

Resource Concern	Description of Concern	National Quality Criteria	Measurement Units	State Quality Criteria	Assessment Tools for Quality Criteria Evaluation
Soil Erosion - Sheet and Rill	Detachment and transport of soil particles caused by rainfall splash and runoff degrade soil quality.	Sheet and rill erosion does not exceed the Soil Loss Tolerance "T".	Tons/Acre/Year - average annual tons of erosion reduced per acre for the field or planning area/unit	Same as National	Current erosion prediction tool, i.e. Revised Universal Soil Loss Equation (RUSLE2)
Soil Erosion-Wind	Detachment and transport of soil particles caused by wind degrade soil quality and or damage plants.	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 reduced per acre for the field or planning area/unit	Same as National	Current erosion prediction tool, i.e., Wind Erosion Equation (WEQ)
Soil Erosion - Ephemeral Gully	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.	Surface water runoff is controlled sufficiently to stabilize the small channels and prevent reoccurrence of new channels.	Tons/Year - average annual tons of erosion reduced for the field or planning area/unit	Same as National	Volume calculation
Soil Erosion - Classic Gully	Deep, permanent channels caused by the convergence of surface runoff degrade soil quality. They enlarge progressively by head cutting and lateral widening.	Surface water runoff is controlled sufficiently to stop progression of head cutting and widening.	Tons/Year - average annual tons of erosion reduced for the field or planning area/unit	Same as National	Volume calculation; Aerial photo trend analysis
Soil Erosion - Streambank	Accelerated loss of stream bank soils restricts land and water use and management.	Accelerated stream bank soil loss does not exceed a level commensurate with upstream land use and normal geomorphological processes on site.	Tons/Year - average annual tons of erosion reduced for the field or planning area/unit	Assessment tool shows condition of stream is healthy or if off-site conditions cause the stream to be unhealthy, then landowner is not contributing to the problem.	Stream assessment tool; i.e. Stream Visual Assessment Protocol; Proper Functioning Condition (PFC); Volume calculation; Visual assessment
Soil Erosion - Shoreline	Soil is eroded along shorelines by wind and wave action, causing physical damage to vegetation, limiting land use, or creating a safety hazard.	Shoreline erosion is stabilized to a level that does not restrict the use or management of adjacent land, water or structures.	Tons/Year - average annual tons of erosion reduced for the field or planning area/unit	Same as National	Volume calculation; Visual assessment

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Soil Erosion – Irrigation-induced	Improper irrigation water application and equipment operation are causing soil erosion that degrades soil quality.	Irrigation-induced erosion does not exceed the Soil Loss Tolerance “T”.	Tons/Acre/Year - average annual tons of erosion reduced per acre for the field or planning area/unit	Same as National	Current erosion prediction tool, i.e. Revised Universal Soil Loss Equation (RUSLE2)
Soil Erosion - Mass Movement	Soil slippage, landslides, or slope failure, normally on hillsides, result in large volumes of soil movement	Shallow slumps, slides, or slips are prevented or minimized so that the mass movement of soil material does not exceed naturally occurring rates.	Tons/Year - average annual tons of erosion reduced for the field or planning area/unit	NA	
Soil Erosion – Road, road sides and Construction Sites	Soil loss occurs on areas left unprotected during or after road building and/or construction activities.	Sites are adequately protected from soil loss during and after road building and construction activities.	Tons/Year - average annual tons of erosion reduced for the field or planning area/unit	Same as National	Volume calculation
Soil Condition - Organic Matter Depletion	Soil organic matter has or will diminish to a level that degrades soil quality.	Soil Conditioning Index is positive.	Soil Conditioning Index improvement - positive improvement in index for the field or planning area/unit	Same as National	Soil Conditioning Index; Soil Quality Test Kit; Soil testing and analysis; RUSLE2
Soil Condition - Rangeland Site Stability	The capacity to limit redistribution and loss of soil resources (including nutrients and organic matter) by wind and water.	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.	Same as National	Rangeland Health Assessment
Soil Condition - Compaction	Compressed soil particles and aggregates caused by mechanical compaction adversely affect plant-soil-moisture relationships.	Mechanically compacted soils are renovated sufficiently to restore plant root growth and/or water movement.	Non Measurable	Same as National	Bulk Density Test-Soil Quality Kit

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Soil Condition - Subsidence	Loss of volume and depth of organic soils due to oxidation caused by above normal microbial activity resulting from excessive drainage or extended drought.	The timing and regime of soil moisture is managed to attain acceptable subsidence rates.	Inches/Acre/Year - average annual inches of subsidence reduced per acre for the field or planning area/unit	NA	
Soil Condition - Contaminants - Salts and Other Chemicals	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	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.	Electricity Conductivity (EC) - average reduction in EC for the field or planning area/unit.	Same as National	Soil test; Soil Quality Kit-EC meter; Farm *A*Syst assessment
Soil Condition - Contaminants - Animal Waste and Other Organics - N	Nitrogen nutrient levels from applied animal waste and other organics restrict desired use of the land.	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) reduced per acre for the field or planning area/unit	Same as National	Soil test; Application records; Yield records/history; Nutrient values of applied organics
Soil Condition - Contaminants - Animal Waste and Other Organics - P	Phosphorous nutrient levels from applied animal waste and other organics restrict desired use of the land.	Phosphorous 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 phosphorous (P) reduced per acre for the field or planning area/unit	Same as National	Soil test;, Phosphorus Index; Application records; Yield records/history; Nutrient values of applied organics
Soil Condition - Contaminants - Animal Waste and Other Organics - K	Potassium nutrient levels from applied animal waste and other organics restrict desired use of the land.	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) reduced per acre for the field or planning area/unit	Same as National	Soil test; Application records; Yield records/history; Nutrient values of applied organics
Soil Condition - Contaminants - Commercial Fertilizer - N	Over application of nitrogen degrades plant health and vigor, or exceeds the soil capacity to retain nutrients.	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) reduced per acre for the field or planning area/unit	Same as National	Soil test; Application records; Yield records/history

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Soil Condition – Contaminants - Commercial Fertilizer - P	Over application of phosphorous degrades plant health and vigor, or exceeds the soil capacity to retain nutrients.	Soil nutrient levels of phosphorous do not exceed crop needs based on realistic yield goals and appropriate pH levels are maintained.	Pounds/Acre/Year - average annual pounds of phosphorous (P) reduced per acre for the field or planning area/unit	Same as National	Soil test; Phosphorus Index; Application records; Yield records/history
Soil Condition – Contaminants - Commercial Fertilizer - K	Over application of potassium degrades plant health and vigor, or exceeds the soil capacity to retain nutrients.	Soil nutrient levels or 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) reduced per acre for the field or planning area/unit	Same as National	Soil test; Application records; Yield records/history
Soil Condition - Contaminants - Residual Pesticides	Residual pesticides in the soil have an adverse effect on non-target plants and animals.	Pesticides are applied, stored, handled, and disposed of so that residues in the soil do not adversely affect non-target plants and animals.	Non Measurable	Same as National	Windows Pesticide Training Tool (WIN-PST); Visual Assessment; Soil test; National Agricultural Pesticide Risk Analysis (NAPRA)
Soil Condition - Damage from Soil Deposition	Sediment deposition damages or restricts land use/management or adversely affects ecological processes.	Sediment deposition is sufficiently reduced to maintain desired land use/management and ecological processes.	Acres/Year - average annual acres of sediment deposition reduced for the field or planning area/unit	NA	
Water Quantity – Rangeland Hydrologic Cycle	The capacity to capture, store, and safely release water from rainfall, run-on, and snowmelt (where relevant).	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.	Same as National	Rangeland Health Assessment
Water Quantity - Excessive Seepage	Subsurface water oozing to the surface restricts land use and management.	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 reduced for the field or planning area/unit	NA	

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Water Quantity - Excessive Runoff, Flooding, or Ponding	The land becomes inundated restricting land use and management.	Excess water amounts and/or rates of flow are controlled consistent with desired present or intended land use goals and wetland policies.	Non Measurable	NA	
Water Quantity - Excessive Subsurface Water	Water saturates upper soil layers restricting land use and management.	Subsurface water is managed to limit periods of saturation compatible with the present or intended land use and wetland policies.	Non Measurable	NA	
Water Quantity - Drifted Snow	Wind-blown snow deposits and accumulates around and over surface structures restricting ingress, egress and conveyance of humans and animals.	Snowdrifts are reduced or prevented to allow ingress, egress, and conveyance of humans and animals.	Non Measurable	Same as National	Depth and area measurements; Visual assessment
Water Quantity - Inadequate Outlets	Natural or constructed outlets too small to remove excess water in a timely manner.	Outlets are designed, installed, upgraded or maintained to adequately convey water for present or intended uses.	Non Measurable	Same as National	National Engineering Handbook, part 650 (EFH – Chapters 2,3,7); Hydrologic models, e.g. HECRAS, TR-20, TR-55
Water Quantity - Inefficient Water Use on Irrigated Land	Limited water supplies are not optimally utilized.	Land and water management is planned and coordinated to provide optimal use of natural and applied moisture.	Acre-Inches/Acre/Year - average annual acre-inches of water per acre used more beneficially for the field or planning area/unit	Irrigation water is applied according to an irrigation water management plan, which considers plant consumptive use requirements, soil water holding capacity, and minimizes losses to surface and groundwater to the extend feasible. A minimum on farm seasonal irrigation efficiency of 30 % for flood and 70 % sprinkler will be met regardless of the type of system.	Farm Irrigation Rating System (FIRS); Farm Irrigation Rating Index (FIRI); Use of Surface Irrigation Model (SRFR) to model infiltration and length of runs.

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Water Quantity - Inefficient Water Use on Non-irrigated Land	Natural moisture is not optimally utilized.	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	NA	
Water Quantity - Reduced Capacity of Conveyances by Sediment Deposition	Sediment deposits in ditches, canals, culverts, and other water conveyances reduce the desired flow capacity.	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.	NA	
Water Quantity - Reduced Storage of Water Bodies by Sediment Accumulation	Sediment deposits in water bodies reduce the desired volume capacity.	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	Same as National	Visual assessment; Depth and area measurements
Water Quantity - Aquifer Overdraft	Water withdrawals exceed recharge rates.	Land and water management are coordinated to conserve aquifer water levels.	Acre-Inches/Year - average annual reduction in acre-inches of groundwater overdraft for the field or planning area/unit	Same as National	Water level measurements; Producer is applying water conservation
Water Quantity – Insufficient Flows in Water Courses	Water flows are not consistently available in sufficient quantities to support ecological processes and land use and management.	Authorized uses and management of water are coordinated to minimize the impacts on water course flows.	Non Measurable	Same as National	Water flow records; Consumptive use/allocation water rights
Water Quality - Harmful Levels of Pesticides in Groundwater	Residues resulting from the use of pest control chemicals degrade groundwater quality.	Pesticides are applied, stored, handled, disposed of, and managed so that groundwater uses are not adversely affected	Non Measurable	Risk Assessment tool will result in LOW rating or appropriate mitigation practice(s) applied to reduce risk.	WIN-PST; NAPRA; Vadose zone and groundwater chemical sampling and assay
Water Quality - Excessive Nutrients and Organics in Groundwater	Pollution from natural or human induced nutrients such as N, P, S (including animal and other wastes) degrades groundwater quality.	Nutrients and organics are stored, handled, disposed of, and applied such that groundwater uses are not adversely affected.	Non Measurable	The Nutrient Management Practice Planning Assist Tool results in a “yes” answer to each of the questions contained within the assessment tool.	Nitrate Leaching Index; Phosphorus Leaching Index; Farm*A*Sys; Nutrient Management Practice Planning Assist Tool

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Water Quality - Excessive Salinity in Groundwater	Pollution from salts such as Ca, Mg, Na, K, HCO ₃ , CO ₃ , Cl, and SO ₄ degrades groundwater quality.	Salts are stored, handled, disposed of, applied, and managed such that groundwater uses are not adversely affected.	Electrical Conductivity (EC) – average reduction in EC for the field or planning area/unit	NA	
Water Quality - Harmful Levels of Heavy Metals in Groundwater	Natural or human induced metal pollutants present in toxic amounts degrade groundwater quality.	Materials containing heavy metals are stored, handled, disposed of, applied, and managed such that groundwater uses are not adversely affected.	Non Measurable	NA	
Water Quality - Harmful Levels of Pathogens in Groundwater	Kinds and numbers of viruses, protozoa, and bacteria are present at a level that degrades groundwater quality.	Materials that harbor pathogens are stored, handled, disposed of, applied, and managed such that groundwater uses are not adversely affected.	Non Measurable	NA	
Water Quality - Harmful Levels of Petroleum in Groundwater	Fuel, oil, gasoline and other hydrocarbons present in toxic amounts degrade groundwater quality.	Petroleum products are used, stored, handled, disposed of, and managed such that groundwater uses are not adversely affected.	Non Measurable	NA	
Water Quality - Harmful Levels of Pesticides in Surface Water	Pest control chemicals present in toxic amounts degrade surface water quality.	Pesticides are applied, stored, handled, disposed of, and managed such that surface water uses are not adversely affected	Non Measurable	Risk Assessment tool will result in LOW rating or appropriate mitigation practice(s) applied to reduce risk.	WIN-PST; NAPRA
Water Quality - Excessive Nutrients and Organics in Surface Water	Pollution from natural or human induced nutrients such as N, P, S (Including animal and other wastes) degrades surface water quality.	Nutrients and organics are stored, handled, disposed of, and managed such that surface water uses are not adversely affected.	Non Measurable	The Nutrient Management Practice Planning Assist Tool results in a “yes” answer to each of the questions contained within the assessment tool.	Nitrate Leaching Index; Phosphorus Leaching Index; Farm*A*Syst; Nutrient Management Practice Planning Assist Tool

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Water Quality – Excessive Suspended Sediment and Turbidity in Surface Water	Excessive concentrations of suspended sediment or organic particles degrades surface water quality.	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	All sources of soil erosion (sheet and rill; ephemeral; gully, streambank;shoreline; irrigation induced) are controlled to quality criteria level. Conduits to surface waters are protected from direct runoff from adjacent lands by use of appropriate practices (buffers, filter strips, grassed waterways, etc)	Appropriate erosion prediction tools (RUSLE2, WEQ, volume calculation); visual assessment
Water Quality - Excessive Salinity in Surface Water	Pollution from salts such as Ca, Mg, Na, K, HCO ₃ , HCO ₃ , CO ₃ , Cl, and SO ₄ degrades surface water quality.	Salts are stored, handled, disposed of, applied, and managed such that surface water uses are not adversely affected.	Electroconductivity (EC) – average reduction in EC for the field or planning area/unit	NA	
Water Quality - Harmful Levels of Heavy Metals in Surface Water	Natural or human induced metal pollutants are present in toxic amounts that degrade surface water quality.	Materials containing heavy metals are stored, handled, disposed of, applied, and managed such that surface water uses are not adversely affected.	Non Measurable	NA	
Water Quality - Harmful Temperatures of Surface Water	Undesired thermal conditions degrade surface water quality.	Use and management of land and water are coordinated to minimize impacts on surface water temperatures.	Non Measurable	NA	
Water Quality - Harmful Levels of Pathogens in Surface Water	Kinds and numbers of viruses, protozoa, and bacteria are present at a level that degrades surface water quality.	Materials that harbor pathogens are stored, handled, disposed of, applied, and managed such that surface water uses are not adversely affected.	Non Measurable	NA	
Water Quality - Harmful Levels of Petroleum in Surface Water	Fuel, oil, gasoline and other hydrocarbons present in toxic amounts degrade surface water quality.	Petroleum products are used, stored, handled, and disposed of such that groundwater uses are not adversely affected.	Non Measurable	NA	

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Air Quality - Particulate matter less than 10 micrometers in diameter (PM 10)	Particulate matter less than 10 micrometers in diameter are suspended in the air causing potential health hazards to humans and animals.	Land use and management operations reduce 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 reduced PM-10 emissions for the field or planning area/unit	NA	
Air Quality - Particulate matter less than 2.5 micrometers in diameter (PM 2.5)	Particulate matter less than 2.5 micrometers in diameter are suspended in the air causing potential health hazards to humans and animals.	Land use and management operations reduce 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 reduced PM-2.5 emissions for the field or planning area/unit	NA	
Air Quality - Excessive Ozone	High concentrations of ozone (O3) are adversely affecting human health, reducing plant yields, and leading to the creation of smog.	Land use and management operations 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 reduced ozone precursors emissions for the field or planning area/unit	NA	
Air Quality - Excessive Greenhouse Gas – CO2 (carbon dioxide)	Increased CO2 concentrations are adversely affecting ecosystem processes.	Land use and management operations reduce CO2 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	NA	

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Air Quality - Excessive Greenhouse Gas – N2O (nitrous oxide)	Increased N2O concentrations are adversely affecting ecosystem processes.	Land use and management operations reduce N2O 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	NA	
Air Quality - Excessive Greenhouse Gas – CH4 (methane)	Increased CH4 concentrations are adversely affecting ecosystem processes. .	Land use and management operations reduce CH4 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	NA	
Air Quality - Ammonia (NH3)	Animal waste and inorganic commercial fertilizers emit ammonia that contributes to odor, is a PM2.5 precursor, and contributes to acid rain.	Land use and management operations reduce NH3 emissions into the atmosphere and comply with requirements of all applicable Federal, Tribal, State, and local regulations.	Pounds/Year – average annual pounds of reduced NH3 emissions for the field or planning area/unit	NA	
Air Quality - Chemical Drift	Materials applied for pest control drift downwind and contaminate/injure non-targeted fields, crops, soils, water, animals and humans.	Land use and management operations reduce chemical drift into the atmosphere and comply with all applicable Federal, Tribal, State, and local regulations, and applicable label directions.	Non Measurable	Same as National	Pest Management Standard
Air Quality - Objectionable Odors	Land use and management operations produce offensive smells.	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	Same as National	Olfactory Assessment

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Air Quality - Reduced Visibility	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).	Land use and management operations reduce 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	Same as National	Visual assessment; Regional air partnership recommendations and/or state guidance for smoke management
Air Quality - Undesirable Air Movement	Wind velocities (too little or too much) reduce animal or plant productivity, impact human comfort and increase energy consumption.	Devices and practices are sited and planned to mitigate excess or deficient air movement.	Non Measurable	NA	
Air Quality - Adverse Air Temperature	Air temperatures (too cold or too hot) reduce animal or plant productivity, impact human comfort and increase energy consumption.	Devices and practices are planned and sited to mitigate temperature extremes.	Non Measurable	NA	

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Plants not adapted or suited	Plants are not adapted and/or suited to site conditions or client objectives.	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: Cropland: A healthy stand with vigorous growth. Yields 75% of client expectations. Rangeland: Plants on or planned for the site are listed in applicable Ecological Site Descriptions (ESD) Pastureland: 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. Hayland: Plants on or planned for the site are listed in applicable Forage Suitability Groups (FSG) reports. Forestland/Agroforest: Plants on or planned for the site are listed in Ecological Site Descriptions (ESD)	Non Measurable	Same as National except for Forestland / Agroforest: Plants planned for the site are listed in the appropriate Conservation Tree/ Shrub Suitability Group	Ecological Site Descriptions; Forage Suitability Grouping; Rangeland Health Assessment; Pasture Condition Score Index; Conservation Tree /Shrub Suitability Groups

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Plant – Condition – Productivity, Health and Vigor	Plants do not produce the yields, quality, and soil cover to meet client objectives.	<p>Selected plants on or planned for the site are sufficiently productive to meet or exceed client needs. For specific land uses, additional criteria apply:</p> <p>Cropland: A healthy stand with vigorous growth produces at least 75% of site potential.</p> <p>Rangeland: The plant community has a similarity index of at least 60% or an upward trend for similarity indices less than 60%. Pastureland: Forage yields are at least 75% of high management estimates cited in FSG reports. Hayland: Forage yields at least 75% of high mgt. estimates cited in Forage Suitability Groups (FSG) reports. Forestland/Agroforest: Forests consist of healthy stands with vigorous growth having a stand density within 25% of optimum stocking on a stems/acre basis. Plants chosen for Agroforest applications are consistent with Conservation Tree and Shrub Groups (CTSG) listings and height performance.</p>	Non Measurable	<p>Cropland – A healthy, vigorous stand that meets the producer's yield goals given the yield potential for the soil map unit. Organic matter percent is 50% of native condition or if less than 50%, organic matter is improving; Electrical conductivity (EC) below 4 MMHOS. Rangeland – Maintaining a plant community with a similarity index or condition class of 65% or more or having an upward trend for plant communities with a similarity index or condition class of less than 65% of the potential plant community.</p> <p>Pastureland / Hayland same as national.</p>	<p>Client interview; Plant tissue and harvest analysis; NRCS discipline manuals/handbooks; National Range and Pasture Handbook; Ecological Site Descriptions; Rangeland Similarity Index Worksheet; Forage Suitability Groups (FSG); Soil survey reports; Rangeland Health Assessment</p>

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				<p>Forestland – Forest consist of healthy stands of vigorous growth having a stand density of within 25% of optimum stocking on a stem/acre basis for the particular site and stand composition. Crop trees within the stand are uniformly distributed. Note: a crop tree is defined as any tree selected and released in the forest for the objectives of wildlife, water quality, timber products, and aesthetics.</p>	<p>Conservation Tree / Shrub Suitability Groups; References: <u>Crop Tree Management in Eastern Hardwoods</u> http://www.fs.fed.us/namorgantown/frm/perkey/ctm/ctmindex.html; <u>Upland Central Hardwoods</u> http://ilvirtualforest.nres.uiuc.edu/forestry/sm oakhbk.htm; <u>Black Walnut Stocking Per Acre</u> http://ilvirtualforest.nres.uiuc.edu/forestry/sm bw hbk.htm</p>

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Plant Condition – Threatened or Endangered Plant Species: Plant Species Listed or Proposed for Listing under the Endangered Species Act	The site includes individuals, habitat or potential habitat for one or more plant species listed or proposed for listing under the Endangered Species Act.	Populations and/or habitats of Threatened and Endangered plant species are managed to maintain, increase or improve current populations, health, or sustainability.	Non Measurable	Same as National	General manual title 190, Part 410; FWS county endangered species; FWS recovery plans; federal and state endangered species rules and regulations;
Plant Condition – Threatened or Endangered Plant Species: Declining Species, Species of Concern	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 which have been identified as candidates for listing under the Endangered Species Act.	Populations and/or habitats of plant species of concern are managed to maintain, increase or improve current populations, health, or sustainability.	Non Measurable	Same as National	General manual title 190, Part 410; FWS county endangered species; FWS recovery plans; federal and state endangered species rules and regulations; Species of concern list
Plant Condition – Noxious and Invasive Plants	The site has noxious or invasive plants present.	The site is managed to control noxious and invasive plants and to minimize their spread	Non Measurable	Same as National	State, local noxious weed list
Plant Condition - Forage Quality and Palatability	Plants do not have adequate nutritive value or palatability for the intended use	Forage plants are managed to produce the desired nutritive value and palatability for the intended use.	Non Measurable	Same as National	NIRS Forage Quality Analysis (NUTBAL); plant tissue analysis

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Plant Condition – Wildfire Hazard	The kinds and amounts of fuel loadings (plant biomass) pose risks to human safety, structures, and resources should wildfire occur.	Fuel loadings are reduced 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	NA	
Fish and Wildlife - Inadequate Food	Quantity and quality of food is unavailable to meet the life history requirements of the species or guild of species of concern	Food availability meets the life history requirements of the species or guild of species of concern.	Non Measurable based on habitat evaluation guide	Minimum criteria identified within the Kansas Wildlife Habitat Assessment Guide (KWHAG). Identified criteria represent 50 % of the potential habitat value for a planning unit.	KWHAG
Fish and Wildlife – Inadequate Cover/Shelter	Cover/shelter for the species of concern is unavailable or inadequate. For aquatic species, this includes lack of hiding, thermal, and/or refuge cover	The ecosystem or habit types support the necessary plant species in the kinds, amounts, and physical structure; and the connectivity of fish and wildlife cover is adequate to support, over time, the species of concern.	Non Measurable based on habitat evaluation guide	Minimum criteria identified within the Kansas Wildlife Habitat Assessment Guide (KWHAG). Identified criteria represent 50 % of the potential habitat value for a planning unit.	KWHAG
Fish and Wildlife – Inadequate Water	The quantity and quality of water is unacceptable for the species of concern	The quantity and quality of water meets the life history requirements of the species of concern.	Non Measurable based on habitat evaluation guide	Minimum criteria identified within the Kansas Wildlife Habitat Assessment Guide (KWHAG). Identified criteria represent 50 % of the potential habitat value for a planning unit.	KWHAG
Fish and Wildlife – Inadequate Space	Lack of area and fragmentation of areas disrupt life history requirements of the species of concern	Adequate area and connectivity of areas meet life history requirements of the species of concern. (Examples: staging areas for rest and feeding, lekking areas for breeding, migratory movement corridors)	Non Measurable based on habitat evaluation guide	Minimum criteria identified within the Kansas Wildlife Habitat Assessment Guide (KWHAG). Identified criteria represent 50 % of the potential habitat value for a planning unit.	KWHAG

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Fish and Wildlife – Habitat Fragmentation	Habitat has insufficient structure, extent, and connectivity to provide ecological functions and/or achieve management objectives.	Fish and wildlife habitats are connected and are maintained sufficiently to support the species or guild of species of concern	Non Measurable based on habitat evaluation guide	Minimum criteria identified within the Kansas Wildlife Habitat Assessment Guide (KWHAG). Identified criteria represent 50 % of the potential habitat value for a planning unit.	KWHAG
Fish and Wildlife - Imbalance Among and Within Populations	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.	Land and water use and management are consistent with direct population management activities conducted by fish and wildlife agencies.	Non Measurable based on habitat evaluation guide	NA	
Fish and Wildlife – Threatened and Endangered Fish and Wildlife Species – Fish and Wildlife Species Listed or Proposed for Listing under the Endangered Species Act	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.	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	Same as National	General manual title 190, Part 410; FWS county endangered species; FWS recovery plans; federal and state endangered species rules and regulations

Resource Concern	Description of Concern	National Quality Criteria	Measurement Units	State Quality Criteria	Assessment Tools for Quality Criteria Evaluation
Fish and Wildlife - Threatened and Endangered Species: Declining species, species of concern	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, which have been identified as candidates for listing under the Endangered Species Act.	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	Same as National	General manual title 190, Part 410; FWS county endangered species; FWS recovery plans; federal and state endangered species rules and regulations
Domestic Animals- Inadequate Quantities and Quality of Feed and Forage	Total feed and forage is insufficient to meet the nutritional and production needs of the kinds and classes of livestock	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	Domestic animals are provided adequate food of sufficient quality and quantity with supplements to meet their nutritional requirements.	NRPH; NUTBAL; NUTBAL PRO; forage quality laboratory analysis; forage balance worksheet
Domestic Animals – Inadequate Shelter	Livestock are not protected sufficiently to meet the production goals for the kinds and classes of livestock	Artificial and/or natural shelter is provided to meet production goals for the kinds and classes of livestock.	Non Measurable	Domestic animals are provided adequate shelter and cover.	NRPH; appropriate NRCS guides and tolls
Domestic Animals – Inadequate Stock Water	The quantity, quality and distribution of drinking water is insufficient to meet the production goals for the kinds and classes of livestock	Sufficient water of acceptable quality is provided and adequately distributed to meet production goals for the kinds and classes of livestock. To reduce potential for water contamination, watering facilities are constructed or modified to minimize mortality to indigenous wildlife.	Non Measurable	Domestic animals are provided sufficient quantity and quality of water to meet their daily needs.	NRPH; appropriate NRCS guides and tolls

Resource Concern	Description of Concern	National Quality Criteria	Measurement Units	State Quality Criteria	Assessment Tools for Quality Criteria Evaluation
Domestic Animals - Stress and Mortality	Animals exhibit illness or death from disease, parasites, insects, poisonous plants, or other factors	Land and water use and management are consistent with activities conducted to alleviate stress and mortality factors.	Non Measurable	NA	