

CSP-2018-1_TN - Statewide MRBI - Ag Land Evaluation Set Pasture

Soil Erosion

Sheet and Rill Erosion

Planning Criteria

Planning Criteria Met

Permanent ground cover greater than 90% and slope less than 10%; OR, The water erosion rate is less than or equal to T.

Yes No

Evaluation Tests

Evaluation Test Met

Plant cover controls active erosion (shallow less than 1 foot deep rills and gullies) and runoff from normal rain events; AND, No litter dams or terracettes are present.

Yes No

Ephemeral Gully Erosion

Planning Criteria

Planning Criteria Met

Ephemeral gullies are not occurring; OR, Conservation practices and management activities are in place to prevent or control ephemeral gullies.

Yes No

Evaluation Tests

Evaluation Test Met

Temporary or permanent rills do not exist on the land management system; Or, All temporary or permanent rills are stabilized; AND all areas expected to have high erosion rates are stable.

Yes No

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Classic Gully Erosion

Planning Criteria

Classic gullies are not present; Or, Classic gully management is adequate to stop the progression of head cutting and widening and offsite impacts are minimized by vegetation and/or structures.

Planning Criteria Met

Yes No

Evaluation Tests

Classic Gullies are not present; Or, All classic gullies are stabilized; AND, All areas expected to have high erosion rates are stable.

Evaluation Test Met

Yes No

Streambank, Shoreline, Water Conveyance Channels

Planning Criteria

For shorelines and water conveyance channels; banks are stable or commensurate with normal geomorphological processes; AND, If bank erosion is present, it is beyond the client's control or commensurate with normal geomorphological processes; AND, For streambanks, SVAP2 bank condition element score greater than 5. If shorelines or water conveyance channels are not present, set this planning criteria to NA.

Planning Criteria Met

Yes No

Evaluation Tests

Excluding all fundamentally unstable, natural geomorphic streambanks and shorelines, all streambanks and shorelines on the land use show few signs of erosion or bank failure; AND, Each is stable and protected with natural materials. If shorelines and water conveyance channels do not exist on the land management system, set this test statement to NA.

Evaluation Test Met

Yes No

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Soil Quality Degradation

Organic Matter Depletion

Planning Criteria

Organic matter within the soil is managed by means of proper rotational grazing and other grazing management practices; AND, the Pasture Condition Score (PCS) -plant cover element score is greater than or equal to 4; AND, the PCS - plant residue element score is greater than or equal to 4.

Planning Criteria Met

Yes No

Evaluation Tests

Proper soil health is evidenced by productive and desirable plants dominating the management system. There are no extensive dead or unproductive areas.

Evaluation Test Met

Yes No

Compaction

Planning Criteria

Soil compaction is not a problem: AND, Activities do not cause soil compaction problems AND can be documented with prior conservation planning or other on-site evaluation methods.

Planning Criteria Met

Yes No

Evaluation Tests

There are no extensive bare spots or dead areas in the land management system beyond what would be considered acceptable "sacrifice" areas.

Evaluation Test Met

Yes No

Soils are not compacted to a point that limits plant root depth and growth.

Yes No

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Concentration of Salts and other Chemicals

Planning Criteria

Salinity/sodicity problems do not exist: OR, Conservation practices and managements are in place to mitigate on-site effects.

Planning Criteria Met

Yes No

Evaluation Tests

Irrigation water is managed to maintain a balance of soil moisture not to exceed Field Capacity or get below wilting point (unless water quantity is a limitation)? Methods include: moisture by feel, soil moisture monitoring with sensors, evapotranspiration monitoring, or other checkbook type methods. If the land management system is not irrigated, set this test statement to NA.

Evaluation Test Met

Yes No

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Excess Water

Runoff and Flooding and Ponding

Planning Criteria

Excess water is managed to minimize the impact on conservation measures and/or crop production.

Planning Criteria Met

Yes No

Evaluation Tests

Measures are applied such as prescribed grazing, grassed waterways, and field borders to reduce excessive runoff; OR, If flooding is a concern pastures are managed within the seasonal flooding periods; OR, Where ponding is a concern land leveling or shallow surface drains prevent ponding of water that limits pasture production.

Evaluation Test Met

Yes No

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Insufficient Water

Inefficient Use of Irrigation Water

Planning Criteria

The irrigation system components and management result in a Farm Irrigation Rating Index greater than 60; AND, Meets applicable State in-stream flow and lake and pond water levels requirements. If the land management system is not irrigated, set this planning criteria to NA.

Planning Criteria Met

Yes No

Evaluation Tests

An irrigation water management (IWM) plan is followed that meets the crop's needs, while maximizing irrigation water efficiency. The IWM plan schedules water application based on soil moisture monitoring and/or evapotranspiration monitoring, measures and records the amount of water used to irrigate, and the irrigation system's distribution uniformity has been evaluated and necessary changes were made. If the land management system is not irrigated, set this test statement to NA.

Evaluation Test Met

Yes No

Inefficient Moisture Management

Planning Criteria

Moisture management is not a problem; AND, Activities do not cause inefficient moisture management problems; AND, The Pasture Condition Score - compaction element score is greater than or equal to 4 AND The Pasture Condition Score - plant cover element score is greater than or equal to 4.

Planning Criteria Met

Yes No

Evaluation Tests

Existing water source supports proper distribution of livestock.

Evaluation Test Met

Yes No

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Water Quality Degradation

Pesticides in Surface Water

Planning Criteria

Planning Criteria Met

Pesticides are stored, handled, disposed and applied to prevent runoff, spills, leaks and leaching; AND, Conservation practices and techniques are in place to minimize ground water impacts.

Yes No

Evaluation Tests

Evaluation Test Met

Pesticides are not applied or stored on this land management system; Or, Pesticides are applied using a site-specific mixture of prevention, avoidance, monitoring, and suppression (PAMS) strategies. Environmental risk screening tool are used (such as WIN-PST or similar LGU approved tool); AND, application rates and timing are compliant with the label.

Yes No

Pesticides in Ground water

Planning Criteria

Planning Criteria Met

Pesticides are stored, handled, disposed and applied to prevent runoff, spills, leaks and leaching; AND, Conservation practices and techniques are in place to minimize ground water impacts.

Yes No

Evaluation Tests

Evaluation Test Met

Pesticides are not applied or stored on this land management system; OR, Pesticides are applied using a site-specific mixture of prevention, avoidance, monitoring, and suppression (PAMS) strategies; AND, Environmental risk screening tool are used (such as WIN-PST or similar LGU approved tool); AND, Application rates and timing are compliant with the label.

Yes No

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Nutrients in Surface water

Planning Criteria

Planning Criteria Met

Organic or inorganic nutrients are not applied and grazing unit is not adjacent to streams, ponds, or lakes and there are no confined livestock areas; OR, The Pasture Condition Score - streambank/shoreline erosion element score is greater than or equal to 4; AND, The Pasture Condition Score - livestock concentration areas element score is greater than or equal to 4; AND, Nutrients are applied and based on a soil test, tissue test or nutrient budget.

Yes No

Evaluation Tests

Evaluation Test Met

Livestock access to streams is limited to short periods of time and small areas.

Yes No

Nutrients are not applied; OR, If nutrients are applied, they do not degrade surface water quality; AND, Water use is not limited by nutrient levels.

Yes No

Sacrifice areas are properly sited.

Yes No

Nutrients in Groundwater

Planning Criteria

Planning Criteria Met

Organic or inorganic nutrients are not applied ; OR, Nutrient and amendment applications are based on soil or tissue tests and nutrient budgets for realistic yields and conservation practices; AND, Management activities are in place to minimize ground water impacts.

Yes No

Evaluation Tests

Evaluation Test Met

Nutrients are not applied to this land management system; OR, if nutrients are applied, they do not degrade ground water quality; AND, Water use is not limited.

Yes No

Grazing management in close proximity to sinkholes does not degrade groundwater. If sinkholes are not in close proximity to this land management system, set the test statement to YES.

Yes No

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Excess Pathogens and Chemicals from Manure, bio-solids or Compost Applications in Surface Water

Planning Criteria

Planning Criteria Met

Potential sources of pathogens or pharmaceuticals are not applied on the land; OR, Organic materials are applied, stored, and/or handled to mitigate negative impacts to surface water sources.

Yes No

Evaluation Tests

Evaluation Test Met

Livestock access to stream is controlled; OR, Livestock are limited to small watering or crossing areas.

Yes No

Manure, compost, or bio-solids are not applied; OR, Manure, compost, or bio-solids are applied per soil test recommendations and Land Grant University best management practices, and grazing management optimizes applied products.

Yes No

Excess Pathogens and Chemicals from Manure, bio-solids or Compost Applications in Ground Water

Planning Criteria

Planning Criteria Met

Potential sources of pathogens or pharmaceuticals are not stored or applied on the land; OR, Organic materials are applied, stored, and/or handled to mitigate negative impacts to groundwater sources.

Yes No

Evaluation Tests

Evaluation Test Met

Livestock use of immediate sink hole watersheds is managed to avoid addition of excess pathogens. If the land management system is not in a sinkhole watershed, set the test statement to YES.

Yes No

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Excessive Sediment in Surface Water

Planning Criteria

Planning Criteria Met

Permanent ground cover greater than 90% and slope less than 10% and classic gullies are not present; OR, Upslope treatment and buffer practices address concentrated flows to water bodies; AND, The SVAP2 - bank condition greater than or equal to 5; AND, The livestock and vehicle water crossings are stable; AND, The water erosion rate is less than or equal to T; AND, Wind erosion rate is less than or equal to T.

Yes No

Evaluation Tests

Evaluation Test Met

The land adjacent to a stream, river, or other waterbody on the side or sides you control does: - have diverse, natural plant cover typical to that along streams in your area, - extend from the stream bank/shoreline for a distance of 35 feet or (if applicable) the minimum State buffer-width requirement, whichever is greater; AND, Have few places where concentrated runoff flows through.

Yes No

Plant cover controls active erosion and runoff from normal rain events; AND, Litter dams are minimized.

Yes No

Drainage and erosion control measures are implemented on roads, trails and landings to minimize detrimental effects of concentrated flow, erosion and sedimentation; AND, Stream crossings are restored and stabilized.

Yes No

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Elevated Water Temperature

Planning Criteria

Water courses on or adjacent to the site are not designated by a State Agency as a temperature impairment; OR, The SVAP2 - riparian area quality element score is greater than or equal to 5; AND, The SVAP2 - riparian area quantity element score is greater than or equal to 5; AND, The SVAP2 - canopy cover element score is greater than or equal to 6; OR, Existing conservation practices are in place to address water temperature. If water courses are not present, set this planning criteria to NA.

Planning Criteria Met

Yes No

Evaluation Tests

More than 50% of the water surface is shaded on the length of the stream/river for this land management system. If waterbodies are not present on this land management system, set the test statement to NA.

Evaluation Test Met

Yes No

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Air Quality Impacts

Emissions of Particulate Matter (PM) and PM Precursors

Planning Criteria

Management activities do not contribute to agricultural source particulate matter (PM) or PM precursor emissions; AND, documented episodes or complaints of emissions of PM (dust, smoke, exhaust, etc.), or chemical drift have not occurred. PM producing activity examples are: Prescribed Burn is conducted, Travel ways unpaved or untreated with binding agents, Engines (combustion source), Tillage, Pesticides are applied, Fertilization (manure/commercial), CAFO/manure management.

Planning Criteria Met

Yes No

Evaluation Tests

Prescribed Burning activities are timed and implemented to ensure basic smoke management practices are applied. If Prescribed Burning is not used, set this test statement to NA.

Evaluation Test Met

Yes No

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Emissions of Ozone Precursors

Planning Criteria

Planning Criteria Met

Operations that produce ozone precursor emissions are not present; OR, or are managed to reduce emissions. Ozone precursor producing activities may include: Engines (combustion source), Pesticide application, Burning, CAFO /manure management, or fertilization (manure/commercial).

Yes No

Evaluation Tests

Evaluation Test Met

Pesticides are not applied; OR, an IPM plan is followed which reduces ozone precursors. IPM includes applications of pesticides, including fumigants, be applied in a way that emissions of ozone precursors are reduced; Application methods may include: spot spraying, pest/target sensing application equipment, alternative pesticide formulations, or low emission fumigation methods.

Yes No

Nitrogen stabilizers are used when any nitrogen is applied. If nitrogen is not applied, set this test statement to NA.

Yes No

If prescribed burning is used a prescribed burning plan is followed that includes all applicable smoke management practices.

Yes No

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Emission of Greenhouse Gases (GHGs)

Planning Criteria

Planning Criteria Met

Activities that produce GHGs emissions are not present: OR, activities that produce GHGs emissions are managed to reduce those emissions; AND, Carbon sequestration is enhanced through reduced tillage methods or other practices. GHG producing activities that should be considered include: Fertilization (manure/commercial), Tillage methods, grazing management, and forestry practices; AND GHGs are not regulated in this planning area.

Yes No

Evaluation Tests

Evaluation Test Met

Forage Supply and Demand Balance is achieved.

Yes No

Nitrogen is not applied: OR, nitrogen is applied as close as possible to crop uptake (within 30 days prior to crop planting or greenup) at recommended application rates.

Yes No

Objectionable Odors

Planning Criteria

Planning Criteria Met

Activities such as pesticide or manure application are managed to reduce objectionable odors; AND, Odor sources are not regulated in this planning area; AND, Documented episodes or complaints of odor nuisance have not occurred.

Yes No

Evaluation Tests

Evaluation Test Met

Manure is not applied on this land management system; OR, manure is immediately incorporated; OR, manure is only applied when wind direction is away from human occupied areas.

Yes No

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Degraded Plant Condition

Undesirable Plant Productivity and Health

Planning Criteria

Planning Criteria Met

The Pasture Condition Score is 30 or above. Plants are adapted to the site, meet production goals and do not negatively impact other resources.

Yes No

Evaluation Tests

Evaluation Test Met

Plants are perennial, adapted to the site, maintained at minimal stubble heights, productive and healthy.

Yes No

Inadequate Structure and Composition

Planning Criteria

Planning Criteria Met

Plant communities contain adequate diversity, composition and structure to support desired ecological functions for the ecological site.

Yes No

Evaluation Tests

Evaluation Test Met

The current plants provide the desired habitat structure and composition. State identified invasive plants and noxious weeds are controlled.

Yes No

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Excessive Plant Pest Pressure

Planning Criteria

Plant pest damage to plants is below economic or environmental thresholds; AND, plant pests, including noxious and invasive species are managed.

Planning Criteria Met

Yes No

Evaluation Tests

Weeds, insects, and diseases do not limit crop production.

Evaluation Test Met

Yes No

Invasive and noxious weeds are controlled or are not present.

Yes No

Wildfire Hazard, Excessive Biomass Accumulation

Planning Criteria

Wildfire hazards is not a concern; OR, Fuel loads and fuel ladders are managed to provide defensible space.

Planning Criteria Met

Yes No

Evaluation Tests

Sites needing wildfire protection or using Prescribed Burning have a permanent or temporary strip of bare or vegetated land (i.e. Fuel Break) that retards fire.

Evaluation Test Met

Yes No

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Fish and Wildlife - Inadequate Habitat

Inadequate Habitat - Food

Planning Criteria

The WHSI rating is greater than or equal to 0.5; AND, (when surface stream present) The SVAP2 - fish habitat complexity element score is greater than or equal to 7; AND, The SVAP2 - aquatic invertebrate habitat element score is greater than or equal to 7; OR, Conservation practices and managements are in place that meet or exceed species or guild-specific habitat model thresholds; OR, Food is available in quality and extent to support habitat requirements for the species of interest.

Planning Criteria Met

Yes No

Evaluation Tests

Designated areas are planted as food and habitat for pollinators/beneficial insects; AND, Protected from disruption. For example, planted to nectar and pollen producing plants and protected from disruption - chemical, biological, or mechanical.

Evaluation Test Met

Yes No

Plants growing are expected, desired, and suited to the site. Existing forbs and woody species meet state specified amounts.

Yes No

Inadequate Habitat - Cover/Shelter

Planning Criteria

The WHSI rating is greater than or equal to 0.5; AND, (when surface stream present) the SVAP2 - barriers to movement element score is greater than or equal to 7; AND, the SVAP2 - fish habitat complexity element score is greater than or equal to 7; AND, the SVAP2 - aquatic invertebrate habitat element score is greater than or equal to 7; OR conservation practices and management practices are in place that meet or exceed species or guild-specific habitat model thresholds; OR, habitat cover is of available quality and extent to support requirements for the species of interest.

Planning Criteria Met

Yes No

Evaluation Tests

Evaluation Test Met

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All floodable fields in the land management system are managed to maintain surface water at least 4 months per year; AND, artificial supplied water or rainfall are from typical sources. Yes No

The pond/lake, which supports a natural or planted fish population, is managed: -to exclude livestock, -to control nuisance species and undesirable aquatic vegetation controlled, -to complies with state and local regulations when stocking the pond, AND -use of a buffer zone of diverse, natural plant cover at least 35 feet wide. Yes No

The stream(s) have: - a natural, unaltered configuration, with minimal channel straightening, dredging, or bank alteration by armoring with rip-rap or other non-natural materials, - stable banks with limited erosion or bank failure; AND, human uses and/or grazing levels that do not negatively impact bank condition. If streams are not present on the land management system, set the test statement to NA. Yes No

Haying operations include at least two of the following activities: (a) harvest occurs from the center of the field outward to provide better escape cover, (b) flushing bars are mounted on harvesting equipment, (c) mowing occurs during daylight hours, or (d) mowing speeds are reduced during primary nesting season. Yes No

Grazing heights are maintained at a minimum of 6 inches average over winter for mid/tall grass plant communities; AND, 4 inches average over winter for shortgrass plant communities. Yes No

Designated areas are planted as food and habitat for pollinators/beneficial insects. For example, planted to nectar and pollen producing plants and protected from disruption--chemical, biological, or mechanical. Yes No

Plant growth and cover is managed to develop and maintain habitat to help chosen wildlife species. (see State Wildlife Action Plan) Yes No

Livestock access to stream(s) is controlled; OR, livestock access is limited to small watering or crossing areas Yes No

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Inadequate Habitat - Habitat Continuity (Space)

Planning Criteria

Planning Criteria Met

The WHSI rating is greater than or equal to 0.5; AND, (when surface stream present) The SVAP2 - barriers to movement element score is greater than or equal to 7; AND, The SVAP2 - aquatic invertebrate habitat element score is greater than or equal to 7; OR, Conservation practices and managements are in place that meet or exceed species or guild-specific habitat model thresholds; OR, The connectivity of habitat components are adequate to support stable populations of target species.

Yes No

Evaluation Tests

Evaluation Test Met

The land adjacent to a stream, river, or other waterbody on the side or sides you control does: - have diverse, natural plant cover typical to that along streams in your area; AND, Extend from the stream bank or shoreline for a distance of 35 feet; OR, (if applicable) The minimum State buffer-width requirement, whichever is greater.

Yes No

In-stream structures (i.e. dam, diversion structure, bridge, culvert, low-water stream crossing, etc.) allow for the upstream and downstream movement of fish and other aquatic animals throughout most of the year.

Yes No

Connectivity between food resources and cover and shelter is provided for the target wildlife species. (see State Wildlife Action Plan)

Yes No

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Livestock Production Limitation

Inadequate Feed and forage

Planning Criteria

Planning Criteria Met

Livestock forage, roughage, and supplemental nutritional requirements are met.

Yes No

Evaluation Tests

Evaluation Test Met

The existing forage quantity and quality are expected to meet the livestock needs and goals.

Yes No

Inadequate Shelter

Planning Criteria

Planning Criteria Met

Artificial or natural shelters meet animal health needs.

Yes No

Evaluation Tests

Evaluation Test Met

Adequate shelter is provided to meet the needs of the livestock throughout the period the land management system (LMS) is utilized by livestock. If livestock do not use this LMS, set the test statement to NA.

Yes No

Inadequate Water

Planning Criteria

Planning Criteria Met

Water of acceptable quality and quantity is adequately distributed to meet animal needs.

Yes No

Evaluation Tests

Evaluation Test Met

The livestock have enough drinking water of good quality. If livestock do not use this land management system, set the test statement to NA.

Yes No

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Inefficient Energy Use

Equipment and Facilities

Planning Criteria

Planning Criteria Met

On-site renewable energy and/or energy conserving implements have been implemented to improve energy efficiency for field operations.

Yes No

Evaluation Tests

Evaluation Test Met

Energy conserving implements are used for all or some field operations.

Yes No

Farming/Ranching Practices and Field Operations

Planning Criteria

Planning Criteria Met

If nutrients are applied, a nutrient budget is used to determine all nutrient application rates; AND, If irrigated, improved efficiency irrigation pumps are being used on the majority of irrigated pastures.

Yes No

Evaluation Tests

Evaluation Test Met

Irrigation water is being managed to maintain a balance of soil moisture not to exceed Field Capacity or get below wilting point (unless water quantity is a limitation). Methods include: soil moisture monitoring with sensors, evapotranspiration monitoring, or other checkbook type methods. If the land management system is not irrigated, set this test statement to NA.

Yes No

Improved efficiency irrigation pumps and motors are used for more than 50% of irrigation water applications. If the land management system is not irrigated, set this test statement to NA.

Yes No