USDA Natural Resources Conservation Service

Ecological site R134XY421LA
Southwestern Pre-Peoria Loess Prairie - PROVISIONAL

Accessed: 05/18/2024

General information

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

MLRA notes

Major Land Resource Area (MLRA): 134X–Southern Mississippi Valley Loess

MLRA 134, Southern Mississippi Valley Loess, is in Mississippi (39 percent), Tennessee (23 percent), Louisiana (15 percent), Arkansas (11 percent), Kentucky (9 percent), Missouri (2 percent), and Illinois (1 percent). It makes up about 26,520 square miles (68,715 square kilometers). The northern part of the area includes Paducah and Murray, Kentucky; Paragould, Jonesboro, and Forrest City, Arkansas; and Memphis, Dyersburg, Bartlett, and Germantown, Tennessee. The southern part includes Yazoo City, Clinton, and Jackson, Mississippi, and Baton Rouge, Opelousas, Lafayette, and New Iberia, Louisiana. This site is in the farthest southwest part of the MLRA in Louisiana and is in the West Gulf Coastal Plain Section. The dissected plains in this MLRA have a loess mantle that is thick at the valley wall and thins rapidly as distance from the valley wall increases.

Classification relationships

Major Land Resource Area (MLRA) and Land Resource Unit (LRU) (USDA-Natural Resources Conservation Service, 2006)
EPA Level IV Ecoregion
The Natural Communities of Louisiana - (Louisiana Natural Heritage Program - Louisiana Department of Wildlife and Fisheries) - Coastal Prairie

Ecological site concept

Upland dry to mesic prairies at the northern portion of Loess Prairie range. This Site is separated from the other Loess Prairie sites due to the depositional age of the soil Parent material. it is described as formed in Sicily Island loess formations.

Soils are typically saturated in winter, and often very dry to droughty in late spring and fall. Historically, trees were confined to the stream sides, forming "gallery forests", and acted to divide the coastal prairie into many subunits or "coves". The intrinsic soil conditions and frequent burning from lightning strikes prevented invasion by woody trees and shrubs and maintained the prairie vegetation. Woody species will invade this site without periodic fire. The Coastal Prairie vegetation is extremely diverse and dominated by grasses. This site is mostly found in Northern Evangeline parish and very little if any of the Historic Herbaceous communities can be found.

Similar sites

R134XY404LA	**Southwestern Loess Ridge Prairie - PROVISIONAL** The Southwestern Loess Ridge Prairie Site is similar in species composition however it occurs further south in the more recent deposits of the Lafayette Loess Plain.
R150AY012LA	**Loamy Terrace Prairie** The Loamy Terrace Prairie Site is similar in species composition however it occurs further south.

R134XY402LA	**Southwestern Loess Terrace Prairie - PROVISIONAL** The Southwestern Loess Terrace Prairie Site is similar in species composition however it occurs further south in the more recent deposits of the Lafayette Loess Plain.
R150AY014LA	**Loamy Terrace Ridge** The Loamy Terrace Ridges Site is similar in species composition however it occurs further south.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This part of the MLRA is in the West Gulf Coastal Plain Section of the Coastal Plain Province of the Atlantic Plain. It is characterized by nearly level to gently sloping plains that have low local relief and are dissected by rivers and streams that flow toward the Gulf of Mexico. The loess soils are derived from the floodplain along the Mississippi River that are older in age than the Loess further south and are described as Pre-Peoria in age.

Table 2. Representative physiographic features

Landforms	(1) Terrace (2) Ridge
Flooding frequency	None
Ponding frequency	None
Elevation	15–46 m
Slope	0–30%
Ponding depth	0 cm
Water table depth	30–61 cm
Aspect	Aspect is not a significant factor

Climatic features

Southwest Louisiana has a warm, humid climate, with fairly long summers and relatively short winters. The result is a long growing season and abundant plant growth. Water is a definitive part of the southern Louisiana landscape, largely due to the combination of low elevation and fairly abundant rainfall in most years. Mean annual precipitation ranges from 51 to 67 inches over this region, and is fairly well distributed throughout the year. There have been very few years when less than 50 inches of precipitation has fallen. Snow is a rarity, and little more than 1 inch typically falls every few years. Growing seasons are long, typically from late February to late November. Along the Gulf Coast, it is not unusual for the lowest winter temperature to be above 30 degrees. Inland, there have been occasional blasts of cold air that have dropped temperatures into the teens and 20s, but these are rare. Hurricanes and tropical storms are an important part of the climate of southern Louisiana, with some impact occurring nearly every year in some part of the region. However, devastating storms do not occur too often, and heavy rain and storm surge are usually the biggest concerns, compared to wind damage. The following climatic data are averages from the nine weather stations listed below. Temperature and precipitation may vary considerably from that listed for each month. Site specific weather data should be used for land management decisions. For site specific weather conditions, obtain data from a weather station close to the site. Information can be accessed from specific weather stations at http://www.wrcc.dri.edu/coopmap/ or http://www.wrcc.dri.edu/summary/climsmla.html.

Table 3. Representative climatic features

Frost-free period (average)	264 days
Freeze-free period (average)	303 days

Precipitation total (average)	1,575 mm

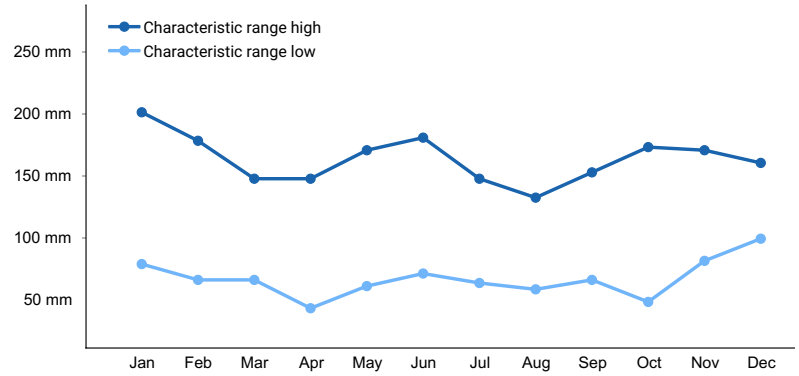


Figure 1. Monthly precipitation range

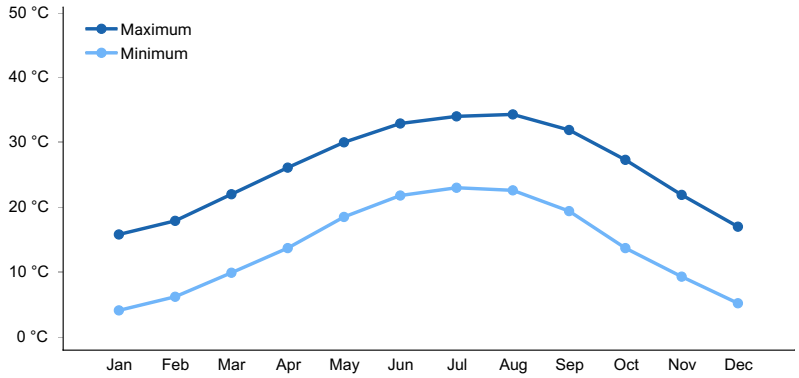


Figure 2. Monthly average minimum and maximum temperature

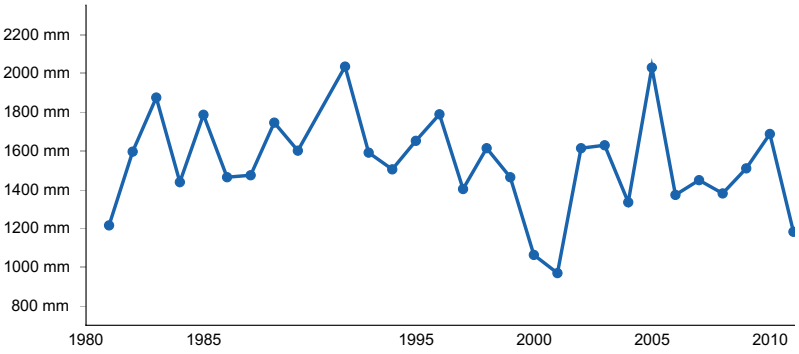


Figure 3. Annual precipitation pattern

Climate stations used

- (1) BUNKIE [USC00161287], Bunkie, LA
- (2) EUNICE [USC00162981], Eunice, LA

Influencing water features

This site is generally described as a runoff site, where rainfall flows off of the site. However minor relief on the site will slow runoff and in places allow some accumulation. The lower portions of this site will allow for a certain amount of accumulation and even ponding.

Water table depths will fluctuate according to season of the year. Typically the water table will be highest during the winter and early spring when warm season vegetation is not drawing moisture from the soil. Although ponding is not shown as a characteristic for the soils of this site, ponding may occur for brief to long periods during the growing season on micro-lows and influence the plant community. Some soils associated with this site are hydric or have hydric inclusions and may be wetlands.

Soil layers at 6 - 20" (15 - 51cm) from the surface exhibit an increase in finer soil particle size percentage (clay), which can form a layer which results in reduced infiltration and percolation of soil water. The inhibition of soil water movement through the soil results in wetter soil surface conditions, and poorer drainage. Originally, the Historic Plant Community consisted of tall grass species with extensive deep roots that penetrate the soil when the soil dries and cracks during normal dry cycles. Once the roots have formed in the cracks they provide continuous pore spaces to provide internal drainage of the soil.

Soil features

Pre-Peoria age loess. The soil series associated with this site are: Tenot, Evangeline, Duralde, Dossman. They are very deep to very deep, Somewhat poorly drained to Well drained, and Slow to Moderate permeable soils, with very acidic to slightly acidic soil reaction, that formed in Loess

Table 4. Representative soil features

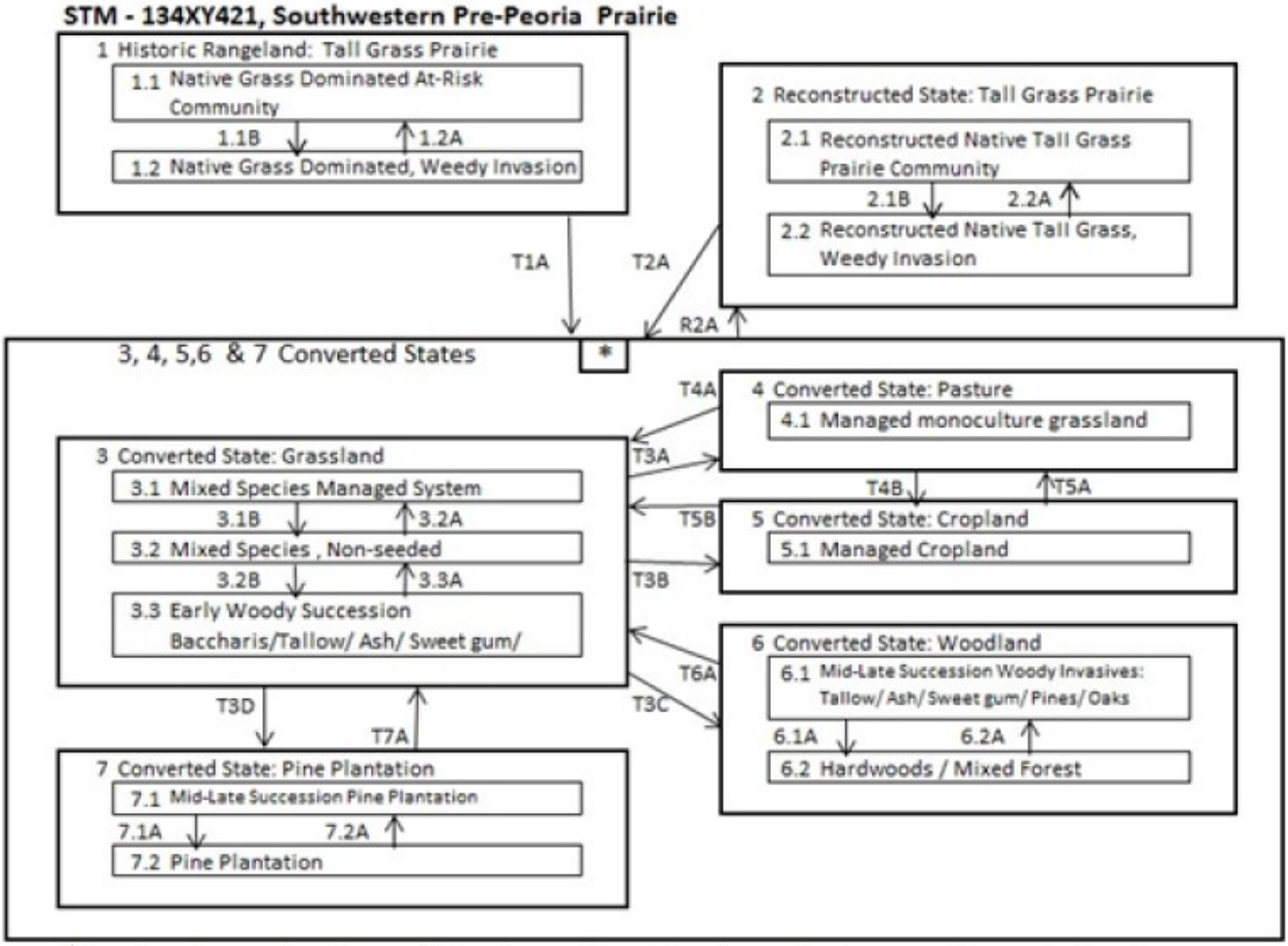
Surface texture	(1) Silt loam
Family particle size	(1) Loamy
Drainage class	Somewhat poorly drained to well drained
Permeability class	Slow to moderate
Soil depth	203 cm
Surface fragment cover <=3"	0%
Surface fragment cover >3"	0%
Available water capacity (0-101.6cm)	19.56–21.84 cm
Calcium carbonate equivalent (0-101.6cm)	0%
Electrical conductivity (0-101.6cm)	0 mmhos/cm
Sodium adsorption ratio (0-101.6cm)	0
Soil reaction (1:1 water) (0-101.6cm)	5–6.2
Subsurface fragment volume <=3" (Depth not specified)	2%
Subsurface fragment volume >3" (Depth not specified)	0%

Ecological dynamics

The Southwestern Pre-Peoria Loess Prairie was historically the northern extent of what is today called the "Cajun Prairie". Its soil origin is from the Sicily Island formation therefore is older in age than the Loess Prairies to the south. This landscape was historically native Tall Grass Prairie, dominated by grasses with relatively frequent fire which maintained the open grasslands. Wooded Drains, "Gallery Forests", separated the Prairie Region into coves of grasslands.

Currently most of this region is established in Forests of Pine and mixed hardwoods, little if any of the native communities can be located. Some areas are in Pasture and some cropland.

State and transition model



*To reduce clutter and confusion, additional arrowed transitions from and to States 1 and 2 are not pictured. Transitions are possible to and from these two states as depicted by the transition arrows, consider the starred box every other converted state and will be explained in detail in the appropriate state/community sections.

Figure 5. STM-134XY421_Southwestern_Pre-Pioria_Loess_Prairie

STM Legend -134XY421, Southwestern Pre-Peoria Loess Prairie

Refer to narrative in the Plant Community Section for detailed descriptions of these transitions/pathways.

Community Pathways Legend

T1A	Plow and convert site to cultivation
T2A	Seeding, fertilizing, Management or Lack of Succession Manipulation
R2A	Seeding & Management for desired composition of Native Species
1.1B, 2.1B	Lack of disturbance: Mowing, burning, herbivory.
1.2A,2.2A	Succession Manipulation: burning, mowing, herbivory.
T3A, T3B	Seeding, fertilizing, management/ brush mgmt./ removal of unwanted plants
T3C	Lack of disturbance: Mowing, burning, herbivory or brush mgmt.
3.1B, 3.2B	Lack of disturbance: Mowing, burning, herbivory.
3.2A	Seeding & Management for desired species composition
3.3A	Succession Manipulation, Woody control.
T4A, T5B	Abandonment or Seeding & Management for desired composition
T4B, T5A	Seeding, fertilizing, Management for desired species
T6A, T7A	Clear cut, Clearing or Catastrophic Disturbance
6.1A	Abandonment or No Succession manipulation
6.2A	Timber Harvest or catastrophic disturbance
T3D	Pine Plantation Establishment & Management
7.1A	Timber Management or No Succession manipulation
7.2A	Timber Harvest or catastrophic disturbance

Figure 6. STM_Legend-134XY421_Southwestern_Pre-Peoria_Loess_

State 1
Historic Rangeland: Tall Grass Prairie

This state is a mixed grassland community that is the native grassland historic community.

Community 1.1
Native Grass Dominated At-Risk Community

This plant community historically covered 2.5 million acres that once dominated southwest Louisiana, it also represents historic reference plant community. As of 1999, less than 100 acres remain, making it one of our most endangered rangeland ecosystems. Most of the few remaining remnants of prairie in Louisiana are found on narrow strips of land along railroad tracks, small areas outside the reach of tillage, and some units within grazing systems and wildlife refuges. Despite the small size of these remnants, most contain high diversity of native tallgrass prairie flora. Nearly 1,000 plant species have been identified in Coastal Prairie and almost all are perennials. Conversion of these sites occurred over most of the region by plowing and planting crop species or repeated and severe grazing, which removed excessive leaf material preventing herbaceous plants from recovering, a practice which favored non native sod forming plant species. If this site has been cultivated and farmed, restoration to a plant community can be achieved by rangeland seeding; however, the plant community and soils will never completely resemble native undisturbed conditions i.e., soil structure and soil microorganism species. Historically, this native plant community was grazed by bison, usually short periods of intense grazing followed by long periods of rest. Historically, grazing by bison accelerated nutrient cycling, removed and assisted in more rapid litter decomposition, and promoted plant diversity. Native Americans traditionally burned the prairie because the lush new growth attracted bison and other wildlife species. Fire is a required natural disturbance that maintains ecosystem health and reduced woody species invasion. The prairie is a disturbance dependent ecosystem where a combination of periodic grazing and fire maintained the integrity of the plant community.

Community 1.2
Native Grass Dominated, Weedy Invasion

Historic Disturbances of the Historic Rangeland Tall Grass Community included fire and large herbivore grazing by bison and at time intense grazing followed by long periods of recovery. The bison grazing accelerated nutrients

cycling through grazing, removed any decadent plants and promoted plant species diversity. Fire, set by storms or Native Americans recycled minerals and nutrients, retarded the invasion of woody species and increased the quality of the plants. Bison would be attracted to these burned areas. The combined effect of fire and grazing over long periods of time kept the prairie functioning. This disturbance driven community was ever evolving with shifts in species composition, with time of year, climatic variability and disturbance type. This community phase is noted when the plant materials have grown for extended periods without disturbance. When this phase is reached if the Historic Prairie is the desired community, Prescribed Fire is needed to set back succession. If not a Threshold will be crossed that will require input of energy and expense to return the site to a previous phase.

State 2
Reconstructed State: Tall Grass Prairie

This state is a mixed grassland community that resembles the native grassland historic community. This is an attempt to reconstruct the species composition to the site.

Community 2.1
Reconstructed Native Tall Grass Prairie Community

This Community represents a reseeded restoration resembling the historic plant community on the site. Due to the large diversity of plant species, it is impossible to create the natural historic populations of grasses and forbs (wildflowers). Also, seed of the original plant species are not available in the commercial market place. After restoration practices have succeeded and stands are well established, an assortment of conservation management practices must be applied to maintain the integrity of the plant community. Common rangeland management practices include range planting, brush management, prescribed fire, and proper grazing management. If a site is destructively grazed, soils compacted during wet and saturated soil conditions, utilized as a feeding area, or mechanically disturbed where plant crowns and/or roots are damaged, the competitive effects of the native plants are decreased allowing increased invasion by woody (native and non-native species) and invasive and/or exotic herbaceous plants. Full Restoration to the Historic Plant Community is not possible due to the lack of local eco-types of the native plant species as well as an altered soil microbial community; however, a facsimile of the natural prairie can be achieved and maintained.

Community 2.2
Reconstructed Native Tall Grass, Weedy Invasion

Historic Disturbances of the Historic Rangeland Tall Grass Community included fire and large herbivore grazing by bison and at time intense grazing followed by long periods of recovery. The bison grazing accelerated nutrients cycling through grazing, removed any decadent plants and promoted plant species diversity. Fire, set by storms or Native Americans recycled minerals and nutrients, retarded the invasion of woody species and increased the quality of the plants. Bison would be attracted to these burned areas. The combined effect of fire and grazing over long periods of time kept the prairie functioning. This disturbance driven community was ever evolving with shifts in species composition, with time of year, climatic variability and disturbance type. This community phase is noted when the plant materials have grown for extended periods without disturbance. When this phase is reached if the Historic Prairie is the desired community, Prescribed Fire is needed to set back succession. If not a Threshold will be crossed that will require input of energy and expense to return the site to a previous phase.

State 3
Converted State: Grassland

This state is a mixed grassland community that results from the native grassland historic community being altered by cultivation, destructive grazing or other site alterations. The species composition may include a variety of species native or introduced, grasses, grass likes, forbs, legumes, and some woody species.

Community 3.1
Mixed Forage Species Managed

This community is characterized by mixed species composition of grasses and legumes, which naturally establishes. Typically, perennial warm season grasses are the foundation of the stand which is periodically

overseeded with adapted cool season forages to extend the grazing season. This community phase can be highly productive for grazing and haying operations and can provide beneficial habitat for some wildlife species. Maintenance of grass stands also requires management including a collection of rangeland management practices such as Prescribed Grazing, Prescribed burning, Brush Management, Pest Management, and Nutrient Management to maintain production of the desired species. Prescribed Grazing includes maintaining proper grazing heights, timing, stocking rates. Pasture and Hayland Groups: 8A, 8F or 8G Management Interpretations: Generally, application of fertilizer and lime, and installation and maintenance of permanent pasture drainage is needed to establish and maintain improved desirable pastures. The exception to this is for bahia and common bermudagrass. These can be sustained under natural fertility and pH levels with implementation of prescribed grazing in areas that have adequate surface drainage to avoid ponding. Introduced legumes require higher pH, phosphorus, and potassium levels than most grasses. Introduced grasses, such as hybrid bermudagrasss, require a higher level of sustained fertility, a maintained pH above 6.0, and good surface drainage, to persist. Implementation of prescribed grazing of deep rooted hybrid bermudagrasses and native tall grass species with a specific goal of growing roots down past a depth of 10 to 17 inches into the nutrient rich clayey and more pH favorable, slightly acid to neutral sub soils. This is done in order to tap into the reservoir of available nutrients and moisture, in order to increase production and sustain desirable forages. To prevent extreme acidity in the subsoil when high rates of acidifying nitrogen are used, the surface soil should not be allowed to become more acid than 5.0 pH and lime should be applied at more frequent intervals. These soils are poorly drained and require addition of surface drainage in order to be moderately or highly productive. They have a severe limitation for grazing winter annuals due to wetness and a water table that is not far below the soil surface. Adapted Grasses and Legumes: Bahia, dallis, and common bermuda grasses are adapted and naturalized forage species. The adapted cool season legumes are white clover, winter peas, and vetch. White clover requires a higher level of calcium and phosphorus than peas or vetch. Gulf annual ryegrass, white clover, and berseem clover are the best suited winter forages due to their tolerance of wet soil conditions. Jiggs and Alicia hybrid Bermuda grasses are the most persistent and sustainable varieties on this site, due to persistent and seasonal wetness of the site. Without application of fertilizer, lime, and cultural practices such as mowing and use of herbicides, these soils will normally support a cover of grasses such as silver bluestem, slender bluestem, threeawns, broomsedge, vaseygrass, and carpetgrass, and forbs such as dogfennel, blackberry, ragweed, coffeeweed, dewberry, and sumpweed. Production Estimates – Use production estimates to determine the annual or seasonal amount of forage available for grazing. The harvest efficiency has been predetermined, thus forage production reflects the total amount of forage available for grazing, not the total amount of forage. The production table below shows the estimated yield for common forage Species grazed in Louisiana. Not all forages are depicted in the table.

Community 3.2
Mixed Species, Non-Seeded

This community is characterized by a stand where mixtures of native and naturalized non-native species occur after abandonment of cropping i.e., idle cropland. This state represents low inputs after cropping, no initial seeding of pasture species or periodic overseeding of adapted forage species. Forage is usually grazed and/or harvested as stored forage, hay or haylage. Common established species may include Bermudagrass, Bahia grass, Vasey grass, and carpet grass. This state is productive, forage and grazing management can maintain plant stands and protect soils from excessive runoff and erosion. A common peril associated with this state is overgrazing which favors less productive and less palatable weedy species. Proper stocking rates and/or grazing systems that allow for adequate rest and plant regrowth are required to maintain productivity. When forage species are afforded adequate recovery time between grazing intervals they will develop deeper root systems and greater leaf area allowing for the capture of greater solar energy, where photosynthesis fixes carbohydrates for plant growth. Conversely when plants are not allowed to recover adequately, root development will be restricted and forage and biomass production will be reduced. Maintenance of grass stands also requires Pest Management for control of unwanted weedy and woody species.

Community 3.3
Early Woody Succession: Baccharis/Tallow/ Ash/ Sweet gum/ Pines

This community is characterized by a diverse species composition of grasses and forbs with an increasing composition of woody species (native and non-native) that are immature and low stature. If this state is not properly managed, and no brush management measures are taken, the plant community will transition to the Woodland Converted State (6). Control of woody species will require input of extensive resources to return to a Grassland or Cropland state. Conservation practices can include Prescribed Grazing, Prescribed Burning, Mowing, Disking or

Herbicide treatments to manage undesired plants. Removing or reducing woody plants by disking or mowing should be implemented early before mechanical treatments are not effective. If a managed woodland (pines/hardwood) is the desired community, proper management is required. Some Invasive woody species, such as tallow trees (*Triadica sebifera*), will invade and grow and produce seeds in as few as 3 years. This phase can be beneficial habitat for some wildlife species. Woody invasive species grow quickly and plant densities and size can be difficult and expensive to control. Restoration potential to grassland sites becomes increasingly problematic as this vegetation state matures and transitions to a Mature Woodland Converted State.

State 4
Converted State: Pasture

This state is a grassland community that results from the native grassland historic community being altered by cultivation, destructive grazing or other site alterations. This is an intensively managed state of this site. It will be characterized by monoculture hayland or Pasture. This is a common state occurring on this site.

Community 4.1
Managed monoculture grassland

Typically, this state is characterized by planting forage species for hay production. Forage plantings generally consist of a single grass species. Introduced native and/or non-native forage species can be seeded. Forage is usually harvested as hay or haylage, although grazing may occur periodically. These sites are highly productive for forage and can provide ecological benefits similar to that of the native grasslands to control soil erosion. Allowing for adequate rest and regrowth of desired species is required to maintain productivity. Maintenance of monoculture stands also requires control of unwanted species which will require Pest Management and Nutrient Management to maintain the needed fertility for production of the species. Pasture and Hayland Suitability Group – 8A, 8F, or 8G Management Interpretations: Generally, application of fertilizer and lime, and installation and maintenance of permanent pasture drainage is needed to establish and maintain improved desirable pastures. The exception to this is for bahia and common bermudagrass. These can be sustained under natural fertility and pH levels with implementation of prescribed grazing in areas that have adequate surface drainage to avoid ponding. Introduced legumes require higher pH, phosphorus, and potassium levels than most grasses. Introduced grasses, such as hybrid bermudagrasss, require a higher level of sustained fertility, a maintained pH above 6.0, and good surface drainage, to persist. Implementation of prescribed grazing of deep rooted hybrid bermudagrasses and native tall grass species with a specific goal of growing roots down past a depth of 10 to 17 inches into the nutrient rich clayey and more pH favorable, slightly acid to neutral sub soils. This is done in order to tap into the reservoir of available nutrients and moisture, in order to increase production and sustain desirable forages. To prevent extreme acidity in the subsoil when high rates of acidifying nitrogen are used, the surface soil should not be allowed to become more acid than 5.0 pH and lime should be applied at more frequent intervals. These soils are poorly drained and require addition of surface drainage in order to be moderately or highly productive. They have a severe limitation for grazing winter annuals due to wetness and a water table that is not far below the soil surface. Adapted Grasses and Legumes: Bahia, dallis, and common bermuda grasses are adapted and naturalized forage species. The adapted cool season legumes are white clover, winter peas, and vetch. White clover requires a higher level of calcium and phosphorus than peas or vetch. Gulf annual ryegrass, white clover, and berseem clover are the best suited winter forages due to their tolerance of wet soil conditions. Jiggs and Alicia hybrid Bermuda grasses are the most persistent and sustainable varieties on this site, due to persistent and seasonal wetness of the site. Without application of fertilizer, lime, and cultural practices such as mowing and use of herbicides, these soils will normally support a cover of grasses such as silver bluestem, slender bluestem, threeawns, broomsedge, vaseygrass, and carpetgrass, and forbs such as dogfennel, blackberry, ragweed, coffeeweed, dewberry, and sumpweed. Production Estimates – Use production estimates to determine the annual or seasonal amount of forage available for grazing. The harvest efficiency has been predetermined, thus forage production reflects the total amount of forage available for grazing, not the total amount of forage. The production table below shows the estimated yield for common forage Species grazed in Louisiana. Not all forages are depicted in the table.

State 5
Converted State: Cropland

This state is cropland that results from the native grassland historic community being altered by cultivation or other site alterations. This is an intensively managed state of this site. It will be characterized by monoculture cropland.

This is a less common state occurring on this site.

Community 5.1
Managed Cropland

This state represents a crop production field. Annual plantings for forage production would also be included in this phase, which may include cool season annual grasses and legumes and warm season forage species. Vegetable crops are grown on this site and are generally on a small scale. Often 2 or more crops will be grown in a multiyear rotation, this breaks pest cycles and some crops produce higher amounts of residue, which is left on the soil to improve soil health. Maintenance of monoculture crop stands also requires control of unwanted species, which will require Pest and Nutrient Management to maintain the needed fertility for production of the desired species. Refer to E-Field Office Technical Guide and the local NRCS Field Office for management assistance.

State 6
Converted State: Woodland

This community results from the native grassland historic community being altered and is characterized by the Woodland Converted State. The species occurring in this state are woody and have become mature. This state may be achieved by planting and managing woody species or by invasion without management. This is a common Community for this site.

Community 6.1
Hardwoods / Mixed Forest

Invasive woody species are controlled (mechanically and/or chemically) and desirable hardwoods and/or pines are maintained. This phase represents managed stands of desirable tree species. This phase can provide beneficial habitat for some wildlife species and livestock grazing. If dual use of timber production and grazing is desired, proper grazing use must be employed to minimize disturbance to tree species. If timber production is desired, periodic brush management may be required to minimize competition from undesirable woody plants. Due to rainfall, drainage and soil properties, harvest limitations exist and will require attention for the conservation of the Natural Resources. Refer to Woodland Suitability Groups 1o7, 1w8, 2o7, 2w8, or 2w9 Datasheets in E-Field Office Technical Guide and the local NRCS Field Office for management assistance.

State 7
Converted State: Pine Plantation

This community results from the native grassland historic community being altered and is characterized by Pine Plantation Converted State. The species occurring in this state are typically Loblolly and are becoming mature. This state may be achieved by planting and managing woody species or by invasion without management.

Community 7.1
Mid-Late Succession Pine Plantation

Invasive woody species are controlled (mechanically and/or chemically) and desirable pines are maintained. This phase represents managed stands of desirable tree species. This phase can provide beneficial habitat for some wildlife species and livestock grazing. If dual use of timber production and grazing is desired, proper grazing use must be employed to minimize disturbance to tree species. If timber production is desired, periodic brush management may be required to minimize competition from undesirable woody plants. Due to rainfall, drainage and soil properties, harvest limitations exist and will require attention for the conservation of the Natural Resources. Refer to Woodland Suitability Groups 1o7, 1w8, 2o7, 2w8, or 2w9 Datasheets in E-Field Office Technical Guide and the local NRCS Field Office for management assistance.

Community 7.2
Pine Plantation

Invasive woody species are controlled (mechanically and/or chemically) and desirable pines are maintained. This phase represents managed stands of desirable tree species which are reaching merchantable size classes. This

phase can provide beneficial habitat for some wildlife species and livestock grazing, especially in mature pine stands there is the possibility of open understory which will allow for herbaceous production. Plans for regeneration of the stand at this phase will need to begin to be considered as this could affect the harvest strategy that is employed. If dual use of timber production and grazing is desired, proper grazing use must be employed to minimize disturbance to tree species. If timber production is desired, periodic brush management may be required to minimize competition from undesirable woody plants. Due to rainfall, drainage and soil properties, harvest limitations exist and will require attention for the conservation of the Natural Resources. Refer to Woodland Suitability Groups 1o7, 1w8, 2o7, 2w8, or 2w9 Datasheets in E-Field Office Technical Guide and the local NRCS Field Office for management assistance.

Additional community tables

Table 5. Community 4.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Kg/Hectare)	Foliar Cover (%)
Grass/Grasslike					
1	**Warm Season grasses**			2242–3923	
	Bermudagrass	CYDA	*Cynodon dactylon*	2242–3923	70–85

Animal community

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Hydrological functions

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Recreational uses

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Wood products

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Other products

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Other information

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Type locality

Location 1: Evangeline County, LA

Other references

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Contributors

D Charles Stemmans II

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Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

Author(s)/participant(s)	
Contact for lead author	
Date	
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:**

2. **Presence of water flow patterns:**

3. **Number and height of erosional pedestals or terracettes:**

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):**

5. **Number of gullies and erosion associated with gullies:**

6. **Extent of wind scoured, blowouts and/or depositional areas:**

7. **Amount of litter movement (describe size and distance expected to travel):**

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):**

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):**

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial**

distribution on infiltration and runoff:

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11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):**

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12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

    Dominant:

    Sub-dominant:

    Other:

    Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):**

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14. **Average percent litter cover (%) and depth (in):**

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):**

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16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:**

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17. **Perennial plant reproductive capability:**
