Table - 1, National and State of Kansas Resource Concerns and Quality Criteria				
Natural Resource Concern	**Description of Concern**	**National Quality Criteria**	**State Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
SOIL				
Soil Erosion - Sheet and Rill	Detachment and transport of soil particles caused by rainfall splash and run-off degrade soil quality.	Sheet and rill erosion does not exceed the soil loss tolerance "T".	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.	Same as national	• Current erosion prediction tool, i.e., Wind Erosion Equation (WEQ)
Soil Erosion - Ephemeral Gully	Small channels caused by surface water run-off degrade soil quality and tend to increase in size. On cropland, they can be obscured by heavy tillage.	Surface water run-off is controlled sufficiently to stabilize the small channels and prevent reoccurrence of new channels.	Same as national	• Volume calculation
Soil Erosion - Classic Gully	Deep, permanent channels caused by the convergence of surface run-off degrade soil quality. They enlarge progressively by headcutting and lateral widening.	Surface water run-off is controlled sufficiently to stop progression of headcutting and widening.	Same as national	• Volume calculation • Aerial photo trend analysis
Soil Erosion - Streambank	Accelerated loss of streambank soils restricts land and water use and management.	Accelerated streambank soil loss does not exceed a level commensurate with upstream land use and normal geomorphological processes on site.	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)

Table - 1, National and State of Kansas Resource Concerns and Quality Criteria				
Natural Resource Concern	**Description of Concern**	**National Quality Criteria**	**State Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
SOIL				
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.	N/A	
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”.	Same as national	• Surface Irrigation Model (SRFR) • Furrow Irrigation (FUSED) • Imhoff Cones
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.	N/A	
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.	N/A	
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 is positive.	• Soil conditioning index • Soil Quality Test Kit • Soil testing and analysis
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.	Same as national	• Bulk Density Test - Soil Quality Kit

Table - 1, National and State of Kansas Resource Concerns and Quality Criteria				
Natural Resource Concern	**Description of Concern**	**National Quality Criteria**	**State Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
SOIL				
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.	N/A	
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 percent decrease in plant yield. Other contaminants do not exceed plant tolerances or are below toxic levels for plants or animals.	Same as national	• Soil test • Soil Quality Kit - Electroconductivity (EC) meter • Farm*A*Syst assessment
Soil Condition - Contaminants - Animal Waste and Other Organics	Nutrient levels from applied animal waste and other organics restrict desired use of the land.	Nutrient application levels do not exceed soil storage / plant uptake capacities based on soil test recommendations and risk analysis results.	Same as national	• Soil test • Phosphorus leaching index • Application records • Yield records / history
Soil Condition - Contaminants - Commercial Fertilizer	Over application of nutrients degrades plant health and vigor or exceeds the soil capacity to retain nutrients.	Soil nutrient levels do not exceed crop needs based on realistic yield goals and appropriate acidity (pH) levels are maintained.	Same as national	• Soil test • Phosphorus leaching index • Soil Quality Kit - pH meter
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.	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.	N/A	

Table - 1, National and State of Kansas Resource Concerns and Quality Criteria				
Natural Resource Concern	**Description of Concern**	**National Quality Criteria**	**State Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
WATER				
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.	N/A	
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.	N/A	
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.	N/A	
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.	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.	Same as national	• National Engineering Handbook (NEH), Part 650, (Engineering Field Handbook - Chapters 2, 3, and 7) • Hydrologic models, e.g., HECRAS, TR-20, TR-55

Table - 1, National and State of Kansas Resource Concerns and Quality Criteria				
Natural Resource Concern	**Description of Concern**	**National Quality Criteria**	**State Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
WATER				
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.	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 percent for flood and 70 percent 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
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.	N/A	
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.	N/A	

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Natural Resource Concern	**Description of Concern**	**National Quality Criteria**	**State Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
WATER				
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.	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.	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.	Same as national	• Water flow records • Gauge station data • Consumptive use / allocation water rights • Habitat evaluation guides • National Biology Handbook (NBH)
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.	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 nitrogen (N), phosphorous (P), and organics (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.	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 Index • Farm*A*Syst • Nutrient Management Practice Planning Assist Tool

Table - 1, National and State of Kansas Resource Concerns and Quality Criteria				
Natural Resource Concern	**Description of Concern**	**National Quality Criteria**	**State Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
WATER				
Water Quality - Excessive Salinity in Groundwater	Pollution from salts such as calcium (Ca), magnesium (Mg), sodium (Na), potassium (K), bicarbonate (HCO_3), carbonate ion (CO_3), chloride (Cl), and sulfate ion (SO_4) degrades groundwater quality.	Salts are stored, handled, disposed of, applied, and managed such that groundwater uses are not adversely affected.	N/A	
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.	N/A	
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.	N/A	
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.	N/A	
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.	Risk assessment tool will result in LOW rating or appropriate mitigation practice(s) applied to reduce risk.	• WIN-PST • NAPRA

Table - 1, National and State of Kansas Resource Concerns and Quality Criteria				
Natural Resource Concern	**Description of Concern**	**National Quality Criteria**	**State Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
WATER				
Water Quality - Excessive Nutrients and Organics in Surface Water	Pollution from natural or human induced nutrients such as N, P, and organics (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.	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 Index • Farm*A*Syst • Nutrient Management Practice Planning Assist Tool
Water Quality - Excessive Suspended Sediment and Turbidity in Surface Water	Pollution from mineral or organic particles degrades surface water quality.	Movement of mineral and organic particles is managed such that surface water uses are not adversely affected.	The Water Quality Indicator Guide results in a water quality sediment indicator rating of good or excellent.	• Water Quality Indicator Guide, Surface Water Field Sheet, 1B
Water Quality - Excessive Salinity in Surface Water	Pollution from salts such as Ca, Mg, Na, K, 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.	N/A	
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.	N/A	
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.	N/A	
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.	N/A	

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Natural Resource Concern	**Description of Concern**	**National Quality Criteria**	**State Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
WATER				
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.	N/A	

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Natural Resource Concern	**Description of Concern**	**National Quality Criteria**	**State Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
AIR				
Air Quality - Particulate matter less than 10 micrometers in diameter (PM 10)	PM less than 10 micrometers in diameter are suspended in the air causing potential health hazards to humans and animals.	Land use and management operations comply with PM 10 requirements of the state or federal implementation plan and all applicable federal, tribal, state, and local regulations.	N/A	
Air Quality - Particulate matter less than 2.5 micrometers in diameter (PM 2.5)	PM 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 comply with PM 2.5 requirements of the state or federal implementation plan and all applicable federal, tribal, state, and local regulations.	N/A	
Air Quality - Excessive Ozone	High concentrations of ozone (O_3) 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.	N/A	
Air Quality - Excessive Greenhouse Gas - CO_2 (carbon dioxide)	Increased CO_2 concentrations are adversely affecting ecosystem processes.	Land use and management operations comply with requirements of the state or federal implementation plan and all applicable federal, tribal, state, and local regulations.	N/A	
Air Quality - Excessive Greenhouse Gas - N_2O (nitrous oxide)	Increased N_2O concentrations are adversely affecting ecosystem processes.	Land use and management operations comply with requirements of the state or federal implementation plan and all applicable federal, tribal, state, and local regulations.	N/A	

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Natural Resource Concern	**Description of Concern**	**National Quality Criteria**	**State Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
AIR				
Air Quality - Excessive Greenhouse Gas - CH_4 (methane)	Increased CH_4 concentrations are adversely affecting ecosystem processes.	Land use and management operations comply with requirements of the state or federal implementation plan and all applicable federal, tribal, state, and local regulations.	N/A	
Air Quality - Ammonia (NH_3)	Animal waste and inorganic commercial fertilizers emit NH_3 that contributes to odor, is a PM 2.5 precursor, and contributes to acid rain.	Land use and management operations comply with requirements of all applicable federal, tribal, state, and local regulations.	N/A	
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 comply with all applicable federal, tribal, state, and local regulations, and applicable label directions.	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 meets all applicable tribal, state, and local regulations.	Same as national	• Olfactory assessment
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 comply with all applicable federal, tribal, state, and local regulations including state and local smoke and / or burn management plans.	Same as national	• Visual assessment • Regional air partnership recommendations and / or state guidance for smoke management

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Natural Resource Concern	**Description of Concern**	**National Quality Criteria**	**State Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
AIR				
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.	N/A	
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.	N/A	

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Natural Resource Concern	**Description of Concern**	**National Quality Criteria**	**State Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
PLANTS				
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 percent 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 FSG reports. ***Forestland / Agroforest:*** Plants on or planned for the site are listed in ESD.	N/A	

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Natural Resource Concern	**Description of Concern**	**National Quality Criteria**	**State Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
PLANTS				
Plant - Condition - Productivity, Health and Vigor	Plants do not produce the yields, quality, and soil cover to meet client objectives.	Selected plants on or planned for the site are sufficiently productive to meet or exceed client needs. For specific land uses, additional criteria apply: ***Cropland:*** A healthy stand with vigorous growth produces at least 75 percent of site potential. ***Rangeland:*** The plant community has a similarity index of at least 60 percent or an upward trend for similarity indices less than 60 percent. ***Pastureland:*** Forage yields are at least 75 percent of high management estimates cited in FSG reports. ***Hayland:*** Forage yields at least 75 percent of high management estimates cited in FSG reports	***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 percent of native condition or if less than 50 percent, organic matter is improving; EC below 4 millimhos (mmhos). ***Grazingland:*** Maintaining a plant community with a similarity index or condition class of 65 percent or more or having an upward trend for plant communities with a similarity index or condition class of less than 65 percent of the potential plant community. ***Pastureland / Hayland*:** Same as national.	• Client interview • Plant tissue and harvest analysis • Natural Resources Conservation Service (NRCS) discipline manuals / handbooks • National Range and Pasture Handbook (NRPH) • ESD's • Rangeland Similarity Index Worksheet • FSG's • Soil survey reports • Soil Condition Rating • Soil testing • Crop / soil yield comparison in the vicinity • PCS • Rangeland health assessment

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Natural Resource Concern	**Description of Concern**	**National Quality Criteria**	**State Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
PLANTS				
Plant - Condition - Productivity, Health and Vigor, continued		***Forestland / Agroforest:*** Forests consist of healthy stands with vigorous growth having a stand density within 25 percent of optimum stocking on a stems per acre basis. Plants chosen for agroforest applications are consistent with Conservation Tree and Shrub Groups (CTSG) listings and height performance.	***Forestland –*** Forests consist of healthy stands with vigorous growth having a stand density 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.	• **Crop Tree Management in Eastern Hardwoods,** Perkey, A. W., Wilkins, B.L. and Smith, C. H. (NA-TP-19-93). USDA Forest Service, Northeastern Area, State & Private Forestry, Forest Resources Management, Morgantown, WV. http://www.fs.fed.us/na/morgantown/frm/perkey/ctm/ctm_index.html • **Upland Central Hardwoods,** Sander, I.L. 1977. Manager's Handbook for Oaks in the North Central States (General Technical Report NC-37). USDA Forest Service, North Central Forest Experiment Station, 1992 Folwell Avenue, St. Paul, MN 55108. P29. http://ilvirtualforest.nres.uiuc.edu/forestry/sm_oakhbk.htm. • **Black Walnut Stocking Per Acre,** Schlesinger, Richard C., and David T. Funk (General Technical Report NC-38). USDA Forest Service, North Central Forest Experiment Station, 1977, Folwell Avenue, St. Paul, MN 55108. P.13. http://ilvirtualforest.nres.uiuc.edu/forestry/sm_bwhbk.htm

Table - 1, National and State of Kansas Resource Concerns and Quality Criteria				
Natural Resource Concern	**Description of Concern**	**National Quality Criteria**	**State Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
PLANTS				
Plant Condition - Threatened or Endangered Plant Species	Plant populations and /or habitat quantity and quality have reached a level that one or more plant species are in danger of or threatened with extinction.	Threatened and endangered plant species and / or habitats they occupy are managed to avoid actions that would reduce their current population, health, or sustainability.	Same as national	• General Manual, Title 190, Part 410 • U.S. Fish and Wildlife Service (FWS) county endangered species lists • Federal and state endangered species rules and regulations • FWS Recovery Plans
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.	Same as national	• State or 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.	Same as national	• NIRS Forage Quality Analysis (NUTBAL) • Plant tissue analysis
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.	N/A	

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Natural Resource Concern	**Description of Concern**	**National Quality Criteria**	**State Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
ANIMALS				
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.	Minimum criteria identified within the Kansas Wildlife Habitat Assessment Guide (KWHAG). Identified criteria represent 50 percent 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.	Minimum criteria identified within the KWHAG. Identified criteria represent 50 percent 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.	Minimum criteria identified within the KWHAG. Identified criteria represent 50 percent of the potential habitat value for a planning unit.	• KWHAG

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Natural Resource Concern	**Description of Concern**	**National Quality Criteria**	**State Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
ANIMALS				
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, for example, staging areas for rest and feeding, lekking areas for breeding, and migratory movement corridors.	Minimum criteria identified within the KWHAG. Identified criteria represent 50 percent of the potential habitat value for a planning unit.	• KWHAG
Fish and Wildlife -Plant Community Fragmentation	Natural plant communities have insufficient structure, extent, and connectivity to provide ecological functions and / or achieve management objectives.	Fish and wildlife habitat functions of connected plant communities are maintained sufficiently to support the species or guild of species of concern.	Minimum criteria identified within the KWHAG. Identified criteria represent 50 percent 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.	N/A	
Fish and Wildlife - Threatened and Endangered Species	Fish and wildlife populations and / or habitat quantity and quality have reached a level that one or more species are in danger of or threatened with extinction.	Threatened and endangered fish and wildlife species and / or habitats they occupy are managed to avoid actions that would reduce their current population, health, or sustainability.	Same as national	• General Manual, Title 190, Part 410 • FWS county endangered species lists • FWS recovery plans • Federal and state endangered species rules and regulations

Table - 1, National and State of Kansas Resource Concerns and Quality Criteria				
Natural Resource Concern	**Description of Concern**	**National Quality Criteria**	**State Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
ANIMALS				
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.	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.	Domestic animals are provided adequate shelter and cover.	• NRPH • Appropriate NRCS guides and tools
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.	Domestic animals are provided sufficient quantity and quality of water to meet their daily needs.	• NRPH • Appropriate NRSC guides and tools
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.	N/A	