

# USDA NRCS Conservation Stewardship Program Links of Interest

## CSP Program Overview

- [CSP Program Factsheet and Overview](#)
- [NRCS Washington CSP Page](#)
- [CSP Prezi Presentation View Link](#)
- [Agland Stewardship on Whidbey](#)

## Program Application Packet

- [All NRCS & FSA Forms](#) – download altogether and complete with pen/ink signatures
- [“Top 10 Tips” for Completing Your NRCS and FSA Packet](#)
- [Historically Underserved Farmers and Ranchers](#)

## Resource Concerns

- [Learn About the “SWAPA + HE” in Prezi](#)
- [Conservation Concerns Tool](#) for your property
- [USDA Resource Concern “Factsheets”](#)
- [NRCS National Extensive Resource Concerns List](#)

## Practices, Bundles, and Enhancements

- [Example “Practices” Factsheets](#)
- [CSP “Enhancements” and “Enhancement Bundles” Factsheets](#)
- [Applicable Land Uses for Specific CSP Practices, Bundles, and Enhancements](#) (also includes links to payment rates & scenarios) – see the following pages below as well in place of this Google Sheet
  - [Definitions of Land Uses & Land Use Modifiers](#) in the NRCS World
- [Payment reimbursement rates](#) for CSP practices, enhancements, and bundles for Federal Fiscal Year 2022 (Oct. 1, 2021 – Sept. 30, 2022)
  - For practice payment rates, see pages 1-21
  - For bundles payment rates, see pages 21-22
  - For enhancements payment rates, see pages 22-31
  - **Note:** There will be either a rate applicable to non-Historically Underserved producers or Historically Underserved producers. The rate will correspond to the defined “unit” affiliated with that practice, enhancement, or bundle (our planning work would then help us determine how many particular units you’d be wanting to or could do), and practice component (i.e. a scenario most applicable to yours).
- [Practice, bundle, and enhancement scenario descriptions](#) will supply an estimated project cost-estimate as an example for that practice, bundle, or enhancement for Federal Fiscal Year 2022 (Oct. 1, 2021 – Sept. 30, 2022) Note that the costs associated with these are broad and statewide, so if you wish to get more particular cost estimates for a practice, bundle, or enhancement, you’ll need to work with contractors locally and your local conservation planner to determine the project’s costs. Here’s [some specific guidance for Whidbey producers](#) considering practice installation projects and where to start gathering data and collecting quotes.
  - For practice scenarios, see pages 1-1053
  - For bundle scenarios, see pages 1054-1096
  - For enhancement scenarios, see pages 1097-1281

CSP applications are accepted year-round, but NRCS occasionally batches and ranks applications that meet their fall or spring deadlines for consideration the following year.



### Upcoming Deadlines for CSP FY2022:

March 31, 2022 - CSP Application Form CPA-1200 due to NRCS

May 5, 2022 - All Other FSA Forms in Application Packet due to FSA

May 27, 2022 - Last Day to Work with a Planner on Documentation for CSP for Funding

July 11, 2022 - Ranking and Selection of Funding, Announcements Soon Thereafter and Contracts Are Signed

## CSP Producer Eligibility Criteria

**Applicant Eligibility** – The CSP applicant must be an owner, operator, or other tenant, and must share a risk in the crop being produced, *have written control of all land for the life of the contract (5 years)* and must have established and updated records with the Farm Service Agency for NRCS.

**Land Eligibility** – *All eligible land (everything operated by the entity or individual who is applying for CSP even if the land is in multiple counties) MUST be enrolled in CSP.* This means under the effective control of the applicant, operated by the applicant with equipment, labor and management, and have an established documented management system. Farm and Tracts should be established with the FSA before you start planning with an NRCS planner.

### **Stewardship Threshold Eligibility–**

1. **At least 2 resource concerns must currently be managed on each of the land uses** present on the properties under the operation of the applicant at the time of CSP contract offer.
2. **Applicant must maintain that same level of conservation through all five years of the contract on each land use.** Land uses cannot be converted to other land uses during the contract period. For example, if a perennial hayed system was to be tilled into another crop during the contract, this would result in termination of the contract since that is a land use conversion and this creates potential resource concerns and does not have the same stewardship thresholds as the former land use at the time of application.
3. **An applicant is required to implement a practice or enhancement that will result in them “meeting” or “exceeding” quality criteria on at least one resource concern per land use.** More can be done, but that is the minimum to be considered for CSP. Doing more improves the chances of the application being selected for funding.

## Current NRCS Priority Resource Concerns for the CSP

**If your application identifies the following resource concerns and you wish to address them through selected practices or enhancements, then this makes your application for funding more competitive in our state this federal fiscal year.**

- Degraded plant condition
- Pest pressure
- Inefficient energy use
- Livestock production limitation
- Field pesticide loss
- Field sediment, nutrient and pathogen loss
- Soil quality limitation
- Terrestrial habitat

# CSP Eligibility, Funding Priorities, & Popular Practices/Enhancements

## Popular Practices in CSP

- 328- Conservation Crop Rotation
- 340- Cover Crop
- 528- Prescribed Grazing
- 590- Nutrient Management
- 640- Wildlife Habitat Improvement
- 666- Forest stand improvement

## Popular Enhancements in CSP

- E327A- Conservation cover for pollinators and beneficial insects
- E328- Soil health crop rotation
- E340B- Intensive cover cropping to increase soil health and soil organic matter content
- E391A- Increase riparian forest buffer width for sediment and nutrient reduction
- E420A- Establish pollinator habitat
- E472A- Manage livestock access to waterbodies to reduce nutrients or pathogens to surface water
- E512A- Cropland conversion to grass-based agriculture to reduce soil erosion
- E612D- Plant food-producing trees and shrubs to existing plantings
- E612E- Cultural plantings

## Key Insights into Conservation Planning

- In 1947, Hugh Hammond Bennett identified the principles of conservation planning in his text, “*Elements of Soil Conservation.*”

According to Bennett, an effective conservation planner must adhere to the following principles:

- Consider the needs and capabilities of each acre within the plan
  - Consider the farmer’s facilities, machinery, and economic situation
  - Incorporate the farmer’s willingness to try new practices
  - Consider the land’s relationship to the entire farm, ranch, or watershed
  - Ensure the conservationist’s presence out on the land
- Conservation planning is a natural resource problem solving and management process, which integrates economic, social, and ecological considerations to meet private and public needs.
  - Planning involves more than just considering individual resources. It focuses on the natural systems and ecological processes that sustain the resources.
  - This process considers people and the resources they use or manage and enables clients and planners to analyze and work with complex natural processes in definable and measurable terms through a “nine step, three phase framework.”
  - Conservation planning helps clients, planners, and others view the environment as a living system of which humans are an integral part.
  - Conservation planning emphasizes desired future conditions by and for a client in an individual conservation plan. But it can also entail areawide conservation plan or assessment that encompasses a watershed or other defined area and includes a client and multiple stakeholders.
  - Conservation planners strive to balance natural resource issues with economic and social needs through the development of resource management systems (RMS). This type of planning is complex and dynamic.
  - The planning process is based on the premise that clients will make and implement sound decisions if they understand their resources and the effects of their decisions, as well as natural resource problems and opportunities present on the land. This approach helps improve natural resource management, minimize conflict, and address problems and opportunities.
  - Successful planning requires not only a high level of knowledge, skills, and abilities on the part of the planner, but also the exercise of professional judgment.
  - Ultimately, the success of the conservation planning and implementation process as a whole depends on the voluntary participation of clients.



## Conservation Planning Glossary

- **Conservation planning** - Conservation planning is a natural resource problem solving and management process. The process integrates economic, social (cultural resources are included with social), and ecological considerations to meet private and public needs. This approach, which emphasizes desired future conditions, helps improve natural resource management, minimize conflict, and address problems and opportunities.
- **Conservation plan** - A conservation plan identifies the customer's conservation objectives and assesses and analyzes the natural resources issues on that customer's land related to soil, water, animals, plants, air, energy, and human interaction. The plan offers alternatives, documents decisions, records progress and tracks successful completion of conservation practices and systems. It helps provide guidance and direction for continued maintenance of conservation systems once established. The conservation plan includes tools and resources customized specifically for each customer, like a land use map, soils information, photos, inventory of resources, economic costs and benefits, schedule of recommended practices, maintenance schedules, and engineering notes — all based on the producer's goals and the resource needs. The plan is written in a clear, step-by-step format that meets each individual customer's needs. Customers choose options that suit their circumstances and time schedule. The conservation planning process is a collaboration between the conservation planner and the customer. Conservation planners are there every step of the way to assist customers with implementation as needed.
- **Land use** - Cropland, forestland, pastureland, and rangeland comprise the major land uses in the United States and the land uses receiving the majority of the conservation treatment that address our soil, water, air, plant, and animal resources.
- **Land use modifier** - Modifiers provide another level of specificity and help denote what the land is managed for. The modifiers are: Irrigated, Wildlife, Grazed, Drained, Organic, Water Feature, Protected, Hayed, Urban.
- **Conservation or land management unit (CMU/LMU)** - A field, group of fields, or other land units of the same land use and having similar treatment needs and planned management. A CMU is a grouping by the planner to simplify planning activities and facilitate development of conservation management systems.
- **Resource concern** - A resource concern is the resource condition that does not meet minimum acceptable condition levels as established by resource planning criteria shown in a state's [Field Office Technical Guide \(FOTG\)](#), Section III. This implies an expected degradation of [the soil, water, air, plant, animal, or energy \(i.e. "SWAPA + HE"\) resource base](#) to the extent that the sustainability or intended use of the resource is impaired.
- **Technical guides** - Technical guides are the primary scientific references for the NRCS. They contain technical information about the conservation of soil, water, air, and related plant and animal resources in the FOTG for each state.
- **Planning / quality criteria** – Planning / quality criteria are quantitative or qualitative statements of the minimum level of treatment required to address a given resource concern. Planning criteria are established for all NRCS resource concerns and may be assessed using specific tools and technical guides or through client input and planner observation as listed in this document.
- **Conservation practice standard (i.e. conservation practice, practice, best management practice, BMP, conservation activity, project)** - A conservation practice standard contains information on why and where the practice is applied, and it sets forth the minimum quality criteria that must be met during the application of that practice in order for it to achieve its intended purpose(s). See the list below of conservation practices NRCS recognizes nationwide. Each standard is adapted on a state level.
- **Enhancement** – An enhancement is a conservation activity used to treat natural resources and improve conservation performance. Enhancements are designed to maintain or exceed the quality criteria, or stewardship level, for the resource concern
- **Bundle** - CSP applicants who want to increase their conservation stewardship even further may consider "bundles" of enhancement activities. Some enhancements work together to provide increased conservation benefits when they are implemented as a group. Producers may consider adopting these enhancement groups or "bundles" on their operation. Each bundle has three or more required enhancements, and for some bundles, the applicant has the option to pick additional enhancements from a select list that addresses specific resource concerns. Bundles have enhancements grouped according to land use – crop, pasture, range and forest, as well as agency initiatives such as Long Leaf Pine, Mississippi River Basin, Buffers, and Working Lands for Wildlife. Bundles receive a higher level of financial assistance to encourage the holistic approach to generate additional conservation benefits.

## CSP Conservation Practices

For example cost estimates affiliated with each practice scenario, see pages 192-1053 [in this document](#) and chose most applicable.

## [Land Use](#)\* that Conservation Practice Applies to

\*Click the link above to learn about different land use definitions in NRCS

## Fiscal Year '22\* Payment Rates

\*Rates will change after 10/1/22

P Code	Practice Name	Crop (Annual & Mixed)	Crop (Perennial)	Pasture	Range	Forest	Associated Ag Land	Farmstead	Units	Lifespan	Non-Historically Underserved	Historically Underserved
311	<a href="#">Alley Cropping</a>	X	X						ac	15	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
314	<a href="#">Brush Management</a>			X	X	X	X		ac	10	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
315	<a href="#">Herbaceous Weed Treatment</a>			X	X	X	X	X	ac	5	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
319	<a href="#">On-Farm Secondary Containment Facility</a>	X	X	X	X	X	X	X	no	15	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
324	<a href="#">Deep Tillage</a>	X	X						ac	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
327	<a href="#">Conservation Cover</a>	X	X			X	X	X	ac	5	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
328	<a href="#">Conservation Crop Rotation</a>	X							ac	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
329	<a href="#">Residue and Tillage Management, No Till</a>	X							ac	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
333	<a href="#">Amending Soils with Gypsum Products</a>	X	X						ac	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
334	<a href="#">Controlled Traffic Farming</a>	X	X						ac	5	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
338	<a href="#">Prescribed Burning</a>			X	X	X	X		ac	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
340	<a href="#">Cover Crop</a>	X	X						ac	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
342	<a href="#">Critical Area Planting</a>	X	X	X	X	X	X	X	ac	10	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
345	<a href="#">Residue and Tillage management, Reduced till</a>	X							ac	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
348	<a href="#">Dam, Diversion</a>	X	X			X	X	X	no	15	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
373	<a href="#">Dust Control on Unpaved Roads and Surfaces</a>	X	X	X	X	X	X	X	sq ft	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
374	<a href="#">Energy Efficient Agricultural Operation</a>	X	X	X		X	X	X	no	10	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
376	<a href="#">Field Operation Emissions Reduction</a>	X	X						ac	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
378	<a href="#">Pond</a>			X	X				no	20	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
380	<a href="#">Windbreak/Shelterbelt Establishment</a>	X	X	X	X		X	X	ft	15	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
381	<a href="#">Silvopasture Establishment</a>			X			X		ac	15	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
382	<a href="#">Fence</a>	X	X	X	X	X	X	X	ft	20	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
383	<a href="#">Fuel Break</a>	X	X	X	X	X	X	X	ac	10	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
384	<a href="#">Woody Residue Treatment</a>					X	X		ac	10	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
386	<a href="#">Field Border</a>	X	X				X		ac	10	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
390	<a href="#">Riparian Herbaceous Cover</a>	X	X	X	X		X	X	ac	5	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
391	<a href="#">Riparian Forest Buffer</a>	X	X	X	X	X	X	X	ac	15	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
393	<a href="#">Filter Strip</a>	X	X				X	X	ac	10	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
394	<a href="#">Firebreak</a>	X	X	X	X	X	X	X	ft	5	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
395	<a href="#">Stream Habitat Improvement and Management</a>	X	X	X	X	X	X	X	ac	5	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
396	<a href="#">Aquatic Organism Passage</a>	X	X		X	X	X	X	mi	5	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
399	<a href="#">Fishpond Management</a>	X	X	X	X	X	X	X	no	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
410	<a href="#">Grade Stabilization Structure</a>	X	X	X	X	X	X		no	15	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
412	<a href="#">Grassed Waterway</a>	X	X	X			X	X	ac	10	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
420	<a href="#">Wildlife Habitat Planting</a>	X	X	X	X	X	X	X	ac	5	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
422	<a href="#">Hedgerow</a>	X	X				X		ft	15	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
430	<a href="#">Irrigation Pipeline</a>	X	X	X		X	X	X	ft	20	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
441	<a href="#">Irrigation System, Microirrigation</a>	X	X			X	X	X	ac	15	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
442	<a href="#">Sprinkler system</a>	X	X	X		X	X	X	ac	15	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
443	<a href="#">Irrigation System, Surface and Subsurface</a>	X	X	X					ac	15	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>

447	<a href="#">Irrigation System, Tailwater Recovery</a>	X	X	X					no	15	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
449	<a href="#">Irrigation Water Management</a>	X	X	X		X	X	X	ac	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
462	<a href="#">Precision Land Forming</a>	X	X				X		ac	10	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
464	<a href="#">Irrigation Land Leveling</a>	X							ac	15	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
466	<a href="#">Land Smoothing</a>	X	X			X	X		ac	10	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
472	<a href="#">Access Control</a>	X	X	X	X	X	X	X	ac	10	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
484	<a href="#">Mulching</a>	X	X	X	X	X	X	X	ac	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
490	<a href="#">Tree/Shrub Site Preparation</a>	X	X	X	X	X	X	X	ac	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
511	<a href="#">Forage Harvest Management</a>	X	X	X					ac	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
512	<a href="#">Forage and Biomass Planting</a>	X	X	X			X	X	ac	5	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
516	<a href="#">Livestock Pipeline</a>	X	X	X	X	X	X	X	ft	20	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
528	<a href="#">Prescribed Grazing</a>	X	X	X	X	X	X		ac	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
533	<a href="#">Pumping Plant</a>	X	X	X	X	X	X	X	no	15	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
550	<a href="#">Range Planting</a>	X	X		X	X			ac	5	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
554	<a href="#">Drainage Water Management</a>	X	X				X		ac	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
557	<a href="#">Row Arrangement</a>	X	X						ac	5	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
558	<a href="#">Roof Runoff Structure</a>						X	X	no	15	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
561	<a href="#">Heavy Use Area Protection</a>			X	X	X	X	X	sq ft	10	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
570	<a href="#">Stormwater Runoff Control</a>	X	X	X	X	X	X	X	no	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
574	<a href="#">Spring Development</a>			X	X		X		no	20	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
576	<a href="#">Livestock Shelter Structure</a>			X	X		X		no	10	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
578	<a href="#">Stream Crossing</a>	X	X	X	X	X	X	X	no	10	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
580	<a href="#">Streambank and Shoreline Protection</a>	X	X	X	X	X	X	X	ft	20	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
587	<a href="#">Structure for Water Control</a>	X							no	20	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
590	<a href="#">Nutrient Management</a>	X	X	X					ac	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
595	<a href="#">Pest Management Conservation System</a>	X	X	X	X	X		X	ac	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
604	<a href="#">Saturated Buffer</a>	X	X				X		ft	15	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
605	<a href="#">Denitrifying Bioreactor</a>	X	X				X		no	10	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
606	<a href="#">Subsurface Drain</a>	X	X	X	X	X	X		ft	20	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
610	<a href="#">Salinity and Sodic Soil Management</a>	X	X				X		ac	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
612	<a href="#">Tree/Shrub Establishment</a>	X	X	X	X	X	X	X	ac	15	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
614	<a href="#">Watering Facility</a>			X	X	X	X		no	10	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
620	<a href="#">Underground Outlet</a>	X	X	X	X	X	X	X	ft	20	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
643	<a href="#">Restoration of Rare and Declining Habitats</a>				X	X	X		ac	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
644	<a href="#">Wetland Wildlife Habitat Management</a>	X	X	X	X	X	X	X	ac	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
645	<a href="#">Upland Wildlife Habitat Management</a>	X	X	X	X	X	X	X	ac	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
646	<a href="#">Shallow Water Development and Management</a>	X	X	X		X	X		ac	5	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
647	<a href="#">Early Successional Habitat Development/Management</a>	X	X	X	X	X	X	X	ac	1	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
649	<a href="#">Structures for Wildlife</a>	X	X	X	X	X	X	X	no	5	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
650	<a href="#">Windbreak/Shelterbelt Renovation</a>	X	X	X	X		X	X	ft	15	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
654	<a href="#">Road/Trail/Landing Closure and Treatment</a>	X	X	X	X	X	X	X	ft	10	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
655	<a href="#">Forest Trails and Landings</a>					X			ft	5	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
660	<a href="#">Tree/Shrub Pruning</a>	X	X	X	X	X	X	X	ac	10	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
666	<a href="#">Forest Stand Improvement</a>					X	X	X	ac	10	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>
782	<a href="#">Phosphorus Removal System</a>	X	X				X		no	10	Pg 1-21 <a href="#">click here</a>	Pg 1-21 <a href="#">click here</a>

<p align="center"><b>CSP Enhancements</b></p> <p align="center"><i>For example cost estimates affiliated with each enhancement scenario, see pages 1097-1281 <a href="#">in this document</a> and chose ones most applicable to your interests.</i></p>			<p align="center"><b>Resource Concern(s) Addressed</b></p> <p align="center"><i>To learn more about the "SWAPA+HE" resource concerns <a href="#">click here</a></i></p>		<p align="center"><b>Land Use* Enhancement Applies</b></p> <p align="center"><i>*Click the link above to learn about different land use definitions in NRCS</i></p>							<p align="center"><b>Fiscal Year '22* CSP Payment Rates</b></p> <p align="center"><i>*Rates will change after 10/1/22</i></p>				
E Code	Enhancement Name	Enhancement Description	Resource Concern Category It Addresses	Resource Concern Cause It Addresses	C (A & M)	C (P)	P	R	FO	AA	FA	Units	Non-HU	HU	Life-span	Max years contracted
E314A	<b>Brush management to improve wildlife habitat</b>	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.	PLANTS; ANIMALS	Plant Structure and Composition, Plant Pest Pressure; Terrestrial Habitat for Wildlife and Invertebrates			X	X	X	X		acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	10	5
E315A	<b>Herbaceous weed treatment to create desired plant communities consistent with the ecological site</b>	Mechanical, chemical, or biological, herbaceous weed treatment will be used to control targeted, herbaceous weeds to create, release, or restore desired plant communities that are consistent with achievable, ecological site, steady state descriptions.	PLANTS	Plant Productivity and Health, Plant Structure and Composition, Plant Pest Pressure			X	X	X	X		acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	5	5
E327A	<b>Conservation cover for pollinators and beneficial insects</b>	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.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X			X	X	X	acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	5	1
E327B	<b>Establish Monarch butterfly habitat</b>	Seed or plug milkweed (Asclepias spp.), and high-value monarch butterfly nectar plants on marginal cropland, field borders, contour buffer strips, and similar areas.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X				X	X	acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	5	1
E328A	<b>Resource conserving crop rotation</b>	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.	SOIL; PLANTS	Sheet and Rill Erosion; Wind Erosion; Organic Matter Depletion; Compaction; Plant Pest Pressure; Soil Organism Habitat Loss or Degradation; Aggregate Instability		X						acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	5
E328B	<b>Improved resource conserving crop rotation</b>	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.	PLANTS	Sheet and Rill Erosion; Wind Erosion; Organic Matter Depletion; Compaction; Plant Pest Pressure; Soil Organism Habitat Loss or Degradation; Aggregate Instability	X							acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	5
E328C	<b>Conservation crop rotation on recently</b>	Implement a crop rotation management system on crop land acres that have recently converted from CRP grass/legume conservation	SOIL	Sheet and Rill Erosion, Wind Erosion	X							acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	5



E328J	<b>Improved crop rotation to provide benefits to pollinators</b>	Improve the existing crop rotation by adding pollinator friendly crops into the rotation. The crop rotation shall include a minimum of three different crops in a minimum five year crop rotation. Each year, the pollinator friendly crop will be planted on a minimum of 5% of cropland acres contained within the agricultural operation. Use of insecticides is limited for the pollinator friendly crop.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E328K	<b>Multiple crop types to benefit wildlife</b>	Alternating crops in a systematic arrangement of strips across a field to provide diverse rotations of crops that provide wildlife food. At least two crops will be planted in adjacent strips a minimum of 0.5 acres in size.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E328L	<b>Leaving tall crop residue for wildlife</b>	Fields may be harvested but must leave crop residue standing a minimum of 14 inches. Residue will be left through winter and into spring, providing valuable winter cover and forage for wildlife spanning late summer and through the following winter.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E328M	<b>Diversify crop rotation with canola or sunflower to benefit pollinators</b>	Add canola or sunflower to existing crop rotation on minimum of 5% of cropland acres each year. No systemic pesticides allowed. Only pesticide application on canola or sunflower during pre-bloom and bloom following integrated pest management and industry best management practices.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E328N	<b>Intercropping to improve soil health</b>	This enhancement involves the use of intercropping principles (i.e., growing two or more crops in close proximity to each other during part or all of their life cycles) to promote interactions that improve soil health, plant health, reduce inputs via increased biodiversity and contribute to pest management. This enhancement cannot be used for annual hay or silage crops. It is for grain/seed/vegetable production only.	SOIL	Soil Quality Limitations	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E328O	<b>Perennial grain crop conservation rotation</b>	Establish a perennial grain crop as part of a rotation with two other crops. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plant pest pressures.	Soil, Plants	Sheet and Rill Erosion; Wind Erosion; Organic Matter Depletion; Compaction; Plant Pest Pressure; Soil Organism Habitat Loss or Degradation; Aggregate Instability	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E329A	<b>No till to reduce soil erosion</b>	Establish no till system to reduce sheet and rill and wind erosion soil loss. Field(s) must have a soil loss at or below the soil tolerance (T) level for water and 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.	SOIL	Sheet and Rill Erosion; Wind Erosion	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E329B	<b>No till to reduce tillage induced particulate matter</b>	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.	AIR	Emissions of Particulate Matter (PM) and PM Precursors	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E329C	<b>No till to increase plant-available moisture</b>	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.	WATER	Inefficient Irrigation Water Use; Naturally Available Moisture Use	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E329D	<b>No till system to increase soil health</b>	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	SOIL	Organic Matter Depletion; Soil Organism Habitat Loss	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5

	<b>and soil organic matter content</b>	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.		or Degradation; Aggregate Instability															
E329E	<b>No till to reduce energy</b>	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.	ENERGY	Energy Efficiency of Farming/Ranching Practices and Field Operations	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E334A	<b>Controlled traffic farming to reduce compaction</b>	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.	SOIL	Compaction	X	X							acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1		
E338A	<b>Strategically planned, patch burning for grazing distribution and wildlife habitat</b>	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.	PLANTS	Plant Pest Pressure, Wildfire Hazard from Biomass Accumulation			X	X	X				acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E338B	<b>Short-interval burns to promote a healthy herbaceous plant community</b>	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.	PLANTS, ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates; Feed and Forage Imbalance					X				acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E338C	<b>Sequential patch burning</b>	Conduct prescribed burning beneath a forest canopy (ground fire), 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 and oak-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 or shortleaf pine, or pine-oak forest, can support a wide array of wildlife including pollinators and several endangered or threatened species.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates					X				acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E340A	<b>Cover crop to reduce soil erosion</b>	Cover crop added to current crop rotation to reduce soil erosion from water and wind 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.	SOIL	Sheet and Rill Erosion; Wind Erosion	X	X							acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E340B	<b>Intensive cover cropping to increase</b>	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	SOIL	Organic Matter Depletion; Soil Organism Habitat Loss	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		

	<b>soil health and soil organic matter content</b>	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.		or Degradation; Aggregate Instability															
E340C	<b>Use of multi-species cover crops to improve soil health and increase soil organic matter</b>	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).	SOIL	Organic Matter Depletion; Soil Organism Habitat Loss or Degradation; Aggregate Instability	X	X							acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E340D	<b>Intensive orchard/vineyard floor cover cropping to increase soil health</b>	Implement orchard or vineyard floor cover crops. Cover crop shall not be harvested, grazed, or burned. Must achieve a soil conditioning index of zero or higher and produce a positive trend in the Organic Matter subfactor over the life of the rotation.	SOIL	Organic Matter Depletion; Soil Organism Habitat Loss or Degradation; Aggregate Instability		X							acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E340E	<b>Use of soil health assessment to assist with development of cover crop mix to improve soil health</b>	Soil health assessment (year 1) to evaluate current crop rotation in addressing soil organic matter depletion. Results are utilized to select a multi-species cover crop mix to add to the current crop rotation. Follow up assessment completed (year 3).	SOIL	Organic Matter Depletion; Soil Organism Habitat Loss or Degradation; Aggregate Instability	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E340F	<b>Cover crop to minimize soil compaction</b>	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.	SOIL	Compaction	X	X							acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E340G	<b>Cover crop to reduce water quality degradation by utilizing excess soil nutrients</b>	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.	WATER	Nutrients Transported to Surface Water; Nutrients Transported to Groundwater	X	X							acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E340H	<b>Cover crop to suppress excessive weed pressures and break pest cycles</b>	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.	PLANT	Plant Pest Pressure	X	X							acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E340I	<b>Using cover crops for biological strip till</b>	Establish alternating strips of cover crops in which one strip acts as a biological strip-tiller and the adjacent strip promotes soil health with high residue cover crops. This will facilitate planting of the subsequent cash crop into the biologically strip-tilled row without the need for mechanical disturbance.	SOIL	Compaction	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E345A	<b>Reduced tillage to reduce soil erosion</b>	Establish a reduced tillage system to reduce soil loss. Field(s) must have a soil loss at or below the soil tolerance (T) level for water and wind 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.	SOIL	Sheet and Rill Erosion; Wind Erosion	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E345B	<b>Reduced tillage to reduce tillage induced particulate matter</b>	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.	AIR	Emissions of Particulate Matter (PM) and PM Precursors	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		

E345C	<b>Reduced tillage to increase plant-available moisture</b>	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.	WATER	Inefficient Irrigation Water Use; Naturally Available Moisture Use	X								acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	5
E345D	<b>Reduced tillage to increase soil health and soil organic matter content</b>	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.	SOIL	Organic Matter Depletion; Soil Organism Habitat Loss or Degradation; Aggregate Instability	X								acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	5
E345E	<b>Reduced tillage to reduce energy use</b>	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.	ENERGY	Energy Efficiency of Farming/Ranching Practices and Field Operations	X								acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	5
E373A	<b>Dust suppressant re-application for stabilization</b>	Limit dust emissions by maintaining the surfaces of unpaved roads and areas in a stabilized condition. The periodic re-application of dust suppressants to unpaved surface areas will limit dust generation from vehicle and machinery activities or wind action.	AIR	Emissions of Particulate Matter (PM) and PM Precursors						X	X		sq ft	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	5
E374A	<b>Install variable frequency drive(s) on pump(s)</b>	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.	ENERGY	Energy Efficiency of Farming/Ranching Practices and Field Operations	X	X	X			X	X		no	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	10	1
E374B	<b>Switch fuel source for pump motor(s)</b>	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)	ENERGY	Energy Efficiency of Farming/Ranching Practices and Field Operations	X	X	X			X	X		no	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	10	1
E376A	<b>Modify field operations to reduce particulate matter</b>	Modify tillage and/or harvest operations to reduce particulates by at least 20 percent below the required levels.	AIR	Emissions of Particulate Matter (PM) and PM Precursors	X	X							acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	5
E381A	<b>Silvopasture to improve wildlife habitat</b>	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.	PLANTS, ANIMALS	Plant Structure and Composition, Plant Productivity and Health, Terrestrial Habitat for Wildlife and Invertebrates, Aquatic Habitat for Fish and other Organisms			X		X	X			acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	15	1
E382A	<b>Incorporating "wildlife friendly" fencing for connectivity of wildlife food resources</b>	Retrofitting or constructing fences that provide a means to control movement of animals, people, and vehicles, but minimizes wildlife movement impacts.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates			X	X	X	X			ft	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	20	1
E382B	<b>Installing electrical fence offsets and wire to facilitate cross-fencing for improved grazing management</b>	Retrofitting conventional fences such as barb wire, with new electrical offsets and electrical wire to facilitate cross-fencing for improved grazing management.	SOIL	Plant productivity and Health, Plant Structure and Composition			X	X					ft	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	20	1

E383A	<b>Grazing-maintained fuel break to reduce the risk of fire</b>	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.	PLANT	Wildfire Hazard from Biomass Accumulation						X	X			acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1
E384A	<b>Biochar production from woody residue</b>	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.	PLANT, SOIL	Wildfire Hazard from Biomass Accumulation, Organic Matter Depletion						X	X			acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1
E386A	<b>Enhanced field borders to reduce soil erosion along the edge(s) of a field</b>	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.	SOIL	Sheet and Rill Erosion; Wind Erosion	X	X						X		acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1
E386B	<b>Enhanced field borders to increase carbon storage along the edge(s) of the field</b>	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.	SOIL	Organic Matter Depletion; Soil Organism Habitat Loss or Degradation; Aggregate Instability	X	X						X		acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1
E386C	<b>Enhanced field borders to decrease particulate emissions along the edge(s) of the field</b>	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.	AIR	Emissions of Particulate Matter (PM) and PM Precursors	X	X						X		acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1
E386D	<b>Enhanced field borders to increase food for pollinators along the edge(s) of a field</b>	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.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X						X		acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1
E386E	<b>Enhanced field borders to increase wildlife food and habitat along the edge(s) of a field</b>	Enhance existing field borders to a width of at least 40 feet and establish a mixture of species that provide wildlife food and habitat along the edge(s) of the field. The extended field border will also provide enhanced wildlife habitat continuity.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X						X		acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1
E390A	<b>Increase riparian herbaceous cover width for sediment and nutrient reduction</b>	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 and nutrient removal from surface and subsurface flows.	WATER	Nutrients Transported to Surface Water; Sediment Transported to Surface Water	X	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1
E390B	<b>Increase riparian herbaceous cover width to enhance wildlife habitat</b>	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.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X	X	X				X	X	acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1
E391A	<b>Increase riparian forest buffer width for sediment and nutrient reduction</b>	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 and nutrient removal from surface and subsurface flows.	WATER	Nutrients Transported to Surface Water; Sediment Transported to Surface Water	X	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	15	1
E391B	<b>Increase stream shading for stream temperature reduction</b>	Riparian area tree canopy cover density is increased and the extent of the forested riparian area is increased to provide greater stream shading.	WATER	Elevated Water Temperature	X	X	X	X	X	X	X	X	X	acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	15	1
E391C	<b>Increase riparian forest buffer width to enhance wildlife habitat</b>	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.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X	X	X				X	X	acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	15	1

E393A	<b>Extend existing filter strip to reduce water quality impacts</b>	Extend existing filter strips for water quality protection. 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.	WATER	Nutrients Transported to Surface Water; Pathogens and Chemicals from Manure, Bio-solids or Compost Applications Transported to Surface Water	X	X							acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1
E395A	<b>Stream habitat improvement through placement of woody biomass</b>	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.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X	X	X	X	X			acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1
E399A	<b>Fishpond management for native aquatic and terrestrial species</b>	Pond rehabilitation, buffer, and watershed management actions are taken to improve habitat for native species of fish, amphibians, and shorebirds.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X	X	X	X	X	X		acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E412A	<b>Enhance a grassed waterway</b>	Enhance grassed waterways for water quality protection (reduce excess sediment in surface waters). This is done by either changing the waterway size, protecting the current waterway, or improving the infiltration of the watershed of the grassed waterway to protect the waterway.	WATER	Sediment Transported to Surface Water	X	X							acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1
E420A	<b>Establish pollinator habitat</b>	Seed or plug nectar and pollen producing plants to establish or improve pollinator habitat. These areas may include, but are not limited to, field borders, vegetative barriers, contour buffer strips, shelterbelts, hedgerows, windbreaks, conservation cover, and riparian forest and herbaceous buffers.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X			X	X	X		acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1
E420B	<b>Establish monarch butterfly habitat</b>	Seed or plug milkweed (Asclepias spp.) and high-value monarch butterfly nectar plants to establish or improve monarch habitat. These areas may include, but are not limited to, field borders, vegetative barriers, contour buffer strips, shelterbelts, hedgerows, windbreaks, conservation cover, and riparian forest and herbaceous buffers.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X				X	X		acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1
E447A	<b>Advanced Tailwater Recovery</b>	This enhancement is for a recovery system that capture 100% of excess irrigation and drainage runoff water from the contiguous land where the activity is implemented. Runoff water is conveyed through properly designed recovery ditches to a storage structure. Each recovery ditch and storage structure must have adequate capacity to store excess irrigation water and reasonable runoff water. The system shall be designed to incorporate the collected water back into the delivery system so that excess water is reused. The system is fully automated to operate the recovery pumps, valves, and collection system. Key elements in the system are sensors that can evaluate data and operate devices through the system in opening/closing or on /off based on scientifically determined parameters.	WATER	Inefficient Irrigation Water Use	X	X	X						No	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	1
E449A	<b>Complete pumping plant evaluation for water savings</b>	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.	WATER; ENERGY	Inefficient Irrigation Water Use; Energy Efficiency of Farming/Ranching Practices and Field Operations	X	X	X				X	X	acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	1
E449B	<b>Alternated Wetting and Drying (AWD) of rice fields</b>	Rice fields are drained and allowed to "dry down" to a saturated soil condition prior to re-flooding the field. System is installed in year 1 with Scenario E449D and this scenario used in years 2-5.	WATER	Inefficient Irrigation Water Use	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E449C	<b>Advanced Automated IWM – Year 2-5, soil moisture monitoring</b>	Advanced automated irrigation water management using soil moisture or water level monitoring (installed as per IWM plan) with data loggers.	WATER	Inefficient Irrigation Water Use	X	X	X						acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5

E449D	<b>Advanced Automated IWM – Year 1, Equipment and soil moisture or water level monitoring</b>	Installing and monitoring soil moisture or water leveling equipment for advanced automated irrigation water management	WATER	Inefficient Irrigation Water Use	X	X	X							acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	1
E449E	<b>Convert from Cascade to Furrow Irrigated Rice Production – reduce irrigation water consumption</b>	Field currently flooded through a cascade levee system will be converted to furrow irrigation.	WATER	Inefficient Irrigation Water Use	X									acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	5
E449F	<b>Intermediate IWM— Year 1, Equipment with Soil or Water Level monitoring</b>	This activity involves monitoring soil moisture or water levels within a irrigated field for intermediate irrigation water management include installation of equipment year 1.	WATER	Inefficient Irrigation Water Use	X	X	X							acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	1
E449G	<b>Intermediate IWM— Years 2-5, Soil or Water Level monitoring</b>	Field currently flooded through a cascade levee system will be converted to furrow irrigation. It is required that field is leveled on the lower end and approximately 25% up the sides for furrow irrigation prior to implementing the enhancement. After the previous year’s crop is harvested, elevated planting beds and furrows will be reshaped as needed to guarantee proper irrigation of the rice crop. Layflat tubing will be utilized with the correct holes or gates installed to advance water down the furrows at the appropriate rate across the length of the field as prescribed by an NRCS “PHAUCET” design, Delta Plastic® Pipe Planner® or similar.	WATER	Inefficient Irrigation Water Use	X	X	X							acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	5
E449H	<b>Intermediate IWM— Years 2 -5, using soil moisture or water level monitoring</b>	Monitoring soil moisture or water levels within an irrigated field for implementing an intermediate irrigation water management plan using soil moisture data to facilitate management decisions.	WATER	Inefficient Irrigation Water Use	X	X								acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	5
E449I	<b>IWM - Year 1, Retrofit Equipment with Speed Control on Sprinkler Irrigation System</b>	This enhancement consists of retrofitting an existing sprinkler irrigation system to integrate variable rate irrigation (VRI) speed control where the technology is not present. The added functionality of VRI speed control equipment allows for enhanced water application precision, efficiency, and uniformity along the length of the sprinkler irrigation system by varying the irrigation system speed within the irrigation pass. Renovation of the existing sprinkler irrigation system utilizing this enhancement includes the installation of an upgraded control panel capable of speed control programming and global positioning system (GPS) technology capable of providing real-time field position. Utilization of the VRI speed control and GPS equipment will be for the entire irrigation season and be based on spatially identified parameters such as variations in past yield data, soils, crop growth, topography, or computerized irrigation scheduling recommendations. This scenario requires that the existing sprinkler irrigation system meets Conservation Practice Standard (CPS) 442 uniformity and efficiency requirements. System equipment is installed in year 1 with this scenario and scenario E449G or E449C is used in years 2-5.	WATER	Inefficient Irrigation Water Use	X	X								acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	1
E449J	<b>Intermediate IWM – 20% Reduced Water usage</b>	Intermediate irrigation water management involves monitoring soil moisture or water levels within an irrigated field by utilizing technological equipment to gather field specific data concerning weather, soil moisture or water levels throughout the irrigation season. The equipment will be utilized to log data through the season to be retrieved periodically so irrigation decisions can be made based on scientific data. Maximum time between data retrieval is weekly.	Water	Inefficient Irrigation Water Use	X	X								acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	1

		Monitoring will be for the entire irrigation season and and data gathered will be used to make sound decisions on irrigation water use. Supplemental water usage will be reduced by 20% and remain at that level for the remainder of the contract.																
E472A	<b>Manage livestock access to waterbodies to reduce nutrients or pathogens to surface water</b>	Installation of structures and implementation of grazing management actions that restrict livestock access to waterbodies in order to reduce nutrient loading or reduce the introduction of pathogens from manure, bio-solids or compost to surface waters.	WATER	Nutrients transported to surface water, Pathogens and chemicals from manure, bio-solids or compost applications transported to surface water	X	X	X	X	X	X	X	ft.	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1		
E484A	<b>Mulching to improve soil health</b>	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.	SOIL	Organic Matter Depletion; Soil Organism Habitat Loss or Degradation; Aggregate Instability	X							acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E484B	<b>Reduce particulate matter emissions by using orchard or vineyard generated woody materials as mulch</b>	Reduce particulate matter emissions by using orchard or vineyard generated woody materials as mulch. At least 90% of all woody materials are to be used as mulch on the operation. An exception may be made when it is determined that infected material must be burned to preserve crop health.	AIR	Emissions of Particulate Matter (PM) and PM Precursors		X						acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E484C	<b>Mulching with natural materials in specialty crops for weed control</b>	Application of straw mulch or other state approved natural material (such as wood chips, compost, green chop, dry hay or sawdust) for weed control in specialty crops.	PLANTS	Plant Pest Pressure	X	X						Acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E511A	<b>Harvest of crops (hay or small grains) using measures that allow desired species to flush or escape</b>	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 for species list) Conservation measures include timing of harvest, idling land during the nesting or fawning period, and applying harvest techniques that reduce mortality to wildlife.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X	X	X				acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E511B	<b>Forage harvest management that helps maintain wildlife habitat cover, shelter or continuity</b>	The timely cutting and removal of forages from the field as hay, green chop, or ensilage in such a way, and in time frames, to optimize both forage yield/quality and wildlife cover and shelter and/or continuity between otherwise disconnected habitats.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X	X	X				acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E511C	<b>Forage testing for improved harvesting methods and hay quality</b>	Dry hay forage samples are collected and analyzed following LGU procedures. Analysis results are kept and used to improve harvest decisions to guide forage supplementation of on-farm livestock to meet nutritional needs and improve health and productivity.	ANIMALS, PLANTS	Feed and Forage, Plant Productivity and Health, Structure and Composition		X	X					each	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E511D	<b>Forage harvest management to improve terrestrial habitat for wildlife and invertebrates during critical over-winter periods</b>	Eliminate or forgo the last fall cutting of hay or haylage to optimize wildlife cover and shelter during critical over-winter periods and lengthen late season bloom period for invertebrates. Allowing late season stand maturity increases stand life and reduces risks of frost and winter damage while providing valuable wildlife habitat and extended bloom periods.	Animals	Terrestrial Habitat for Wildlife and Invertebrates		X						each	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E512A	<b>Cropland conversion to grass-based</b>	Conversion of cropped land to grass-based agriculture to reduce soil erosion. Mixtures of perennial grasses, forbs, and legume species are	SOIL	Sheet and Rill Erosion; Wind Erosion	X	X						acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1		

	<b>agriculture to reduce soil erosion</b>	established on cropland where annually-seeded cash crops have been grown.																	
E512B	<b>Forage plantings that help increase organic matter in depleted soils</b>	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.	SOIL	Sheet and Rill Erosion			X						acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1		
E512C	<b>Cropland conversion to grass for soil organic matter improvement</b>	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.	SOIL	Organic Matter Depletion; Soil Organism Habitat Loss or Degradation; Aggregate Instability	X	X							acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1		
E512D	<b>Forage plantings that help increase organic matter in depleted soils</b>	Standard (CPS) 442 uniformity and efficiency requirements. System equipment is installed in year 1	SOIL	Organic Matter Depletion	X	X	X						acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1		
E512E	<b>Forage and biomass planting that produces feedstock for biofuels or energy production.</b>	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.	PLANT	Plant Productivity and Health	X	X							acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1		
E512K	<b>Livestock forage planting that enhance wildlife habitat cover, structure and composition.</b>	Establishing adapted and/or compatible species, varieties, or cultivars of perennial, herbaceous native species into pasture that can provide the structure and composition needed to enhance livestock forage and wildlife habitat, particularly when targeted forage supply and quality, cover, and shelter are not available in other pastures.	PLANTS AND ANIMALS	Plant structure and composition, Terrestrial Habitat for Wildlife and Forage for Livestock			X			X			acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1		
E512L	<b>Diversifying forage base with interseeding forbs and legumes to increase pasture quality</b>	Establishing adapted and/or compatible species, varieties, or cultivars of perennial, herbaceous species that increases the diversity to enhance livestock, forage supply and quality not available in other pastures.	ANIMALS	Feed and Forage Imbalance			X			X			acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1		
E512M	<b>Establishing native grass or legumes to improve the plant community</b>	Establishing adapted and/or compatible species, varieties or cultivars species suitable for pasture, hay or biomass production that can provide cover and shelter or structure and composition for wildlife	PLANTS AND ANIMALS	Plant Structure and Composition, Terrestrial Habitat for Wildlife and Invertebrates			X			X			acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1		
E512I	<b>Establish pollinator and/or beneficial insect and/or monarch habitat</b>	Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species that can provide nectar for Monarch butterflies and/or 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.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates			X			X	X		acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1		
E512J	<b>Establish wildlife corridors to provide habitat continuity or access to water</b>	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.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates			X			X	X		acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1		
E528A	<b>Maintaining quantity and quality of forage for animal health and productivity</b>	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.	ANIMALS	Feed and Forage Imbalance			X	X		X			acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E528B	<b>Grazing management that improves monarch butterfly habitat</b>	Implement a grazing management plan that will increase the abundance and diversity of monarch nectar-producing perennial forbs, including milkweed, while maintaining ecosystem benefits for other wildlife and livestock.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates			X	X	X				acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		

E528C	<b>Incorporating wildlife refuge areas in contingency plans for wildlife.</b>	A prescribed grazing plan that includes 12 month (or longer) rest (non-grazing period equal or greater than one year) 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 or wildlife access to water for a period of time.	ANIMALS	Feed and Forage Imbalance, Terrestrial Habitat for Wildlife and Invertebrates			X	X				acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E528D	<b>Grazing management for improving quantity and quality of food or cover and shelter for wildlife</b>	Grazing management employed will provide the plant structure, density and diversity needed for improving the quantity and quality of cover, shelter and food for the desired wildlife species of concern.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates			X	X	X			acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E528E	<b>Improved grazing management for enhanced plant structure and composition for wildlife</b>	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.	PLANTS	Plant Structure and Composition, Terrestrial Habitat for Wildlife and Invertebrates			X	X	X	X		acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E528F	<b>Stockpiling cool season forage to improve structure and composition or plant productivity and health</b>	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.	PLANTS	Plant Productivity and Health, Plant Structure and Composition	X	X	X			X		acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E528G	<b>Improved grazing management on pasture for plant productivity and health with monitoring activities</b>	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).	PLANTS	Plant Productivity and Health			X					acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E528H	<b>Prescribed grazing to improve/maintain riparian and watershed function-elevated water temperature</b>	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.	WATER	Elevated Water Temperature			X	X	X			acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E528I	<b>Grazing management that protects sensitive areas -surface or ground water from nutrients</b>	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.	WATER	Nutrients transported to surface water, Nutrients transported to ground water			X	X				acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E528J	<b>Prescribed grazing on pastureland that improves riparian and watershed function.</b>	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.	WATER	Nutrients transported to surface water, Pathogens and chemicals from manure, bio-solids or compost applications transported to surface water, Sediment transported to surface water			X					acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E528L	<b>Prescribed grazing that improves or maintains riparian and watershed function-erosion</b>	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.	SOIL	Bank erosion from streams, shorelines or water conveyance channels			X	X	X			acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5

E528M	<b>Grazing management that protects sensitive areas from gully erosion</b>	Grazing management employed will provide vegetative cover and density needed in the watershed in order to protect sensitive areas such as sinkholes, streams, highly erodible areas, or locations that cannot tolerate plant defoliation.	SOIL	Classic Gully Erosion				X	X				acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E528N	<b>Improved grazing management through monitoring activities</b>	Three predominant key grazing areas are evaluated utilizing the Rangeland Health Assessment (where reference material is developed) or Describing Indicators of Rangeland Health protocols (where reference material is not developed) to determine how well the ecological processes of the site(s) are functioning. 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.	SOIL, WATER, PLANTS	Sheet and Rill Erosion, Wind Erosion, Classic Gully, Compaction, Aggregate Instability, Surface Water Depletion, Plant Productivity and Health, Plant Structure and Composition and Plant Pest Pressure					X				acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E528O	<b>Clipping mature forages to set back vegetative growth for improved forage quality</b>	Plant maturity is the most important factor that determines forage quality. Timely clipping through mowing, swathing or some other mechanical cutting will occur on grazing lands after plants mature. This enhancement will promote increased forage palatability by setting forages that have matured back to a vegetative state for improved grazing management and forage quality.	ANIMAL, PLANT	Feed and Forage Imbalance, Plant productivity and health				X					acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E528P	<b>Implementing Bale or Swath Grazing to increase organic matter and reduce nutrients in surface water</b>	Improve organic matter, aggregate stability and soil organism habitat in the soil by leaving the biomass harvested from the field on site for animal use, or supplementing organic matter needs with off-field forages. Grazing harvested forages in this manner, will help to incorporate organic matter, feed and diversify the soil microbiome, build better aggregation and increase soil health and critical functions such as infiltration, nutrient cycling, and weather resilience. Forages should be placed evenly throughout the field, but can be concentrated in areas where particular concerns, such as bare ground, need to be remedied. Decisions of forage placement must take into account areas that would be sensitive to such activity such as protecting surface waters from nutrients or steep slopes from erosion.	SOIL, WATER	Pathogens and chemicals from manure, bio-solids or compost applications transported to surface water, Nutrients transported to surface water, Organic Matter Depletion		X	X	X	X				acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E528Q	<b>Use of body condition scoring for livestock on a monthly basis to keep track of herd health</b>	Body condition scoring (BCS) serves as a useful management tool to monitor livestock performance with respect to current and recent feeding or grazing programs. Body condition scoring is a numeric scoring system, producers can use to consistently evaluate animals' estimated body energy reserves through degree of fatness. This information can be used to adjust nutritional strategies to reach optimal BCS. Since body condition is closely associated with reproductive performance as well as feed efficiency, monitoring body condition can help producers reach production goals and increase the operation's bottom line. Knowledge and understanding of BCS will assist producers to adjust a supplemental feeding program to maintain animal health and nutrition on a-monthly-basis.	ANIMALS	Feed and Forage Imbalance	X	X	X	X	X	X	X		acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E528R	<b>Management Intensive Rotational Grazing</b>	Management intensive, multi-paddock grazing system where livestock are regularly and systematically moved to fresh forage to optimize quantity and quality of forage growth, improve manure distribution, improve wildlife cover, and improve soil health.	PLANTS	Plant Productivity and Health, Plant Structure and Composition			X	X					acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E528S	<b>Soil Health Improvements on Pasture</b>	Use of soil health assessment to evaluate impact of planned grazing in addressing organic current conservation crop rotation in addressing soil organic matter depletion, soil organism habitat and aggregate instability. Laboratory soil health tests will be completed in year 1 and year 4 of the contract. Planned modifications to the pasture forages and/or management system will be made to the benchmark grazing	Soil Health Improvements on Pasture	Organic Matter Depletion			X						No	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5

		system to address concerns from the assessments. During sample collection, Pasture Condition Score (PSC) or Determining Indicators of Pasture Health (DIPH) assessment will be completed for the sample area.																	
E528T	<b>Grazing to Reduce Wildfire Risks on Forests</b>	Managing the harvest of vegetation with grazing and/or browsing animals for the purpose of balancing forage with maintaining ecological site conditions and while reducing the risk of wildfire hazard on western conifer forested ecological sites.	ANIMAL, PLANT	Managing plants for the purpose of reducing wildfire risks and meeting animal forage demands						X	X		acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5		
E533A	<b>Advanced Pumping Plant Automation</b>	This enhancement consists of installing a control device to a pump station that allows the user to remotely monitor and operate the pump station based on field measured data. Pumping stations may have either a combustible or electric power unit that are compatible with the control device or sensor. These devices/sensors collect field-measured data and provide this data in real time to the landowner to make irrigation decisions and adjustments to the pump operation	WATER	Inefficient Irrigation Water Use	X	X	X					No	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	1			
E533B	<b>Complete pumping plant evaluation for energy savings</b>	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.	ENERGY	Energy Efficiency of Farming/Ranching Practices and Field Operations; Energy Efficiency of Equipment and Facilities	X	X	X				X	X	acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	15	1		
E550A	<b>Range planting for increasing/maintaining organic matter</b>	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.	SOIL	Organic Matter Depletion	X	X		X	X				acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1		
E550B	<b>Range planting for improving forage, browse, or cover for wildlife</b>	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 fit within an ecological site description steady state.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X		X					acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1		
E570A	<b>Enhanced rain garden for wildlife</b>	Seed or plug nectar and pollen producing plants into rain gardens to provide wildlife habitat.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X				X	X	sq. ft.	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	1			
E578A	<b>Stream crossing elimination</b>	Existing stream crossings on an operation are consolidated into fewer crossings in order to reduce impacts to stream habitat.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X	X	X	X	X	X	no	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1			
E580A	<b>Stream corridor bank stability improvement</b>	Stream corridor bank vegetation components are established to provide additional streambank stability.	SOIL	Streambank, Shoreline, Water Conveyance Channels	X	X	X	X	X	X	X	acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	20	1			
E580B	<b>Stream corridor bank vegetation improvement</b>	Stream corridor bank vegetation components are established to improve ecosystem functioning and stability.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X	X	X	X	X	X	acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	20	1			
E590A	<b>Improving nutrient uptake efficiency and reducing risk of nutrient losses</b>	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 to surface and groundwater and reduce risks to air quality by reducing emissions of greenhouse gases (GHGs).	WATER; AIR	Nutrients Transported to Surface Water; Nutrients Transported to Ground Water; Emission of Greenhouse Gases (GHGs)	X	X						acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5			
E590B	<b>Reduce risks of nutrient loss to surface water by utilizing precision agriculture technologies</b>	Precision application technology and techniques are utilized to plan and apply nutrients to improve nutrient use efficiency and reduce risk of nutrient losses.	WATER	Nutrients Transported to Surface Water; Nutrients Transported to Ground Water	X	X						acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5			

E590C	<b>Improving nutrient uptake efficiency and reducing risk of nutrient losses on pasture</b>	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 on pasture.	WATER	Nutrients Transported to Surface Water; Nutrients Transported to Ground Water									acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	5
E590D	<b>Reduce risks of nutrient losses to surface and groundwater by increasing setback awareness via precision technology</b>	Utilize precision technology to increase Soil/Groundwater Setbacks & Associated Application Rate Restrictions (SGS&AARR) implementation during nutrient application by providing precise, real-time location information (geo-located) in the field to the equipment operator. While operating nutrient application equipment, the operator's location is continually updated and displayed on an integrated, in-cab or add-on GPS-enabled device visible to the operator at all times to reduce the risk of nutrient application in setback and/or sensitive areas. This allows the equipment operator to manually turn off or steer equipment to avoid applying nutrients in setback or sensitive areas.	WATER	Nutrients Transported to Surface Water; Nutrients Transported to Ground Water	X	X							acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	5
E595A	<b>Reduce risk of pesticides in surface water by utilizing precision pesticide application techniques</b>	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.	WATER	Pesticides Transported to Surface Water	X	X							acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	5
E595B	<b>Reduce risk of pesticides in water and air by utilizing IPM PAMS techniques</b>	Utilize integrated pest management (IPM) prevent, avoidance, monitoring, and suppression (PAMS) techniques to reduce risk of pesticides in water and air. Reduce the potential for delivery of chemicals into water or ozone precursor emissions.	WATER, AIR	Pesticides Transported to Surface Water; Emissions of Ozone Precursors Pesticides	X	X	X						acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	5
E595D	<b>Increase the size requirement of refuges planted to slow pest resistance to Bt crops</b>	Bacillus thuringiensis (Bt) plant incorporated protectants are plants that have been genetically altered to produce proteins that are harmful to certain insect pests. Widespread implementation of Bt crops has decreased insecticide use and increased crop yields, but it must be used as part of an integrated pest management (IPM) approach to protect the crop from pest species that are not susceptible to the Bt toxin and to manage pest resistance. Crop rotation, scouting and resistance management strategies, such as planting and creating refuges of non-Bt crops, are essential when farming Bt crops. Insects have developed resistance to Bt proteins. To mitigate the development of further resistance, growers are required to plant refuges of non-transgenic crops. These refuges produce numbers of susceptible insects that will help sustain populations of non-resistant insects. The size of Refuge requirement depends on the environment, pest and strain of the crop. Size of refuge is determined by resistance risk. Most Bt corn requires that 20% of the total Bt crop planted be non-Bt. Cotton can require 50% of the crop be planted to non-Bt. A recent study published in the Journal of Integrated Pest Management revealed, compliance has been a challenge. Nearly 40% of growers surveyed did not plant the required refuge (Reisig 2017). They credit non-compliance, in part, to lack of understanding by small-scale farmers about the need for refuges.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X								acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	5
E595E	<b>Eliminate use of chemical treatments to control pests and to increase the presence of dung beetles</b>	Pests and parasites can have a significant impact on the economic viability of livestock operations, by affecting the performance and health of animals. The use of broad-spectrum insecticides, pour-ons and avermectins have been shown to have a detrimental effect on dung beetle populations. Having a healthy population of dung beetles facilitates the recycling of nutrients and promotes soil and grassland	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates			X	X					acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	5

		health. By eliminating the application of broad-spectrum insecticides, pour-ons, and avermectins, including injectable avermectins, for pest control in and on livestock along with rotational grazing and higher stock densities has shown to increase the dung beetle population. Use of natural or alternative methods of pest control over multiple years is encouraged.																	
E595F	<b>Improving soil organism habitat on agricultural land</b>	To reduce or eliminate the use of neonicotinoid seed treatment in corn and soybean cropping systems to promote beneficial predatory insect populations as a means of biological pest control. Beneficial insects such as the Carabidae beetle have been found to be very important in the population control of common agricultural pests such as grey garden slug, a pest that has increasingly been an issue in no-till and heavily cover cropped fields. Slugs being mullosks, can ingest neonicotinoids with no adverse affects, while beneficial predators that may consume slugs will die as soon as they consume a slug with prior seed coat exposure.	ANIMALS	Reduce Pest Pressure, Soil Organism Habitat Loss or Degradation	X	X							acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	1	5		
E612A	<b>Cropland conversion to trees or shrubs for long term improvement of water quality</b>	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.	WATER	Sediment Transported to Surface Water	X	X							acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	15	1		
E612B	<b>Planting for high carbon sequestration rate</b>	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.	AIR	Emission of Greenhouse Gases (GHGs)	X	X	X	X	X	X	X	X	acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	15	1		
E612C	<b>Establishing tree/shrub species to restore native plant communities</b>	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.	Plants	Plant Productivity and Health; Plant Structure and Composition Terrestrial Habitat for Wildlife and Invertebrates				X	X	X		acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	15	1			
E612D	<b>Adding food-producing trees and shrubs to existing plantings</b>	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.	PLANTS	Plant Structure and Composition	X	X	X	X	X	X	X	acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	15	1			
E612E	<b>Cultural plantings</b>	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).	PLANTS	Plant Structure and Composition			X	X	X	X	X	acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	15	1			
E612F	<b>Sugarbush management</b>	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 (Acer saccharum) 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.	PLANTS	Plant Structure and Composition					X	X	X	acre	<a href="#">Pg 22-31 click here</a>	<a href="#">Pg 22-31 click here</a>	15	1			

E612G	<b>Tree/shrub planting for wildlife food</b>	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.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X	X	X	X	X	X	acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	15	1
E643A	<b>Restoration of sensitive coastal vegetative communities</b>	Enhance the level of restoration in unique and diminishing coastal ecosystems by establishing native herbaceous and woody plants. Protect established vegetation, and manage to maintain floristic quality and the provision of environmental services. This enhancement is applied on unique areas with rare and declining habitat conditions, where vegetation has been detrimentally altered by human or natural events. Targeted sites are those that formerly supported vegetative communities that are now declining and/or becoming rare. The sites will vary across the continent. The enhancement will expand and elevate the process of restoring these unique areas, increasing their ecological value and benefits to wildlife. It re-establishes a select group of trees and/or shrubs that are key components in this ecosystem.	PLANTS	Plant Structure and Composition				X	X			acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1
E643B	<b>Restoration and management of rare or declining habitat</b>	Provide protection from adverse environmental conditions to create refugia for documented occurrences of sensitive plant communities.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates					X			acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1
E643C	<b>Restore glade habitat to benefit threatened and endangered species and state species of concern</b>	Restore Glade natural communities as shown by the Ecological Site Description to conserve biodiversity. Enhancement requires reducing woody canopy cover and applying at least one prescribed fire to treated acres. Restoration of glade communities provide habitat for rare and declining species. Sites that previously or currently support the rare and declining habitat will be targeted for restoration.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates					X	X		acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1
E644A	<b>Managing Flood-Irrigated Landscapes for Wildlife</b>	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.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X	X					acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	5
E645A	<b>Reduction of attractants to human-subsidized predators in sensitive wildlife species habitat</b>	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.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X	X	X	X	X	X	No	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	1
E645B	<b>Manage existing shrub thickets to provide adequate shelter for wildlife</b>	Existing shrub thickets provide an instant and important cover for wildlife. Various wildlife species may use shrubs as winter/thermal cover, summer shade, roosting, or as escape cover from predators. Proper management ensures that these shrubs will continue to provide the desired benefits for the local wildlife. A combination of herbicide treatments, cutting and trimming branches, and removal of other competing vegetation will occur. An eligible existing shrub thicket needs to have a canopy cover of 750 square feet, with an end goal of expanding to 1500 square feet. Any existing shrub thicket (not hand planted within the last 5 years) are eligible for this enhancement. Shrub thickets found within fence rows may now be very wide, but still meet the 750 square feet, are eligible.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X	X	X	X	X	X	Acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	1

E645C	<b>Edge feathering for wildlife cover</b>	Selected trees are cut, and brush clipped along the border between a wooded area and a grassland, cropland, or idle land, creating a dense woody cover of interlocking branches at ground level. The feathered edge will be an average of 30 feet wide and a minimum of 50 feet long, resulting in an area of 1500 square feet. The width of the strip will vary to follow topographic features and to create a wavy border; the design will also consider aesthetics. Vegetative composition and cover will vary within the edge, ranging from areas with no trees and shrubs to areas with scattered trees and extensive shrub cover. The variation in vegetation structure along with variable width of the edge will create feathering. The edge may include shrub plantings for wildlife food and aesthetics.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X	X	X	X	X	X	acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	1
E645D	<b>Managing Upland Landscapes for Wildlife</b>	Developing and implementing a conservation plan that supports enhancement of uplands in key landscapes to provide important foraging, breeding or overwintering habitat for local breeding and migratory wildlife.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X	X	X	X	X	X	X	acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	1	1
E646A	<b>Close structures to capture and retain rainfall for waterfowl and wading bird winter habitat</b>	When flooded to shallow depths during fall and winter, 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.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X							acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1
E646B	<b>Extend retention of captured rainfall for migratory waterfowl and wading bird late winter habitat</b>	When flooded to shallow depths during fall and winter, agricultural fields provide ideal foraging habitat for myriad species of waterfowl and wading birds. 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. 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. Benefits may become greatest during late winter and early spring as birds are assimilating nutrient and fat reserves in preparation for northward migration. However, agricultural fields flooded during fall-winter are typically drained during late January or February in advance of spring planting. This often results in a rapid reduction in available habitat, and may constrain ability of migratory birds to adequately prepare for migration, with greatest impacts likely occurring during years of low winter precipitation. Retention of water on agricultural lands into early spring will produce maximum benefits to migratory waterfowl and shorebirds by providing high quality habitat during a time when habitat may otherwise be in low abundance.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X							acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1
E646C	<b>Manipulate vegetation and maintain closed structures for shorebirds mid-summer habitat</b>	Suitable shorebird habitat is limited during the summer and fall as birds migrate south post-breeding and providing shallow water and mud flat habitat will benefit a variety of shorebird species. Optimal conditions are created when water levels are slowly reduced through evaporation, which allows for propagation of invertebrates (typically insect larvae) used as food by shorebirds. Manipulation of vegetation, preferably through rolling, creates open conditions required by this suite of birds as a means to detect and avoid predators, and provides nutrient inputs for invertebrate production.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X							acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1
E646D	<b>Manipulate vegetation and maintain closed structures for</b>	Suitable shorebird habitat is limited during the summer and fall as birds migrate south post-breeding. Providing shallow water and mud flat habitat will benefit a variety of shorebird species. Optimal conditions are created when water levels are slowly reduced through	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X							acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1

	<b>shorebird late summer habitat</b>	evaporation, which allows for propagation of invertebrates (typically insect larvae) used as food by shorebirds. Manipulation of vegetation, preferably through rolling, creates open conditions required by this suite of birds as a means to detect and avoid predators, and provides nutrient inputs for invertebrate production.																		
E647A	<b>Manipulate vegetation on fields with captured rainfall for waterfowl &amp; wading bird winter habitat</b>	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.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1			
E647B	<b>Provide early successional shorebird habitat between first crop and ratoon crop</b>	Many declining suites of wildlife species rely on early successional habitats for at least part of their life cycle needs. Migratory shorebird species in particular rely on open, moist soil or shallowly flooded conditions for foraging and security. Rice farms support many migratory and resident water bird species. The first rice crop harvest often coincides with the arrival of early migrating shorebirds. This time of year is also the highest rainfall months. If standing rice stubble from the first crop is rolled to push above-ground stalks level with the soil surface, the first component of this type of habitat is met. When moisture is added to this situation, short-term habitat is available until the ratoon crop initiates growth to a height beyond that which would provide benefit to the early successional species.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1			
E647C	<b>Maintain most soil vegetation on cropland edges to enhance waterfowl and shorebird habitat</b>	The wetter or more water saturated portions of cropland fields such as areas adjacent to field drains, have the potential to produce a significant amount of moist soil plants which are a tremendously valuable source of forage and cover for many waterfowl, shorebird and wading bird species, especially during a period of time when such plants may be limited. Under normal cropland production, the native vegetation is restricted on these sites through mechanical and/or chemical control. These maintained moist soil plants also will provide filtering and improve water quality.	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1			
E647D	<b>Establish and maintain early successional habitat in ditches and bank borders</b>	This enhancement is to encourage the establishment of early successional, naturally occurring vegetation in ditches, side slope and bank borders to provide cover, critical nesting and brood rearing habitat as well as filtering overland flow and improving water quality. Ditches perform the critical function of removing water from agricultural lands. Allowing naturally occurring vegetation to develop along ditches, including side slopes, banks and borders, will help provide food and cover for wildlife while enhancing aquatic habitat and improving water quality. Ditches and ditch borders provide a foundation that supports a diverse wildlife community including Northern Bobwhite ( <i>Colinus virginianus</i> ) and other birds preferring early successional cover. Rabbits, furbearers, amphibians and many other species that inhabit agriculture areas will use this vegetative cover. These areas can also provide critical nesting habitat for the Mottled Duck ( <i>Anas fulvigula</i> ).	ANIMALS	Terrestrial Habitat for Wildlife and Invertebrates	X								acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	5	1			

E666A	<b>Maintaining and improving forest soil quality</b>	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.	SOIL, AIR	Organic Matter Depletion; Soil Organism Habitat Loss or Degradation; Aggregate Instability; Compaction; Emission of Greenhouse Gases (GHGs);						X			acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1
E666B	<b>Converting loblolly and slash pine plantations to longleaf pine</b>	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.	PLANT, ANIMAL, WATER	Plant Structure and Composition; Terrestrial Habitat for Wildlife and Invertebrates; Naturally Available Moisture Use;						X			acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1
E666C	<b>Implementing sustainable practices for pine straw raking</b>	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.	SOIL, ANIMAL	Organic Matter Depletion; Soil Organism Habitat Loss or Degradation; Aggregate Instability; Terrestrial Habitat for Wildlife and Invertebrates						X	X		acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1
E666D	<b>Forest management to enhance understory vegetation</b>	This enhancement provides for management of the understory vegetation in a forested area by mechanical, chemical, and/or manual methods to improve the plant species mix and the health of the residual vegetation. Managing the understory vegetation increases available water to the plants, minimizes runoff and erosion, and improves 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.	PLANT, ANIMAL, WATER	Plant Pest Pressure; Terrestrial Habitat for Wildlife and Invertebrates; Naturally Available Moisture Use; Nutrients Transported to Surface Water; Nutrients Transported to Ground Water;						X			acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1
E666E	<b>Reduce height of the forest understory to limit wildfire risk</b>	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	PLANT	Wildfire Hazard from Biomass Accumulation						X			acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1

		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.																
E666F	<b>Reduce forest stand density to create open stand structure</b>	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.	PLANT, ANIMAL	Plant Productivity and Health; Terrestrial Habitat for Wildlife and Invertebrates						X			acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1	
E666G	<b>Reduce forest density and manage understory along roads to limit wildfire risk and improve habitat</b>	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, and improves wildlife habitat and food sources for many species. Some trees near a forest road are 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. A semi-open canopy allows more sunlight to reach the forest floor to promote herbaceous understory plants, and reduces maintenance needs by allowing moisture to evaporate from roads. The reduced canopy and herbaceous understory limit woodland fuel buildup and reduce fire intensity.	PLANT, ANIMAL	Wildfire Hazard from Biomass Accumulation; Terrestrial Habitat for Wildlife and Invertebrates						X			acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1	
E666H	<b>Increase on-site carbon storage</b>	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.	SOIL, AIR	Emission of Greenhouse Gases (GHGs), Organic Matter Depletion						X	X	X	acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1	
E666I	<b>Crop tree management for mast production</b>	Forest stand improvement using crop tree management techniques to increase mast production	PLANT, ANIMAL	Plant Productivity and Health; Terrestrial Habitat for Wildlife and Invertebrates						X	X	X	acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1	
E666J	<b>Facilitating oak forest regeneration</b>	Facilitate oak regeneration following a forest stand improvement treatment for natural oak regeneration (i.e., a regeneration cut). After a regeneration cut, oaks in the seedling and sapling stages are often out-competed by invasive brush and undesirable tree and shrub species. This enhancement will release seedling and sapling oaks from competing invasive plants and other undesirable species, and thin stump sprouts. A forester will monitor site conditions, treat competition, protect seedlings, and recommend additional follow-up treatments as needed. The enhancement protects investments in oak regeneration by providing for follow-up activities that require the expertise of a professional forester.	PLANT, ANIMAL	Plant Productivity and Health; Plant Structure and Composition; Terrestrial Habitat for Wildlife and Invertebrates						X	X		acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	2	
E666K	<b>Creating structural diversity with patch openings</b>	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, increase pest resistance,	PLANT, ANIMAL	Plant Structure and Composition; Terrestrial Habitat for Wildlife and Invertebrates						X	X	X	acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1	

		and enhance wildlife food availability. Openings may provide regeneration sites and restore natural plant communities, and achieve or maintain a desired understory plant community for wildlife habitat.																	
E666L	<b>Forest Stand Improvement to rehabilitate degraded hardwood stands</b>	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).	PLANT, ANIMAL	Plant Structure and Composition, Terrestrial Habitat for Wildlife and Invertebrates						X			acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1		
E666M	<b>Maintaining structural diversity in dry Western forests</b>	This enhancement retains the beneficial effects of treatments that have been applied to restore ecological function in dry Western forests. It is implemented following a forest stand improvement treatment designed to restore variable and patchy conditions typical of benchmark ecological sites. After a restoration treatment, young trees often regenerate in numbers higher than desired, leading to increased fire risk and loss of wildlife habitat. The enhancement will address follow-up activities needed for maintaining forest structure. Site conditions will be monitored and follow-up treatments recommended as needed. The enhancement protects investments in habitat creation by providing for follow-up activities that require the expertise of a forester or wildlife biologist.	PLANT, ANIMAL	Wildfire Hazard from Biomass Accumulation, Terrestrial Habitat for Wildlife and Invertebrates						X	X		acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	5		
E666N	<b>Creating structural diversity in dry Western forests</b>	Restore natural stand structure in dry Western forests by creating openings characteristic of reference ecological site conditions in stands where even thinning treatments have already been applied to reduce wildfire risk. Thinning treatments are effective in reducing fuels, but typically do not restore forest structural diversity to emulate benchmark or reference conditions. Applying this enhancement as a follow-up treatment will create a patchy structure that provides open areas where grasses and forbs can thrive and produce wildlife food and cover. The size, shape, and arrangement of openings will be based on moisture availability and site physiography, to emulate structural conditions that would result from natural disturbance regimes of wind and/or fire.	PLANT, ANIMAL	Wildfire Hazard from Biomass Accumulation, Terrestrial Habitat for Wildlife and Invertebrates						X	X		acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1		
E666O	<b>Snags, den trees, and coarse woody debris for wildlife habitat</b>	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.	ANIMAL	Terrestrial Habitat for Wildlife and Invertebrates						X	X	X	acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1		
E666P	<b>Summer roosting habitat for native forest-dwelling bat species</b>	Create new potential roost trees within upland and riparian forests to achieve desired summer habitat for forest-dwelling bat species.	ANIMAL	Terrestrial Habitat for Wildlife and Invertebrates						X	X	X	acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1		
E666Q	<b>Increase diversity in pine plantation monocultures</b>	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.	PLANT, ANIMAL	Terrestrial Habitat for Wildlife and Invertebrates						X	X	X	acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	1		
E666R	<b>Forest songbird habitat maintenance</b>	Adopts guidelines and methods developed by the Forest Bird Initiative of the Vermont Audubon Society, to preserve habitat features following a forest stand improvement treatment designed to create habitat for a suite of forest-dwelling neotropical migratory songbirds.	ANIMAL	Terrestrial Habitat for Wildlife and Invertebrates						X	X	X	acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	5		

		It includes developing or updating a forest management plan, inspecting and tending forest habitat, and monitoring bird populations. It protects investments in habitat creation by providing for follow-up activities that require the expertise of a professional forester or biologist. This enhancement is appropriate for states in the Atlantic Flyway and the Upper Midwest.															
E666S	<b>Facilitating longleaf pine regeneration and establishment</b>	Facilitate longleaf pine regeneration and establishment following a forest stand improvement treatment for natural regeneration (e.g., a regeneration cut), or where longleaf has been previously planted. After a regeneration cut or a planting, competition from invasive brush and undesirable tree and shrub species often suppresses successful establishment of longleaf pine. This enhancement will release seedling and sapling longleaf from competing invasive plants and other undesirable species. A forester will monitor site conditions, treat competition, protect seedlings, and recommend additional follow-up treatments as needed. The enhancement protects investments in longleaf pine regeneration and establishment by providing for follow-up activities that require the expertise of a professional forester.	PLANTS, ANIMALS	Plant Productivity and Health; Plant Structure and Composition; Terrestrial Habitat for Wildlife and Invertebrates						X	X	acre	Pg 22-31 <a href="#">click here</a>	Pg 22-31 <a href="#">click here</a>	10	3	

<b>CSP Bundles</b> <i>For example cost estimates affiliated with each bundle scenario, see pages 1054–1096 <a href="#">in this document</a> and chose most applicable.</i>			<b>Land Use* that Bundle Applies</b> <i>*Click the link above to learn about different land use definitions in NRCS</i>							<b>Fiscal Year '22* Payment Rates</b> <i>*Rates will change after 10/1/22</i>				
B Code	Bundle Name	Bundle Description	C (A & M)	C (P)	P	R	FO	AA	FA	Units	Non-Historically Underserved	Historically Underserved	Life-span	Max years contract
B000BFF1	<b>Buffer Bundle#1</b>	Extend existing Buffers to address water quality degradation, fish/wildlife inadequate habitat, degraded plant condition plus an option for air quality impacts. Adopt E393A, E327A or E420A, and E612D as well as one of the following enhancements: E612B, E612G. This bundle will be applied one time and the enhancements maintained for their lifespan.	X	X				X		acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	15	1
B000CPL10	<b>YEAR 1 Irrigated Cropland (MRBI/Ogallala)</b>	Addresses water quality degradation, insufficient water, soil erosion, and inefficient energy resource concerns. Adopt E590A, E449D, E449A, and E340A. This bundle will be applied one time and the enhancements maintained for their lifespan.	X							acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	1
B000CPL11	<b>YEAR 2+ Irrigated Cropland (MRBI/Ogallala)</b>	Addresses water quality degradation, insufficient water, and soil erosion resource concerns. Adopt E590A, E449C, and E340A. This bundle may be applied multiple times.	X							acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	4
B000CPL12	<b>Non-Irrigated Precision Ag (MRBI)</b>	Addresses water quality degradation, soil quality, and soil erosion resource concerns. Adopt E590B, E595A, E340A, and E329D or E345D. This bundle may be applied multiple times.	X							acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	5
B000CPL13	<b>Non-Irrigated Cropland (MRBI)</b>	Addresses water quality degradation, soil quality, and soil erosion resource concerns. Adopt E590A, E595B, and E340A. This bundle may be applied multiple times.	X							acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	5
B000CPL14	<b>YEAR 1 Irrigated Precision Ag Cropland (MRBI)</b>	Addresses water quality degradation, insufficient water, soil erosion, and inefficient energy resource concerns. Adopt E590B, E449D, E449A, and E340A. This bundle will be applied one time and the enhancements maintained for their lifespan.	X							acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	1
B000CPL15	<b>YEAR 2+ Irrigated Precision Ag Cropland (MRBI)</b>	Addresses water quality degradation, insufficient water, and soil erosion resource concerns. Adopt E590B, E449C, and E340A. This bundle may be applied multiple times.	X							acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	4
B000CPL16	<b>Non-Irrigated Cropland with Water Bodies (MRBI)</b>	Addresses water quality degradation, soil erosion, and soil quality resource concerns. Adopt E590A, E595B, E340A, E329D or E345D, and E390A or E393A. This bundle may be applied multiple times.	X							acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	5
B000CPL17	<b>Non-Irrigated Cropland with Water Bodies Riparian Forest Buffer (MRBI)</b>	Addresses water quality degradation, soil erosion, and soil quality resource concerns. Adopt E590A, E595B, E340A, E329D or E345D, and E391A. This bundle may be applied multiple times.	X							acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	5
B000CPL18	<b>Crop Bundle #18 - Precision Ag</b>	Addresses water quality degradation, fish and wildlife inadequate habitat, air quality impairment, and either soil erosion or soil quality degradation resource concerns. Adopt E595A, E590B, E328D, E329A or E345A, and E340A or E340C. This bundle may be applied multiple times.	X							acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	5
B000CPL19	<b>Crop Bundle #19 - Soil Health Precision Ag</b>	Addresses water quality degradation, soil quality degradation, fish and wildlife inadequate habitat, and insufficient water resource concerns. Adopt E595A, E590B, E328D, E327A or E420A, and E329C or E345C. This bundle may be applied multiple times.	X							acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	5

B000CPL20	<b>Crop Bundle #20 - Soil Health Assessment</b>	Addresses water quality degradation, soil quality degradation, fish and wildlife inadequate habitat, and insufficient water resource concerns. Adopt E595B, E590A, E328F, E327A or E420A, and E329C or E345C. This bundle may be applied multiple times.	X							acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	5
B000CPL21	<b>Crop Bundle #21 - Crop Bundle (Organic)</b>	Addresses soil quality degradation, water quality degradation, and degraded plant condition resource concerns. Adopt E484A, E595B, E590A, E393A, and E612D. This bundle may be applied multiple times.	X							acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	5
B000CPL22	<b>Crop Bundle #22 - Erosion Bundle (Organic)</b>	Addresses soil quality degradation, water quality degradation, soil erosion, and fish and wildlife inadequate habitat resource concerns. Adopt E328E, E345D, E595B, E590A, E340A, and E327A or E420A. This bundle may be applied multiple times.	X							acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	5
B000CPL23	<b>Crop Bundle #23 - Pheasant and quail habitat</b>	Addresses wildlife habitat, either water quality or air quality, and either soil health or plant pest pressure resource concerns. Adopt E393A or E386C or E390A, E340C or E340H or E386B, E328D or E328L, and E645B or E612G or E386E or E328K or E328J or E511A. This bundle may be applied multiple times.	X							acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	5
B000CPL24	<b>Crop Bundle #24 - Cropland Soil Health Management System</b>	Addresses soil health, water quality (or water quality and air quality), and either soil erosion, soil compaction, or plant pest pressure resource concerns. Adopt E329D, E328F, E590A or E590B, and E340A or E340F or E340H. This bundle may be applied multiple times.	X							acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	5
B000FST1	<b>Forest Bundle#1</b>	Addresses 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 E666A, E666I, E666O, E612G, and E666D.						X		acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	15	1
B000FST2	<b>Forest Bundle #2 - Post-fire Management</b>	Address forest management on sites that have been burned in a natural fire disturbance. Address soil quality degradation, degraded plant condition, fish/wildlife inadequate habitat, and insufficient water. Adopt E666G, E315A and E666E or E666F.						X		acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	5	1
B000LLP1	<b>Longleaf Pine Bundle#1</b>	Improve conifer forest health through prescribed burning and grazing management. Address water quality degradation, degraded plant condition, and fish/wildlife inadequate habitat. Adopt E666O, E338C, E472A, E314A, and E391B.						X		acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	5
B000LLP2	<b>Longleaf Pine Bundle#2</b>	Improve conifer forest health through prescribed burning and forest stand management. Address insufficient water, degraded plant condition, and fish/wildlife inadequate habitat. Adopt E666O, E666K, E666D, E338C, and E327A or E420A.						X		acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	5
B000LLP3	<b>Longleaf Pine Bundle#3</b>	Improve forest health and wildlife habitat through forest stand management. Address insufficient water, degraded plant condition, and fish/wildlife inadequate habitat. Adopt E666D, E338C, E666K, E666O, and E645A.						X		acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	5
B000LLP4	<b>Longleaf Pine Bundle#4</b>	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 E666D, E338C, E666K, E666O, and E666F.						X		acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	5
B000LLP5	<b>Longleaf Pine Bundle#5</b>	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 E666O, E666K, E338C, E666C, and E666D.						X		acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	5

B000GRZ1	<b>Grazing Bundle 1 - Range and Pasture</b>	The participant will implement site specific strategies applied to range or pasture through the following enhancements: E528L, E315A, and E645A. This bundle may be applied multiple times in order to address soil erosion, degraded plant condition, and fish and wildlife inadequate habitat resource concerns.			X	X				acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	5
B000GRZ2	<b>Grazing Bundle 2 - Range and Pasture</b>	The participant will implement site specific strategies applied to range or pasture through the following enhancements: E472A, E382A, and E580A. This bundle will be applied one time and the enhancements maintained for their lifespan in order to address water quality degradation, fish and wildlife inadequate habitat, and soil erosion resource concerns.			X	X				acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	20	1
B000GRZ3	<b>Grazing Bundle 3 - Range and Pasture</b>	The participant will implement site specific strategies applied to range or pasture through the following enhancements: E472A, E390B, and E580A. This bundle will be applied one time and the enhancements maintained for their lifespan in order to address water quality degradation, fish and wildlife inadequate habitat, and soil erosion resource concerns.			X	X				acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	20	1
B000GRZ4	<b>Grazing Bundle 4 - Range and Pasture</b>	The participant will implement site specific strategies applied to range or pasture through the following enhancements: E472A, E391C, and E580A. This bundle will be applied one time and the enhancements maintained for their lifespan in order to address water quality degradation, fish and wildlife inadequate habitat, and soil erosion resource concerns.			X	X				acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	15	1
B000GRZ5	<b>Grazing Bundle 5 - Range and Pasture</b>	The participant will implement site specific strategies applied to range or pasture through the following enhancements: E528A, E315A, and E645A. This bundle may be applied multiple times in order to address soil erosion, degraded plant condition, and fish and wildlife inadequate habitat resource concerns.			X	X				acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	5
B000PST5	<b>Pasture Bundle 5</b>	The participant will implement site specific strategies applied to pasture by implementing the following enhancements E528J, E315A, and E645A. This bundle may be applied multiple times in order to address soil erosion, degraded plant condition, and fish and wildlife inadequate habitat resource concerns.			X					acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	5
B000RNG4	<b>Range Bundle 4</b>	The participant will implement site specific strategies applied to range by implementing the following grazing management enhancements E528N, E315A, and E645A. This bundle may be applied multiple times to address soil erosion, degraded plant condition, and fish and wildlife inadequate habitat resource concerns.				X				acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	5
B000PSTX	<b>Pasture Bundle 6</b>	By implementing a combination of three enhancements (E528A, E315A, and E512D) together, a synergy is achieved that should result in more conservation benefits than would be expected from implementing the enhancements individually. This bundle maybe applied multiple times to address degraded plant condition, plant pest pressure, soil health and erosion resource concerns.			X					acre	Pg 21-22 <a href="#">click here</a>	Pg 21-22 <a href="#">click here</a>	1	5