

Table 1.

<i>Resource Concern</i>	<i>Description of Concern</i>	<i>Quality Criteria</i>	<i>Measurement Units</i>	<i>Assessment Tool</i>
<b>Soil Erosion</b>				
<b>Soil Erosion - Sheet and Rill</b>	Detachment and transport of soil particles caused by rainfall splash and runoff degrade soil quality.	<u>National</u> - Sheet and rill erosion does not exceed the Soil Loss Tolerance "T".	Tons/Acre/Year – average annual tons of erosion decreased per acre for the field or planning area/unit	Current approved water erosion prediction technology (RUSLE2)
<b>Soil Erosion - Wind</b>	Detachment and transport of soil particles caused by wind degrade soil quality and/or damage plants.	<u>National</u> - Wind erosion does not exceed the Soil Loss Tolerance "T" or, for plant damage, does not exceed Crop Damage Tolerances.	Tons/Acre/Year – average annual tons of erosion decreased per acre for the field or planning area/unit	Current approved wind erosion prediction technology (Excel WEQ, Management Period Method)
<b>Soil Erosion - Ephemeral Gully</b>	Small channels caused by surface water runoff degrade soil quality and tend to increase in size. On cropland, they can be obscured by heavy tillage.	<u>National</u> - Surface water runoff is controlled sufficiently to stabilize small channels and prevent reoccurrence of new channels.	Tons/Year – average annual tons of erosion decreased for the field or planning area/unit	Aerial extent/volume calculation
<b>Soil Erosion - Classic Gully</b>	Deep, permanent channels caused by the convergence of surface runoff degrade soil quality. They enlarge progressively by head cutting and lateral widening.	<u>National</u> - Surface water runoff is controlled sufficiently to stop progression of head cutting and widening.	Tons/Year – average annual tons of erosion decreased for the field or planning area/unit	Aerial extent/volume calculation
<b>Soil Erosion - Streambank</b>	Accelerated loss of streambank soils restricts land and water use and management.	<u>National</u> - Accelerated streambank soil loss does not exceed a level commensurate with upstream land use and normal geomorphologic processes on site. <u>Colorado</u> - Stream is in proper functioning condition, or if off-site conditions cause the stream not to be in proper functioning condition, the land user is not contributing to the problem.	Tons/Year – average annual tons of erosion decreased for the field or planning area/unit	Aerial extent/volume calculation and Proper Functioning Condition

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<b>Soil Erosion - Irrigation-induced</b>	Improper irrigation water application and equipment operation cause soil erosion that degrades soil quality.	<u>National</u> - Irrigation induced erosion does not exceed the Soil Loss Tolerance "T". <u>Colorado</u> - Sprinkler application rates and furrow irrigation flow rates are within values recommended in the National Irrigation Guide.	Tons/Acre/Year – average annual tons of erosion decreased per acre for the field or planning area/unit	National Irrigation Guide
<b>Soil Erosion - Mass Movement</b>	Soil slippage, landslides, or slope failures, normally on hillsides, result in large volumes of soil and rock movement.	<u>National</u> - Shallow slumps, slides or slips are prevented or minimized so that mass movement of earth material does not exceed naturally occurring rates.	Tons/Year – average annual tons of erosion decreased for the field or planning area/unit	Aerial extent/volume calculation
<b>Soil Erosion - Road, Roadsides and Construction Sites</b>	Soil loss occurs on areas left unprotected during or after road building and/or construction activities.	<u>National</u> - Sites are adequately protected from soil loss during and after road building and construction activities.	Tons/Year – average annual tons of erosion decreased for the field or planning area/unit	RUSLE2 and or Excel WEQ Management Period Method
<b>Soil Condition</b>				
<b>Soil Condition - Organic Matter Depletion</b>	Soil organic matter has lowered or will diminish to a level that degrades soil quality.	<u>National</u> - Soil Conditioning Index is positive.	Soil Conditioning Index improvement – positive improvement in index for the field or planning area/unit	Rusle 2 Soil Conditioning Index
<b>Soil Condition - Rangeland Site Stability</b>	The capacity to limit redistribution and loss of soil resources (including nutrients and organic matter) by wind and water.	<u>National</u> - Indicators of Rangeland Health Attribute rating for Soil/Site Stability show Slight to Moderate or less departure from Ecological Reference Sheet (ESD).	Departure from Ecological Reference Sheet (ESD) categories – amount of departure, by numeric value, from Ecological Reference Sheet for the field or planning area/unit. 1=None to Slight, 2=Slight to Moderate, 3=Moderate, 4=Moderate to Extreme, or 5=Extreme.	Rangeland Health Assessment

<b>Resource Concern</b>	<b>Description of Concern</b>	<b>Quality Criteria</b>	<b>Measurement Units</b>	<b>Assessment Tool</b>
<b>Soil Condition - Compaction</b>	Compressed soil particles and aggregates caused by mechanical compaction adversely affect plant-soil-moisture relationships.	<u>National</u> - Mechanically compacted soils are renovated sufficiently to restore plant root growth and/or water movement.	Non Measurable	Visual Assessment
<b>Soil Condition - Subsidence</b>	Loss of volume and depth of organic soils due to oxidation caused by above-normal microbial activity resulting from excessive drainage or extended drought.	<u>National</u> - The timing and regime of soil moisture is managed to attain acceptable subsidence rates.	Inches/Acre/Year – average annual inches of subsidence decreased per acre for the field or planning area/unit	Visual assessment
<b>Soil Condition - Contaminants: Salts and Other Chemicals</b>	Inorganic chemical elements and compounds such as salts, selenium, boron, and heavy metals restrict the desired use of the soil or exceed the soil buffering capacity.	<u>National</u> - Salinity levels cause less than a 10% decrease in plant yield. Other contaminants do not exceed plant tolerances or are below toxic levels for plants or animals.	Electrical Conductivity (EC) – average decrease in EC for the field or planning area/unit	Soil test
<b>Soil Condition - Contaminants: Animal Waste and Other Organic N</b>	Nitrogen nutrient levels from applied animal waste and other organics restrict desired use of the land.	<u>National</u> - Nitrogen nutrient application levels do not exceed soil storage/plant uptake capacities based on soil test recommendations and risk analysis results.	Pounds/Acre/Year – average annual pounds of nitrogen (N) decreased per acre for the field or planning area/unit	Soil Test, Nutrient Management Plan
<b>Soil Condition - Contaminants: Animal Waste and Other Organic P</b>	Phosphorus nutrient levels from applied animal waste and other organics restrict desired use of the land.	<u>National</u> - Phosphorus nutrient application levels do not exceed soil storage/plant uptake capacities based on soil test recommendations and risk analysis results.	Pounds/Acre/Year – average annual pounds of phosphorus (P) decreased per acre for the field or planning area/unit	Soil Test, Nutrient Management Plan
<b>Soil Condition - Contaminants: Animal Waste and Other Organics K</b>	Potassium nutrient levels from applied animal waste and other organics restrict desired use of the land.	<u>National</u> - Potassium nutrient application levels do not exceed soil storage/plant uptake capacities based on soil test recommendations and risk analysis results.	Pounds/Acre/Year – average annual pounds of potassium (K) decreased per acre for the field or planning area/unit	Soil Test, Nutrient Management Plan

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<b>Soil Condition - Contaminants: Commercial Fertilizer N</b>	Over application of nitrogen degrades plant health and vigor or exceeds the soil capacity to retain nutrients.	<u>National</u> - Soil nutrient levels of nitrogen do not exceed crop needs based on realistic yield goals, and appropriate pH levels are maintained.	Pounds/Acre/Year – average annual pounds of nitrogen (N) decreased per acre for the field or planning area/unit	Soil Test, Nutrient Management Plan
<b>Soil Condition - Contaminants: Commercial Fertilizer P</b>	Over application of phosphorus degrades plant health and vigor or exceeds the soil capacity to retain nutrients.	<u>National</u> - Soil nutrient levels of phosphorus do not exceed crop needs based on realistic yield goals, and appropriate pH levels are maintained.	Pounds/Acre/Year – average annual pounds of phosphorus (P) decreased per acre for the field or planning area/unit	Soil Test, Nutrient Management Plan
<b>Soil Condition - Contaminants: Commercial Fertilizer K</b>	Over application of potassium degrades plant health and vigor or exceeds the soil capacity to retain nutrients.	<u>National</u> - Soil nutrient levels of potassium do not exceed crop needs based on realistic yield goals, and appropriate pH levels are maintained.	Pounds/Acre/Year – average annual pounds of potassium (K) decreased per acre for the field or planning area/unit	Soil Test, Nutrient Management Plan
<b>Soil Condition - Contaminants: Residual Pesticides</b>	Residual pesticides in the soil have an adverse effect on non-targeted plants and animals.	<u>National</u> - Pesticides are applied, stored, handled and disposed of, so residues in the soil do not adversely affect non-target plants and animals. <u>Colorado</u> - Apply pesticides according to label requirements.	Non Measurable	Pesticide application records
<b>Soil Condition - Damage from Sediment Deposition</b>	Sediment deposition damages or restricts land use/management or adversely affects ecological processes.	<u>National</u> - Sediment deposition is sufficiently decreased to maintain desired land use/management and ecological processes.	Acres/Year – average annual acres of sediment deposition decreased for the field or planning area/unit	Aerial extent calculation

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<b>Water Quantity</b>				
<b>Water Quantity - Rangeland Hydrologic Cycle</b>	The capacity to capture, store, and safely release water from rainfall, run-on and snowmelt (where relevant).	<u>National</u> - Indicators of Rangeland Health Attribute rating for Hydrologic Cycle is Slight to Moderate or less departure from Ecological Reference Sheet (ESD).	Departure from Ecological Reference Sheet (ESD) categories – amount of departure, by numeric value, from Ecological Reference Sheet for the field or planning area/unit. 1=None to Slight, 2=Slight to Moderate, 3=Moderate, 4=Moderate to Extreme, or 5=Extreme.	Rangeland Health Assessment
<b>Water Quantity - Excessive Seepage</b>	Subsurface water oozing to the surface restricts land use and management.	<u>National</u> - Subsurface water is managed to limit periods of saturation that are unfavorable to the present or intended land use. Management complies with wetland policies.	Acres/Year – average annual acres of seep decreased for the field or planning area/unit	Aerial extent calculation
<b>Water Quantity - Excessive Runoff, Flooding or Ponding</b>	The land becomes inundated, restricting land use and management.	<u>National</u> - Excess water amounts and/or rates of flow are controlled, consistent with desired present or intended land use goals and wetland policies.	Non Measurable	Visual assessment
<b>Water Quantity - Excessive Subsurface Water</b>	Water saturates upper soil layers, restricting land use and management.	<u>National</u> - Subsurface water is managed to limit periods of saturation compatible with the present or intended land use and wetland policies.	Non Measurable	Visual assessment
<b>Water Quantity - Drifted Snow</b>	Wind-blown snow forms deposits and accumulates around and over surface structures, restricting ingress, egress, and conveyance of humans and animals.	<u>National</u> - Snowdrifts are decreased or prevented so as to allow ingress, egress, and conveyance of humans and animals.	Non Measurable	Visual assessment

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<b>Water Quantity - Inadequate Outlets</b>	Natural or constructed outlets are too small to remove excess water in a timely manner.	<u>National</u> - Outlets are designed, installed, upgraded or maintained to adequately convey water for present or intended uses.	Non Measurable	Visual assessment
<b>Water Quantity - Inefficient Water Use on Irrigated Land</b>	Limited water supplies are not optimally utilized.	<u>National</u> - Land and water management is planned and coordinated to provide optimal use of natural and applied moisture. <u>Colorado</u> - Irrigation water is applied according to a plan that meets the CO Code 449 criteria, minimizing losses to surface and groundwater to the extent feasible.	Acre-Inches/Acre/Year – average annual acre-inches of water per acre used more beneficially for the field or planning area/unit	Water balance calculations
<b>Water Quantity - Inefficient Water Use on Nonirrigated Land</b>	Natural moisture is not optimally utilized.	<u>National</u> - Management provides optimum use of natural moisture for the present or intended land use.	Acre-Inches/Acre/Year – average annual acre-inches of water per acre used more beneficially for the field or planning area/unit	Water balance calculations
<b>Water Quantity - Decreased Capacity of Conveyances by Sediment Deposition</b>	Sediment deposits in ditches, canals, culverts, and other water conveyances decrease the desired flow capacity.	<u>National</u> - Conveyance structures are upgraded or maintained to adequately convey water for present or intended uses.	Cubic yards – volume of sediment in cubic yards removed to maintain water conveyances for the field or planning area/unit	Sediment volume calculations
<b>Water Quantity - Decreased Storage of Water Bodies by Sediment Accumulation</b>	Sediment deposits in water bodies decrease the desired volume capacity.	<u>National</u> - Water bodies and contributing source areas are treated to allow sufficient water storage for present and intended uses.	Acre-Inches/Year – average annual reduction in acre-inches in sediment deposition within water bodies for the field or planning area/unit	Sediment depth/aerial extent calculations
<b>Water Quantity - Aquifer Overdraft</b>	Water withdrawals exceed the safe yield for the aquifer.	<u>National</u> - Land and water management are coordinated to balance aquifer recharge and withdrawals to maintain the safe yield for the aquifer.	Acre-Inches/Year – average annual reduction in acre-inches of groundwater overdraft for the field or planning area/unit	Irrigation water use calculations

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<b>Water Quantity - Insufficient Flows in Watercourses</b>	Water flows are not consistently available in sufficient quantities to support ecological processes and land use and management.	<u>National</u> - Authorized uses and management of water are coordinated to minimize the impacts on watercourse flows.	Non Measurable	Surface Water Supply Index, allocation water rights
<b>Water Quality</b>				
<b>Water Quality - Harmful Levels of Pesticides in Groundwater</b>	Residues resulting from the use of pest control chemicals degrade groundwater quality.	<u>National</u> - Pesticides are applied, stored, handled, disposed of and managed according to label requirements so groundwater uses are not adversely affected. <u>Colorado</u> - Apply pesticides according to label requirements.	Non Measurable	Pesticide application records
<b>Water Quality - Excessive Nutrients and Organics in Groundwater</b>	Pollution from natural or human-induced nutrients such as N, P, and S (including animal and other wastes) degrades groundwater quality.	<u>National</u> - Nutrients and organics are stored, handled, disposed of, and applied so that groundwater uses are not adversely affected. <u>Colorado</u> - Leaching index risk assessment is low or medium.	Non Measurable	Current approved Colorado Nitrogen Leaching Index Risk Assessment
<b>Water Quality - Excessive Salinity in Groundwater</b>	Pollution from salts such as Ca, Mg, Na, K, HCO <sub>3</sub> , CO <sub>3</sub> , Cl, and SO <sub>4</sub> degrades groundwater quality.	<u>National</u> - Salts are stored, handled, disposed of, applied and managed so that groundwater uses are not adversely affected.	Electrical Conductivity (EC) – average reduction in EC for the field or planning area/unit	Vadose zone and groundwater salinity sampling (total dissolved solids or electrical conductivity) and assay
<b>Water Quality - Harmful Levels of Heavy Metals in Groundwater</b>	Natural or human-induced metal pollutants present in toxic amounts degrade groundwater quality.	<u>National</u> - Materials containing heavy metals are stored, handled, disposed of, applied and managed so that groundwater uses are not adversely affected.	Non Measurable	Vadose zone and groundwater chemical sampling and assay
<b>Water Quality - Harmful Levels of Pathogens in Groundwater</b>	Kinds and numbers of viruses, protozoa and bacteria are present at levels that degrade groundwater quality.	<u>National</u> - Materials that harbor pathogens are stored, handled, disposed of, applied and managed so that groundwater uses are not adversely affected.	Non Measurable	Vadose zone and groundwater chemical sampling and assay

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<b>Water Quality - Harmful Levels of Petroleum in Groundwater</b>	Fuel, oil, gasoline and other hydrocarbons are present in toxic amounts and degrade groundwater quality.	<u>National</u> - Petroleum products are used, stored, handled, disposed of and managed so that groundwater uses are not adversely affected.	Non Measurable	Vadose zone and groundwater chemical sampling and assay
<b>Water Quality - Harmful Levels of Pesticides in Surface Water</b>	Pest control chemicals present in toxic amounts degrade surface water quality.	<u>National</u> - Pesticides are applied, stored, handled, disposed of and managed so that surface water uses are not adversely affected. <u>Colorado</u> - Pesticides are applied according to label requirements.	Non Measurable	Pesticide application records
<b>Water Quality - Excessive Nutrients and Organics in Surface Water</b>	Pollution from natural or human induced nutrients such as N, P, and S (including animal and other wastes) degrades surface water quality.	<u>National</u> - Nutrients and organics are stored, handled, disposed of, and managed so that surface water uses are not adversely affected. <u>Colorado</u> - Runoff risk assessment is low or medium.	Non Measurable	Current approved Colorado Phosphorus Index Risk Assessment
<b>Water Quality - Excessive Suspended Sediment and Turbidity in Surface Water</b>	Excessive concentrations of mineral or organic particles, algae, or organic stains degrade surface water quality.	<u>National</u> - Delivery or suspension of mineral and organic particles, and excessive algae growth or organic stains, is managed such that surface water uses are not adversely affected.	Non Measurable	Surface water chemical/particle sampling and assay
<b>Water Quality - Excessive Salinity in Surface Water</b>	Pollution from salts such as Ca, Mg, Na, K, HCO <sub>3</sub> , CO <sub>3</sub> , Cl, and SO <sub>4</sub> degrades surface water quality.	<u>National</u> - Salts are stored, handled, disposed of, applied, and managed so that surface water uses are not adversely affected.	Electrical Conductivity (EC) – average reduction in EC for the field or planning area/unit	Surface water salinity sampling (total dissolved solids or electrical conductivity) and assay
<b>Water Quality - Harmful Levels of Heavy Metals in Surface Water</b>	Natural or human-induced metal pollutants are present in toxic amounts that degrade surface water quality.	<u>National</u> - Materials containing heavy metals are stored, handled, disposed of, applied and managed so that surface water uses are not adversely affected.	Non Measurable	Surface water sampling and assay

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<b>Water Quality - Harmful Temperatures of Surface Water</b>	Undesired thermal conditions degrade surface water quality.	<u>National</u> - Use and management of land and water are coordinated to minimize impacts on surface water temperatures.	Non Measurable	Surface water temperature sampling
<b>Water Quality - Harmful Levels of Pathogens in Surface Water</b>	Kinds and numbers of viruses, protozoa, and bacteria are present at a level that degrades surface water quality.	<u>National</u> - Materials that harbor pathogens are stored, handled, disposed of, applied, and managed so that surface water uses are not adversely affected.	Non Measurable	Surface water pathogen sampling and assay
<b>Water Quality - Harmful Levels of Petroleum in Surface Water</b>	Fuel, oil, gasoline, and other hydrocarbons present in toxic amounts degrade surface water quality.	<u>National</u> - Petroleum products are used, stored, handled, and disposed of so that groundwater uses are not adversely affected.	Non Measurable	Surface water chemical sampling and assay
<b>Water Quality - Colorado River Excessive Salinity</b>	Colorado River Basin Salinity Control Program (CRBSC) tracks effects of improved irrigation techniques to decrease salt entering Colorado River waters that eventually flow into Mexico.	<u>Colorado</u> - Salts are managed with an Irrigation Water Management Plan, Code 449 to minimize deep percolation and runoff.	Tons/Acre/Year unit – average annual tons of salt entering Colorado River waters decreased per acre for the field or planning area/unit	Colorado River Salinity Control Program salinity calculation procedure

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<b>Air Quality</b>				
<b>Air Quality - Particulate matter less than 10 micrometers in diameter (PM 10)</b>	Particulate matter less than 10 micrometers in diameter are suspended in the air, causing potential health hazards to humans and animals.	<u>National</u> - Land use and management operations decrease PM-10 emissions into the atmosphere and comply with requirements of the State or Federal Implementation Plan and all applicable Federal, Tribal, State, and local regulations.	Pounds/Year – average annual pounds of decreased PM-10 emissions for the field or planning area/unit	Air quality analysis
<b>Air Quality - Particulate matter less than 2.5 micrometers in diameter (PM 2.5)</b>	Particulate matter less than 2.5 micrometers in diameter are suspended in the air, causing potential health hazards to humans and animals.	<u>National</u> - Land use and management operations decrease PM-2.5 emissions into the atmosphere and comply with requirements of the State or Federal Implementation Plan and all applicable Federal, Tribal, State, and local regulations.	Pounds/Year – average annual pounds of decreased PM-2.5 emissions for the field or planning area/unit	Air quality analysis
<b>Air Quality - Excessive O<sub>3</sub> (ozone)</b>	High concentrations of O <sub>3</sub> are adversely affecting human health, reducing plant yields, and creating smog.	<u>National</u> - Land use and management operations decrease O <sub>3</sub> precursors and comply with requirements of the State or Federal Implementation Plan and all applicable Federal, Tribal, State, and local regulations.	Pounds/Year – average annual pounds of decreased O <sub>3</sub> precursors emissions for the field or planning area/unit	Air quality analysis
<b>Air Quality - Excessive Greenhouse Gas: CO<sub>2</sub> (carbon dioxide)</b>	Increased CO <sub>2</sub> concentrations are adversely affecting ecosystem processes.	<u>National</u> - Land use and management operations decrease CO <sub>2</sub> emissions to the atmosphere and comply with requirements of the State or Federal Implementation Plan and all applicable Federal, Tribal, State, and local regulations.	Non Measurable	Air quality analysis

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<b>Air Quality - Excessive Greenhouse Gas: N<sub>2</sub>O (nitrous oxide)</b>	Increased N <sub>2</sub> O concentrations are adversely affecting ecosystem processes.	<u>National</u> - Land use and management operations decrease N <sub>2</sub> O emissions into the atmosphere and comply with requirements of the State or Federal Implementation Plan and all applicable Federal, Tribal, State, and local regulations.	Non Measurable	Air quality analysis
<b>Air Quality - Excessive Greenhouse Gas: CH<sub>4</sub> (methane)</b>	Increased CH <sub>4</sub> concentrations are adversely affecting ecosystem processes.	<u>National</u> - Land use and management operations decrease CH <sub>4</sub> emissions into the atmosphere and comply with requirements of the State or Federal Implementation Plan and all applicable Federal, Tribal, State, and local regulations.	Non Measurable	Air quality analysis
<b>Air Quality - NH<sub>3</sub> (ammonia)</b>	Animal waste and inorganic commercial fertilizers emit NH <sub>3</sub> that contributes to odor, is a PM <sub>2.5</sub> precursor, and contributes to acid rain.	<u>National</u> - Land use and management operations decrease NH <sub>3</sub> emissions into the atmosphere and comply with requirements of all applicable Federal, Tribal, State, and local regulations.	Pounds/Year – average annual pounds of decreased NH <sub>3</sub> emissions for the field or planning area/unit	Air quality analysis
<b>Air Quality - Chemical Drift</b>	Materials applied to control pests drift downwind and contaminate/injure non-targeted fields, crops, soils, water, animals and humans.	<u>National</u> - Land use and management operations decrease chemical drift into the atmosphere and comply with all applicable Federal, Tribal, State, and local regulations, and applicable label directions.	Non Measurable	Pesticide application records
<b>Air Quality - Objectionable Odors</b>	Land use and management operations produce offensive smells.	<u>National</u> - Odor-producing facilities and activities are planned and sited to mitigate potential nuisance impacts and meet all applicable Tribal, State, and local regulations.	Non Measurable	Olfactory assessment

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<b>Air Quality - Decreased Visibility</b>	Sight distance is impaired due to airborne particles causing unsafe conditions and impeded viewing of natural vistas, especially in Class I viewing areas (primarily national parks and monuments).	<u>National</u> - Land use and management operations decrease particle emission into the atmosphere and comply with all applicable Federal, Tribal, State, and local regulations, including State and local smoke and/or burn management plans.	Non Measurable	Applicable Federal, State, Tribal and local laws and regulations
<b>Air Quality - Undesirable Air Movement</b>	Wind velocities (too little or too much) decrease animal or plant productivity, impact human comfort and increase energy consumption.	<u>National</u> - Land use and management operations mitigate excessive or deficient air movement.	Non Measurable	Anemometers
<b>Air Quality - Adverse Air Temperature</b>	Air temperatures (too cold or too hot) decrease animal or plant productivity, impact human comfort and increase energy consumption.	<u>National</u> - Land use and management operations mitigate temperature extremes.	Non Measurable	Air temperature assessment

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<b>Plants</b>				
<p><b>Plants - Not Adapted or Suited</b></p>	<p>Plants are not adapted and/or suited to site conditions or client objectives.</p>	<p><u>National</u> - Selected plants are adapted to the soil and climatic conditions, or the site is modified to make it suitable for the desired plants. Plants are sustainable, do not negatively impact other resources, and meet client objectives. For specific land uses, additional criteria apply:  <u>Cropland</u>: A healthy stand with vigorous growth. Yields 75% of client expectations.  <u>Rangeland</u>: Plants on or planned for the site are listed in applicable Ecological Site Descriptions (ESD). Plants are suited for the soils.  <u>Pastureland</u>: Plants on or planned for the site have a site adaptation score greater than 3 using Pasture Condition Scoring (PCS) and are listed in applicable Forage Suitability Groups (FSG) reports.  <u>Hayland</u>: Plants on or planned for the site are listed in applicable FSG reports.  <u>Forestland/Agroforest</u>: Plants on or planned for the site are listed in corresponding ESDs. Plants are suited for the soils.</p>	<p>Non Measurable</p>	<p>On-site investigation; Range Site Descriptions or Ecological site Descriptions and Colorado Plant Materials Technical Note 59. Forage Suitability Groups and Pasture Condition Scoring.</p>

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<b>Plant Condition - Productivity, Health and Vigor</b>	Plants do not produce the yields, quality, and soil cover to meet client objectives.	<p><u>National</u> - Selected plants on or planned for the site are sufficiently productive to meet or exceed client needs.</p> <p>For specific land uses, additional criteria apply:</p> <p><u>Cropland</u>: healthy stand with vigorous growth produces at least 75% of site potential.</p> <p><u>Rangeland</u>: The plant community has a similarity index of at least 60% or an upward trend for similarity indices less than 60%.</p> <p><u>Pastureland</u>: Forage yields are at least 75% of high management estimates cited in Forage Suitability Groups (FSG) reports.</p> <p><u>Hayland</u>: Forage yields are at least 75% of high management estimates cited in FSG reports.</p> <p><u>Forestland/Agroforest</u>: Forests consist of healthy stands with vigorous growth having a stand density within 25% of optimum stocking on a stems/acre basis. The plant community has a similarity index of at least 60% or an upward trend for similarity indices less than 60%. Plants chosen for Agroforest applications are consistent with Conservation Tree and Shrub Groups listings and height performance.</p>	Non Measurable	<p><u>Cropland</u>, Comparison to similar crops and soils in the area.</p> <p><u>Pastureland and Hayland</u>, National Range &amp; Pasture Handbook, Pasture Inventory Worksheet and Pasture Condition Score Sheet.</p> <p><u>Grazingland</u>, National Range &amp; Pasture Handbook, Similarity Index, Forage Balance and Range Health Worksheets.</p> <p><u>Forestland</u>, Stocking rate of preferred species, basal area measurement of trees, timber production. Ecological Site Descriptions.</p>

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<b>Resource Concern</b>	<b>Description of Concern</b>	<b>Quality Criteria</b>	<b>Measurement Units</b>	<b>Assessment Tool</b>
<b>Plant Condition - Threatened or Endangered Plant Species: Plant Species Listed or Proposed for Listing under the Endangered Species Act</b>	The site includes individuals, habitat or potential habitat for one or more plant species listed or proposed for listing under the Endangered Species Act.	<u>National</u> - Populations and/or habitats of Threatened and Endangered plant species are managed to maintain, increase or improve current populations, health, or sustainability.	Non Measurable	Colorado Rare Plant Field Guide, Federal, State and County Threatened and Endangered Species Lists
<b>Plant Condition - Threatened or Endangered Plant Species: Declining Species, Species of Concern</b>	The site includes individuals, habitat or potential habitat for one or more plant species that the State or Tribal government with jurisdiction, or the State Technical Committee, has identified as a species of concern. This includes plant species that have been identified as candidates for listing under the Endangered Species Act.	<u>National</u> - Populations and/or habitats of plant species of concern are managed to maintain, increase, or improve current populations, health, or sustainability.	Non Measurable	Colorado Rare Plant Field Guide
<b>Plant Condition - Noxious and Invasive Plants</b>	The site has noxious or invasive plants present.	<u>National</u> - The site is managed to control noxious and invasive plants and to minimize their spread. <u>Colorado</u> - Pest Management Plans meet the requirements of the Amended Colorado Weed Act and County and local weed management laws and regulations.	Non Measurable	State, County and local noxious weed lists, Pest Management Plan Code 595.
<b>Plant Condition - Forage Quality and Palatability</b>	Plants do not have adequate nutritive value or palatability for the intended use.	<u>National</u> - Forage plants are managed to produce the desired nutritive value and palatability for the intended use.	Non Measurable	Near Infrared Spectrometry Forage Quality Analysis (NUTBAL), Plant tissue analysis

Table 1.

<i>Resource Concern</i>	<i>Description of Concern</i>	<i>Quality Criteria</i>	<i>Measurement Units</i>	<i>Assessment Tool</i>
<b>Plant Condition - Wildfire Hazard</b>	The kinds and amounts of fuel loadings (plant biomass) pose risks to human safety, structures, and resources, should wildfire occur.	<u>National</u> - Fuel loadings are decreased and/or isolated to meet client needs in minimizing the risk and incidence of wildfire.	Acres/Year – average annual acres protected from wildfire for the field of planning area/unit	Visual Assessment Protocols, CSUCE Bulletin No. 6.302, Creating Wildfire Defensible Zones
<b>Animals</b>				
<b>Fish and Wildlife - Inadequate Food</b>	Quantity and quality of food are unavailable to meet the life history requirements of the species or guild of species of concern.	<u>National</u> - Food availability meets the life history requirements of the species or guild of species of concern. <u>Colorado</u> - Wildlife habitat assessment model score of 0.5 or greater.	Non Measurable	State Adapted Wildlife Habitat Evaluation Guide
<b>Fish and Wildlife - Inadequate Cover/Shelter</b>	Cover/shelter for the species or guild of species of concern is unavailable or inadequate. This includes lack of hiding, thermal, and/or refuge cover.	<u>National</u> - The ecosystem or habit types support the necessary plant species in adequate diversity, abundance and physical structure; and the connectivity of fish and wildlife cover is adequate to support, over time, the species or guild of species of concern. <u>Colorado</u> - Wildlife habitat assessment model score of 0.5 or greater.	Non Measurable	State Adapted Wildlife Habitat Evaluation Guide
<b>Fish and Wildlife - Inadequate Water</b>	The quantity and quality of water is unacceptable for the species or guild of species of concern.	<u>National</u> - The quantity and quality of water meets the life history requirements of the species or guild of species of concern. <u>Colorado</u> - Wildlife habitat assessment model score of 0.5 or greater	Non Measurable	State Adapted Wildlife Habitat Evaluation Guide

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<b>Resource Concern</b>	<b>Description of Concern</b>	<b>Quality Criteria</b>	<b>Measurement Units</b>	<b>Assessment Tool</b>
<b>Fish and Wildlife - Inadequate Space</b>	Lack of required areas disrupts the life history of the species or guild of species of concern.	<u>National</u> - Area is adequate to meet life history requirements of the species or guild of species of concern. (Examples: staging areas for rest and feeding, lekking areas for breeding, migratory movement corridors.)	Non Measurable	General reference materials or expert opinion
<b>Fish and Wildlife - Habitat Fragmentation</b>	Habitat has insufficient structure, extent, and connectivity to provide ecological functions and/or achieve management objectives.	<u>National</u> - Fish and wildlife habitats are connected and are maintained sufficiently to support the species or guild of species of concern.	Non Measurable	Visual assessment
<b>Fish and Wildlife - Imbalance Among and Within Populations</b>	Populations are not in proportion to available quantities and qualities of food (plants, predator/prey), cover/shelter, water, and space and other life history requirements.	<u>National</u> - Land and water use and management are consistent with direct population management activities conducted by fish and wildlife agencies.	Non Measurable	Fish and wildlife agency guidance and protocols
<b>Fish and Wildlife - Threatened and Endangered Fish and Wildlife Species: Fish and Wildlife Species Listed or Proposed for Listing under the Endangered Species Act</b>	The site includes individuals, habitat or potential habitat for one or more fish or wildlife species listed or proposed for listing under the Endangered Species Act.	<u>National</u> - Populations and/or habitats of Threatened and endangered fish and wildlife species and/or habitats they occupy are managed to maintain, increase, or improve current populations, health, or sustainability.	Non Measurable	Fish and wildlife agency guidance and protocols, Federal T&E List for County and State

<i>Resource Concern</i>	<i>Description of Concern</i>	<i>Quality Criteria</i>	<i>Measurement Units</i>	<i>Assessment Tool</i>
<b>Fish and Wildlife - Threatened and Endangered Species: Declining Species, Species of Concern</b>	The site includes individuals, habitat or potential habitat for one or more fish or wildlife species that the State or Tribal government with jurisdiction, or the State Technical Committee, has identified as a species of concern. This includes fish and wildlife species that have been identified as candidates for listing under the Endangered Species Act.	<u>National</u> - Populations and/or habitats of fish and wildlife species of concern are managed to maintain, increase, or improve current populations, health, or sustainability.	Non Measurable	Fish and wildlife agency guidance and protocols, Federal T&E List for County and State and CDOW List
<b>Domestic Animals - Inadequate Quantities and Quality of Feed and Forage</b>	Total feed and forage are insufficient to meet the nutritional and production needs of the kinds and classes of livestock.	<u>National</u> - Feed and forage, including supplemental nutritional requirements, are provided to meet production goals for the kinds and classes of livestock. Native grazers are factored into the total feed and forage balance computations.	Non Measurable	Measured inventory, National Range and Pasture Handbook, Grazing Lands Application software, Nutritional Balance Program, NIRS/Nutritional Balance Profile Program, Forage quality laboratory analysis
<b>Domestic Animals - Inadequate Shelter</b>	Livestock are not protected sufficiently to meet the production goals for the kinds and classes of livestock.	<u>National</u> - Artificial and/or natural shelter is provided to meet production goals for the kinds and classes of livestock.	Non Measurable	Visual assessment, Inventory of facilities and their capacities, Aerial photo analysis, National Range and Pasture Handbook

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<i>Resource Concern</i>	<i>Description of Concern</i>	<i>Quality Criteria</i>	<i>Measurement Units</i>	<i>Assessment Tool</i>
<b>Domestic Animals - Inadequate Stock Water</b>	The quantity, quality and distribution of drinking water are insufficient to meet the production goals for the kinds and classes of livestock.	<u>National</u> - Sufficient water of acceptable quality is provided and adequately distributed to meet production goals for the kinds and classes of livestock. To decrease potential for water contamination, watering facilities are constructed or modified to minimize mortality to indigenous wildlife.	Non Measurable	National Range and Pasture Handbook
<b>Domestic Animals - Stress and Mortality</b>	Animals exhibit illness or death from disease, parasites, insects, poisonous plants, or other factors.	<u>National</u> - Land and water use and management are consistent with activities conducted to alleviate stress and mortality factors.	Non Measurable	State and local regulations for animal disposal