve soil compaction | Improve an existing Resource Conserving Crop Rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plan pest pressures. | acre | 1 | NA |
| 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 plan pest pressures. | acre | 1 | NA |
| 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. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plan pest pressures. | acre | 1 | NA |
| 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 plan pest pressures. | acre | 1 | NA |
| 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 | NA |

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| 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 | NA |
| 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 | NA |
| 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 axle 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 | NA |
| 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 | NA |
| 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 | NA |
| E340106Z1 | SOIL QUALITY DEGRADATION | Organic Matter Depletion | X | 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 | NA |
| 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 increased 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 | NA |
| 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 | NA |
| 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 | NA |

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| E340119Z | WATER QUALITY DEGRADATION | Nutrients in Ground Water | 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 | NA |
| 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 | NA |
| 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 | NA |
| 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 | NA |
| 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 | NA |
| E382136Z | FISH and WILDLIFE-INADEQUATE HABITAT | Inadequate Habitat-Food | | | 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 | NA |
| 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 in width and establish a single specie or mixture of species that provide a dense ground cover along the edge(s) of the field. | acre | 10 | NA |
| E386102Z | SOIL EROSION | Wind Erosion | X | X | | | X | | Enhanced field borders to reduce wind induced erosion along the windward side(s) of a field | Enhance existing field borders to a width of at least 30 feet in width and establish a single specie or mixture of species that will have a height of at least 18 inches during the local critical wind erosion period along the windward side(s) of the field. | acre | 10 | NA |
| 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 in width and establish a mixture of species that provide a dense rooting system and high above ground biomass cover along the edge(s) of the field. | acre | 10 | NA |
| 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 30 feet in width and establish a mixture of species that provide a dense ground cover and a height of at least 2 feet along the edge(s) of the field. | acre | 10 | NA |
| E386136Z | FISH and WILDLIFE-INADEQUATE HABITAT | Inadequate Habitat-Food | X | X | | | X | | Enhanced field border to provide wildlife food for pollinators along the edge(s) of a field | Enhance existing field borders to a width of at least 40 feet in width and establish a mixture of species that provide pollinator food and cover along the edge(s) of the field. | acre | 10 | NA |
| E386137Z | FISH and WILDLIFE-INADEQUATE HABITAT | Inadequate Habitat-Cover/Shelter | X | X | | | X | | Enhanced field border to provide wildlife cover or shelter along the edge(s) of a field | Enhance existing field borders to a width of at least 40 feet in width and establish a mixture of species that provide wildlife food and cover along the edge(s) of the field. | acre | 10 | NA |
| 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 in width and establish a mixture of species that provide wildlife food and cover along the edge(s) of the field to connect to adjacent wildlife habitat. | acre | 10 | NA |

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| E390118Z | WATER QUALITY DEGRADATION | Nutrients in Surface Water | X | 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 | NA |
| E390126Z | WATER QUALITY DEGRADATION | Excessive Sediment in Surface Water | X | X | | | 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 | NA |
| E390136Z | FISH and WILDLIFE-INADEQUATE HABITAT | Inadequate Habitat-Food | 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 | NA |
| E391118Z | WATER QUALITY DEGRADATION | Nutrients in Surface Water | X | X | | 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 | NA |
| E391126Z | WATER QUALITY DEGRADATION | Excessive Sediment in Surface Water | X | X | | X | 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 | NA |
| E391127Z | WATER QUALITY DEGRADATION | Elevated Water Temperature | 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 | NA |
| E391136Z | FISH and WILDLIFE-INADEQUATE HABITAT | Inadequate Habitat-Food | 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 | NA |
| 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 | NA |
| E393122Z | WATER QUALITY DEGRADATION | Excess Pathogens and Chemicals from Manure, Bio-solids 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, bio-solids 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 | NA |
| E393126Z | WATER QUALITY DEGRADATION | Excessive Sediment in Surface Water | X | 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 | NA |
| E395137X | FISH and WILDLIFE-INADEQUATE HABITAT | Inadequate Habitat-Cover/Shelter | X | X | X | X | X | | Stream habitat improvement through placement of woody biomass | Flexible placement of wood (unanchored/unpinned) in small, 1st and 2nd order streams to improve stream habitat conditions for aquatic species and natural stream processes. | acre | 5 | NA |
| E449114Z1 | INSUFFICIENT WATER | Inefficient Use of Irrigation Water | X | X | X | | | | Advanced IWM--Soil moisture is monitored, recorded, and used in decision making | Advanced irrigation water management using soil moisture monitoring (one sensor per 40 acres or more) with data loggers. Record keeping is such that a daily water balance is calculated, and future irrigations forecast. | acre | 1 | NA |
| E472118Z | WATER QUALITY DEGRADATION | Nutrients in Surface Water | 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 | NA |

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| E472122Z | WATER QUALITY DEGRADATION | Excess Pathogens and Chemicals from Manure, Bio-solids or Compost Applications in Surface Water | 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 | NA |
| 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 | YES |
| 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 | NA |
| 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 | YES |
| 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 | NA |
| E512126Z | WATER QUALITY DEGRADATION | Excessive Sediment in Surface Water | X | X | | | | | Cropland conversion to grass-based agriculture to reduce sediment loading | 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 | YES |
| E512132Z1 | DEGRADED PLANT CONDITION | Undesirable Plant Productivity and Health | X | X | | | | | Cropland conversion to grass-based agriculture to improve plant condition | 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 | YES |
| E528122Z | WATER QUALITY DEGRADATION | Excess Pathogens and Chemicals from Manure, Bio-solids 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 | NA |
| 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 | NA |
| E528132Z2 | DEGRADED PLANT CONDITION | Undesirable Plant Productivity and Health | | | 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 | NA |
| E578139X | FISH and WILDLIFE-INADEQUATE HABITAT | Inadequate Habitat-Habitat Continuity (Space) | 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 | NA |
| E580105Z | SOIL EROSION | Streambank, Shoreline, Water Conveyance Channels | X | X | X | X | X | X | Stream corridor bank stability improvement | Stream corridor bank vegetation components are established to provide additional streambank stability. | ft | 10 | NA |
| E580137Z | FISH and WILDLIFE-INADEQUATE HABITAT | Inadequate Habitat-Cover/Shelter | X | X | X | X | X | | Stream corridor bank vegetation improvement | Stream corridor bank vegetation components are established to improve ecosystem functioning and stability. | acre | 10 | NA |
| 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 | NA |

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| 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 | NA |
| 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 | NA |
| E612101Z | SOIL EROSION | Sheet and Rill Erosion | X | X | | | | | Cropland conversion to trees for long term water erosion control | Conversion of cropped land to trees for long term erosion control and improvement of water quality. Trees are established on cropland where annually-seeded cash crops have been grown. | acre | 15 | YES |
| E612126Z | WATER QUALITY DEGRADATION | Excessive Sediment in Surface Water | X | X | | | | | Cropland conversion to trees for long term improvement of water quality | Conversion of cropped land to trees for long term erosion control and improvement of water quality. Trees are established on cropland where annually-seeded cash crops have been grown. | acre | 15 | YES |
| E612130Z | AIR QUALITY IMPACTS | Emission of Greenhouse Gases (GHGs) | 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 | YES |
| E612132Z | DEGRADED PLANT CONDITION | Undesirable Plant Productivity and Health | | | | 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 | NA |
| E612133X1 | DEGRADED PLANT CONDITION | Inadequate Structure and Composition | | | 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 | NA |
| E612136Z | FISH and WILDLIFE-INADEQUATE HABITAT | Inadequate Habitat-Food | 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 | YES |
| E612137Z | FISH and WILDLIFE-INADEQUATE HABITAT | Inadequate Habitat-Cover/Shelter | 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 | YES |
| E646137X | FISH and WILDLIFE-INADEQUATE HABITAT | Inadequate Habitat-Cover/Shelter | X | X | | | X | | Renovate small, shallow pothole and playa sites which may seasonally hold water | Renovate small, shallow pothole and playa sites which may seasonally hold water. | acre | 5 | NA |
| 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 | NA |

Activity List For Planners

| Enhancement Code | Resource Concern | Resource Concern Cause | Crop (Annual and Mixed) | Crop (Perennial) | Pasture | Forest | Associated Ag Land | Farmstead | Enhancement Name | Enhancement Description | Units | Lifespan | Suitable for Land Use Conversion |
|------------------|--------------------------------------|---|-------------------------|------------------|---------|--------|--------------------|-----------|--|--|-------|----------|----------------------------------|
| E666130Z | AIR QUALITY IMPACTS | Emission of Greenhouse Gases (GHGs) | | | | X | X | X | Increase on-site carbon storage | Utilize 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 | NA |
| 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 | NA |
| E666132Z2 | DEGRADED PLANT CONDITION | Undesirable Plant Productivity and Health | | | | X | | | Reduce forest stand density to improve a degraded plant community. | Open pine or conifer management reduces the number of trees per acre while still maintaining the stand as forest land. It restores elements of stand structure that were formerly created by fire on sites where it is not currently feasible to conduct prescribed burning at the intensity needed to open the canopy. The open stand condition allows a significant amount of sunlight to reach the forest floor and stimulate understory vegetation. The initial treatment creates a stand structure that allows prescribed burning to be applied to limit redevelopment of the woody component of the understory and maintain open conditions. The vegetation management, and wide spacing between trees or clumps of trees, provides visual appeal, reduces the risk of wildfire, and provides wildlife habitat for many at-risk and listed wildlife species. | acre | 10 | NA |
| E666133X | DEGRADED PLANT CONDITION | Inadequate Structure and Composition | | | | X | | | Forest Stand Improvement to restore structure and composition in 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 | NA |
| E666133Z2 | DEGRADED PLANT CONDITION | Inadequate Structure and Composition | | | | X | | | Converting loblolly and slash pine plantations to longleaf pine 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 | NA |
| E666136Z2 | FISH and WILDLIFE-INADEQUATE HABITAT | Inadequate Habitat-Food | | | | X | | | Reduce forest stand density to improve wildlife food sources. | Open pine or conifer management reduces the number of trees per acre while still maintaining the stand as forest land. It restores elements of wildlife habitat that formerly resulted from fire, on sites where it is not currently feasible to conduct prescribed burning. The open stand condition allows a significant amount of sunlight to reach the forest floor and stimulate understory vegetation. The initial treatment creates a stand structure that allows prescribed burning to be applied, where feasible, to limit redevelopment of the woody component of the understory and maintain open conditions. The vegetation management, and wide spacing between trees or clumps of trees, provides visual appeal, reduces the risk of wildfire, and provides wildlife habitat for many at-risk and listed wildlife species. | acre | 10 | NA |
| 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 | NA |

Activity List For Planners

| Enhancement Code | Resource Concern | Resource Concern Cause | Crop (Annual and Mixed) | Crop (Perennial) | Pasture | Forest | Associated Ag Land | Farmstead | Enhancement Name | Enhancement Description | Units | Lifespan | Suitable for Land Use Conversion |
|------------------|--------------------------------------|----------------------------------|-------------------------|------------------|---------|--------|--------------------|-----------|---|---|-------|----------|----------------------------------|
| E666137Z3 | FISH and WILDLIFE-INADEQUATE HABITAT | Inadequate Habitat-Cover/Shelter | | | | X | X | X | Increase diversity in pine plantation monocultures | Creates 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 harvesting, mulching, or other means compatible with the site. | acre | 10 | NA |
| E666137Z4 | FISH and WILDLIFE-INADEQUATE HABITAT | Inadequate Habitat-Cover/Shelter | | | | X | | | Converting loblolly and slash pine plantations to longleaf pine to enhance wildlife habitat | 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 | NA |

Activity List For Planners

| Bundle Code | Eligible Land Uses | | | | | | | Bundle Name | Bundle Description | Units | Lifespan | Information States need to Develop Prior to Signup | Suitable for Voluntary Land Use Conversion |
|-------------|-----------------------------|---------|-------|--------|--------------------|-----------|------------------------|--|--------------------|-------|---------------------------------------|--|--|
| | Crop (Annual and 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, and/or air quality impacts. Adopt E393118Z and E327136Z1 as well as one of the following enhancements: E612130Z, E612136Z. | acre | 5 | See specific componenet enhancements. | NA | |
| B000BFF2 | X | X | | | | X | Buffer Bundle#2 | Extend existing Buffers to address water quality degradation, fish/wildlife inadequate habitat, and/or air quality impacts. Adopt E393126Z and E327137Z as well as one of the following: E612130Z, E612136Z. | acre | 5 | See specific componenet enhancements. | NA | |
| 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 | 1 | See specific componenet enhancements. | NA | |
| B000LLP2 | | | | | X | | Longleaf Pine Bundle#2 | Improve conifer forest health through prescribed burning and forest stand management. Address air quality impacts, degraded plant condition, and fish/wildlife inadequate habitat. Adopt E666137Z1, E666133Z1, E666130Z, E338137Z1, and E327136Z1. | acre | 1 | See specific componenet enhancements. | NA | |

* The lifespan of this bundle will depend on the optional component enhancements chosen for adoption.

Activity List For Planners

| Practice Code | Crop (Annual and Mixed) | Crop (Perennial) | Pasture | Range | Forest | Associated Ag Land | Farmstead | Practice Name | Units | lifespan | Suitable for Land Use Conversion |
|---------------|----------------------------|---------------------|---------|-------|--------|-----------------------|-----------|--|-------|----------|----------------------------------|
| 314 | | | | X | X | | | Brush Management | ac | 10 | |
| 315 | | | X | X | X | X | X | Herbaceous Weed Control | ac | 5 | |
| 324 | X | X | | | | | | Deep Tillage | ac | 1 | |
| 327 | X | X | | | X | X | X | Conservation Cover | ac | 5 | |
| 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 | |
| 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 | |
| 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 | |
| 394 | X | X | X | X | X | X | X | Firebreak | ft | 5 | |
| 395 | X | X | X | X | X | X | X | Stream Habitat Improvement and Management | ac | 5 | |
| 396 | X | X | | X | | X | X | Aquatic Organism Passage | mi | 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 | |
| 449 | X | X | X | | | X | | Irrigation Water Management | ac | 1 | |
| 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 | |

Activity List For Planners

| Practice Code | Crop (Annual and Mixed) | Crop (Perennial) | Pasture | Range | Forest | Associated Ag Land | Farmstead | Practice Name | Units | lifespan | Suitable for Land Use Conversion |
|---------------|----------------------------|---------------------|---------|-------|--------|-----------------------|-----------|---|-------|----------|----------------------------------|
| 512 | X | X | X | | | X | X | Forage and Biomass Planting | ac | 5 | YES |
| 528 | | | X | X | X | X | | Prescribed Grazing | ac | 1 | |
| 533 | X | | | | | | | Pumping Plant | no | 15 | |
| 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 | |
| 578 | 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 | |
| 590 | X | X | X | | X | | | Nutrient Management | ac | 1 | |
| 606 | | | | | | X | | Subsurface Drain | ft | 20 | |
| 612 | X | X | X | X | X | X | X | Tree/Shrub Establishment | ac | 15 | YES |
| 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 | | | | Structures for Wildlife | no | 5 | |
| 654 | X | X | X | X | | X | X | Road/Trail/Landing Closure and Treatment | ft | 10 | |
| 666 | | | | | X | X | X | Forest Stand Improvement | ac | 10 | |