National-and Washington Resource Concerns and Quality Criteria				
National Resource Concern	**Description of Concern**	**National Quality Criteria**	**WA 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 runoff degrade soil quality.	Sheet and rill erosion does not exceed the Soil Loss Tolerance 'T'.	Cropland: Sheet and rill erosion does not exceed the Soil Loss tolerance 'T'. Hayland and Pastureland: <= 1 ton/acre/year. Rangeland Health Assessment: Soil/Site Stability Rating of Slight to Moderate or better.	Rangeland Health Assessment; RUSLE 1.05
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.	Wind erosion does not exceed the Soil Loss Tolerance 'T' or, for plant damage, does not result in significant yield or stand reductions. Assessments indicate blowing soil particles do not damage seedlings. Plant production (yields, plant cover and habitat) shall average >=80% of the potential for the planning soil or >=80% of the client's target. Rangeland Health Assessment: Soil/Site Stability Rating of Slight to Moderate or better. WEQ for air quality (PM<= 50% of the planning soil 'T' factor for the rotation.	Visual assessment (pedestals, blow-out areas); Rangeland Health Assessment; 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.	Surface water runoff is controlled sufficiently to stabilize the small channels and prevent reoccurrence of new channels. NRCS-Washington Technical Note Engineering 1: Actual 'V' <=2.5 fps for the runoff from a 2 year-24 hour event.	Visual assessment; Volume calculation; NRCS-Washington Technical Note Engineering 1.
Soil Erosion - Classic Gully	Deep, permanent channels caused by the convergence of surface runoff degrade soil quality. They enlarge progressively by headcutting and lateral widening.	Surface water runoff is controlled sufficiently to stop progression of headcutting and widening.	Surface water runoff is controlled sufficiently to stop progression of headcutting and widening. Assessments will use storm events with greater than a ten-year, 24-hour frequency.	Visual assessment; Volume calculation; Aerial photo trend analysis; TR-20 (storm event Q-runoff)

National-and Washington Resource Concerns and Quality Criteria				
National Resource Concern	**Description of Concern**	**National Quality Criteria**	**WA Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
SOIL				
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.	Accelerated streambank soil loss does not exceed a level commensurate with upstream land use and normal geomorphologic processes on site. Channel Stability (Pfanduch) Evaluation: Reach Score of Medium Good to Excellent. Bank Erodibility Hazard Rating Guide (Rosgen 1990)-BEHI: Very Low or Low Rating. Bank Height Ratios (Rosgen 1990): BHR<= 1.1.	Visual assessment; Aerial photo trend analysis; National Engineering Handbook, Part 650 (EFH - Chapter 16); Stream Visual Assessment Protocol - USDA/NRCS National Water and Climate Center Technical Note 99-1; Bank Erodibility Hazard Rating Guide (Rosgen 1990)-BEHI; Bank Height Ratios (Rosgen 1990); Channel Stability (Pfankuch) Evaluation
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.	Same as National	Visual assessment; Aerial photo trend analysis; Volume calculation; Erosion transects/pins
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	SRFR– Surface Irrigation Simulation Model Management factors, system management, scheduling/soil moisture, irrigation skill and action, maintenance, and soil condition shall be determined.; CPED (Center Pivot Evaluation and Design); NRCS National and State Irrigation Guides; NRCS Washington Irrigation Guide
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.	Shallow slumps, slides, or slips are prevented or minimized so that the mass movement of soil material does not exceed naturally occurring rates. On all areas with slopes > 15%, assessments indicate that human inputs and activities do not undercut the toe slopes or overload the tops of slopes.	Visual assessment; Aerial photo trend analysis; Volume calculation; Soil Survey

National-and Washington Resource Concerns and Quality Criteria				
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SOIL				
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.	Sites are adequately protected from soil loss during and after road building and construction activities. Assessments result in erosion treatment that also meets the pertinent air and water quality resource concern criteria.	Visual assessment; Volume calculation; Water and wind erosion prediction tools (RUSLE 1.06 and WEQ); WEPP-Road USFS Moscow Idaho (http://forest.moscowfsl.wsu.edu/fswepp/); Soil Interpretation Table FOR-2 - Potential Erosion Hazard (Road/Trail); Soil Interpretation Table FOR-1 - Construction Limitations for Haul Roads and Log Landings; Soil Interpretation Table FOR-2 - Road Suitability (Natural Surface)
Soil Condition - Organic Matter Depletion	Soil organic matter has or will diminish to a level that degrades soil quality.	Soil Conditioning Index is positive.	Same as National	NRCS-WA Agronomy Technical Note 1 - Guide to Using the Soil Conditioning Index; Soil Quality 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.	The soil will have no adverse tillage-pan or compaction-pan pressure, which reduces water infiltration or restricts rooting depth for plants. Assessments will indicate that compaction layers are infrequent (<=20% of the areas inspected), thin (	Assessment of plant root systems; Bulk density test-Soil Quality Kit; Dial penetrometer
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.	Same as National	Visual assessment; Inventory of volume and depth; Soil probes and witness poles

National-and Washington Resource Concerns and Quality Criteria				
National Resource Concern	**Description of Concern**	**National Quality Criteria**	**WA Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
SOIL				
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.	Same as National	Soil test; Soil Quality Kit- EC meter; Farm*A*Syst assessment-screening tool; Soil test (Electrical Conductivity-Ec); Crop tolerance for specific crops
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.	Nutrient application levels do not exceed soil storage/plant uptake capacities based on soil test recommendations and risk analysis results. Application of all organics and chemicals will be adherence to all federal, state, and local laws. Assessments indicate the desired land use does not require management or maintenance more extensive that those on similar soils.	Soil test; NRCS-WA Water Quality Technical Note 2 - Phosporus Index; Plant tissue test; 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 pH levels are maintained.	Soil nutrient levels do not exceed crop needs based on realistic yield goals and appropriate pH levels are maintained. Application of all organics and chemicals will be in adherence to all federal, state, and local laws. Assessments indicate the desired land use does not require management or maintenance more extensive that those on similar soils.	Soil test; NRCS-WA Water Quality Technical Note 2 - Phosporus Index; Soil Quality Kit-pH meter

National-and Washington Resource Concerns and Quality Criteria				
National Resource Concern	**Description of Concern**	**National Quality Criteria**	**WA Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
SOIL				
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.	Pesticides are applied, stored, handled, and disposed of so that residues in the soil do not adversely affect non-target plants and animals. Application of all organics and chemicals will be adherence to all federal, state, and local laws. Assessments indicate the desired land use does not require management or maintenance more extensive that those on similar soils.	Visual assessment; WIN-PST (Windows Pesticide Screening Tool - USDA/NRCS); Soil test; Plant and animal tissue test
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.	Same as National	Visual assessment; Volume calculation; Current water and wind erosion prediction tools (RUSLE2 and WEQ) coupled with sediment delivery ratios; Plant and animal community assessment; WEPP-Road USFS Moscow Idaho (http://forest.moscowfsl.wsu.edu/fswepp/)

National-and Washington Resource Concerns and Quality Criteria				
National Resource Concern	**Description of Concern**	**National Quality Criteria**	**WA 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.	Same as National	Visual Assessment (physical presence of water, prevalence of hydrophytic vegetation, etc.); Client interview; Area measurements
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.	Excess water amounts and/or rates of flow are controlled consistent with desired present or intended land use goals, laws and regulations, riparian policy and wetland policy. Assessments will use a 2-year 24-hour storm event.	Visual assessment; Client interview; Stream Visual Assessment Protocol - USDA/NRCS National Water and Climate Center Technical Note 99-1; National Engineering Handbook, Part 650 (EFH - Chapters 2, 3); Hydrologic models, e.g. HECRAS, TR-20, TR-55; Flood hazard study; Floodplain maps; Soil Survey
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.	Subsurface water is managed to limit periods of saturation compatible with the present or intended land use and be consistent with all applicable federal, state, and local laws. Actions will be consistent with wetland policies.	Visual assessment of soil cores and coring holes; Plant quality and quantity measurements; National Engineering Handbook, Part 650 (EFH - Chapter 14); Irrigation evaluation; Soil Survey
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	Visual assessment; Client interview; Depth and area measurements

National-and Washington Resource Concerns and Quality Criteria				
National Resource Concern	**Description of Concern**	**National Quality Criteria**	**WA Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
WATER				
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.	Outlets are designed, installed, upgraded or maintained to adequately convey water for present or intended uses. All water discharges are safely disposed through stable outlets of adequate capacity and do not cause erosion, incised channels, unplanned deposition, or excess ponding of water. Assessments will use a 2-year 24-hour storm event.	Visual assessment; Client interview; National Engineering Handbook, Part 650 (EFH - Chapters 2, 3, 7); Hydrologic models, e.g. HECRAS, TR-20, TR-55; Geologic investigation; Soil investigation
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.	Land and water management is planned and coordinated to provide optimal use of natural and applied moisture. SRFR: The product of (Management factors, system management, scheduling/soil moisture, irrigation skill and action, maintenance, and soil condition) >= 0.8 of the potential efficiency as presented in the Washington Irrigation Guide. FIRM (used for Sprinkler/Trickle Irrigation): The product of (Management factors, system management, scheduling/soil moisture, irrigation skill and action, maintenance, and soil condition) >= 0.8 of the potential efficiency as presented in the Washington Irrigation Guide.	Visual assessment; National Engineering Handbook, Part 652, Irrigation Guide; Crop quality and quantity measurements; Farm Irrigation Rating Method (FIRM); NRCS Washington Irrigation Guide; SRFR–Surface Irrigation Simulation Model Management factors, system management, scheduling/soil moisture, irrigation skill and action, maintenance, and soil condition shall be determined.
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.	Management provides optimum use of natural moisture for the present or intended land use while complying with all pertinent local, state, and federal laws, rules, and regulations.	Visual assessment; Plant or animal quality and quantity measurements; Soil moisture test

National-and Washington Resource Concerns and Quality Criteria				
National Resource Concern	**Description of Concern**	**National Quality Criteria**	**WA Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
WATER				
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.	Conveyance structures are upgraded or maintained to adequately convey water for present or intended uses. Actions will be consistent with policy and laws such as those pertaining to wetlands and riparian areas. Assessments identify sediment source areas and treat to meet quality criteria for soil erosion. Excessive sediment loads are controlled by the treatment methods selected.	Visual assessment; Client interview; National Engineering Handbook, Part 650 (EFH - Chapters 2, 3, 7); Hydrologic models, e.g. HECRAS, TR-20, TR-55; Depth and area measurements
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.	Water bodies and contributing source areas are treated to allow sufficient water storage for present and intended uses. Actions will be consistent with policy and laws such as those pertaining to wetlands and riparian areas. Assessments identify sediment source areas and treat to meet quality criteria for soil erosion. Excessive sediment loads are controlled by the treatment methods selected.	Visual assessment; Depth and area measurements; National Engineering Handbook, Part 650 (EFH - Chapters 2, 3, 7, 11)
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
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	Visual assessment; Water flow records; Gauge Station data; Consumptive use/allocation water rights; State Adapted Wildlife Habitat Evaluation Guide (WHEG); NRCS National Biology Handbook

National-and Washington Resource Concerns and Quality Criteria				
National Resource Concern	**Description of Concern**	**National Quality Criteria**	**WA Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
WATER				
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	Pesticides are applied, stored, handled, disposed of, and managed so that groundwater uses are not adversely affected and following pertinent local, state, and federal regulations. Pesticides are evaluated using risk analysis tools to minimize adverse environmental effects and applied in forms, at rates and during times so no significant contamination occurs below the root zone. Pesticide Storage, Handling, and Disposal Worksheet: Low or Low Moderate Rating or better. WIN-PST: Low or Very Low Rating	WIN-PST (Windows Pesticide Screening Tool - USDA/NRCS); Vadose zone and groundwater chemical sampling and assay; NRCS-WA Water Quality Technical Note 1-Pesticide Storage, Handling, and Disposal Worksheet
Water Quality - Excessive Nutrients and Organics in Groundwater	Pollution from natural or human induced nutrients such as N, 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.	Nutrients and organics are stored, handled, disposed of, and applied such that groundwater uses are not adversely affected following pertinent local, state, and federal regulations. Application is in balance with plant requirements considering all nutrient sources, soil characteristics, realistic yield goals, and climatic factors. Phosphorus Index: Balance for P if appropriate. Nutrient Storage and Handling Worksheet: Low to Moderate Rating or better. Livestock Waste Storage Worksheet: Low or Low Moderate Rating or better. Livestock Confinement Area Management Worksheet: Low to Moderate Rating or better.	National Engineering Handbook, Part 651, Agricultural Waste Management Field Handbook (AWMFH); Nitrate Leaching Index; NRCS-WA Water Quality Technical Note 2 - Phosporus Index; Farm*A*Syst assessment-screening tool; Vadose zone and groundwater chemical/particle sampling and assay; NRCS-WA Water Quality Technical Note 1-Livestock Waste Storage Worksheet; NRCS-WA Water Quality Technical Note 1-Livestock Confinement Area Management Worksheet; NRCS-WA Water Quality Technical Note 1-Nutrient Storage and Handling Worksheet

National-and Washington Resource Concerns and Quality Criteria				
National Resource Concern	**Description of Concern**	**National Quality Criteria**	**WA Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
WATER				
Water Quality - Excessive Salinity in Groundwater	Pollution from salts such as Ca, Mg, Na, K, HCO3, CO3, Cl, and SO4 degrades groundwater quality.	Salts are stored, handled, disposed of, applied, and managed such that groundwater uses are not adversely affected.	Salts are stored, handled, disposed of, applied, and managed such that groundwater uses are not adversely affected. Water Test: Drinking water 0.7 dS/M. Plants: 3.0 dS/M or crop tolerance.	Vadose zone and groundwater salinity sampling (total dissolved solids [TDS] or electrical conductivity) and assay; National Engineering Handbook, Part 652, Irrigation Guide; Soil salinity sampling and assay; NRCS Washington Irrigation Guide; Water test (Electrical Conductivity-Ec); Soil test (Electrical Conductivity-Ec)
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.	Materials containing heavy metals are stored, handled, disposed of, applied, and managed such that groundwater uses are not adversely affected. Management plan and NPDES Permit: The application of domestic sewage sludge (biosolids) to agricultural lands is highly regulated. A state approved biosolids and domestic septage management plan and NPDES permit for the site is required in order to meet quality criteria.	Vadose zone and groundwater chemical sampling and assay; Management plan and NPDES permit
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.	Materials that harbor pathogens are stored, handled, disposed of, applied, and managed such that groundwater uses are not adversely affected. See Groundwater Nutrients and Organics Tools and Quality Criteria to determine if animal wastes are properly managed. Meeting quality criteria for nutrients will minimize the risks of pathogen contamination when livestock waste is being utilized.	Vadose zone and groundwater chemical sampling and assay

National-and Washington Resource Concerns and Quality Criteria				
National Resource Concern	**Description of Concern**	**National Quality Criteria**	**WA Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
WATER				
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.	Petroleum products are used, stored, handled, disposed of, and managed such that groundwater uses are not adversely affected. Petroleum Product Storage Worksheet: Low or Low to Moderate Rating.	Vadose zone and groundwater chemical sampling and assay; NRCS-WA Water Quality Technical Note 1-Petroleum Product Storage Worksheet
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	Pesticides are applied, stored, handled, disposed of, and managed such that surface water uses are not adversely affected. Pesticide Storage, Handling, and Disposal Worksheet: Low or Low to Moderate Rating. WIN-PST: Low or Very Low Rating.	WIN-PST (Windows Pesticide Screening Tool - USDA/NRCS); Surface water chemical sampling and assay; NRCS-WA Water Quality Technical Note 1-Pesticide Storage, Handling, and Disposal Worksheet; Soil test
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.	Nutrients and organics are stored, handled, disposed of, and managed such that surface water uses are not adversely affected. Livestock Confinement Area Management Worksheet: Low to Moderate Rating or better. Nutrient Storage and Handling Worksheet: Low or Low to Moderate Rating. Phosphorus Index: Balance for P if appropriate. Field Sheet 2B: Good Rating. Livestock Waste Storage Worksheet: Low to Moderate Rating or Better.	Stream Visual Assessment Protocol - USDA/NRCS National Water and Climate Center Technical Note 99-1; National Engineering Handbook, Part 651, Agricultural Waste Management Field Handbook (AWMFH); Surface water chemical/particle sampling and assay; NRCS-WA Water Quality Technical Note 1-Livestock Confinement Area Management Worksheet; NRCS-WA Water Quality Technical Note 1-Livestock Waste Storage Worksheet; NRCS-WA Water Quality Technical Note 1-Nutrient Storage and Handling Worksheet; NRCS-WA Water Quality Technical Note 2 - Phosporus Index; NRCS approved tools

National-and Washington Resource Concerns and Quality Criteria				
National Resource Concern	**Description of Concern**	**National Quality Criteria**	**WA Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
WATER				
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.	Movement of mineral and organic particles is managed such that surface water uses are not adversely affected. Sediment and Turbidity Worksheet: Low to Moderate Risk	Visual assessment; Client interview; Stream Visual Assessment Protocol - USDA/NRCS National Water and Climate Center Technical Note 99-1; Water Quality Indicators Guide - Surface Waters, Field Sheets IA and 1B (Terrene Institute-1996); Surface water chemical/particle sampling and assay; NRCS-WA Water Quality Technical Note 1-Sediment and Turbidity Worksheet
Water Quality - Excessive Salinity in Surface Water	Pollution from salts such as Ca, Mg, Na, K, HCO3, HCO3, CO3, Cl, and SO4 degrades surface water quality.	Salts are stored, handled, disposed of, applied, and managed such that surface water uses are not adversely affected.	Same as National	Stream Visual Assessment Protocol - USDA/NRCS National Water and Climate Center Technical Note 99-1) - Salinity; NRCS Washington Irrigation Guide
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.	Materials containing heavy metals are stored, handled, disposed of, applied, and managed such that surface water uses are not adversely affected. Management plan and NPDES Permit: The application of domestic sewage sludge (biosolids) to agricultural lands is highly regulated. A state approved biosolids and domestic septage management plan and NPDES permit for the site is required in order to meet quality criteria.	Surface water chemical sampling and assay; Biosolids Test; Soil test; Management plan and NPDES permit

National-and Washington Resource Concerns and Quality Criteria				
National Resource Concern	**Description of Concern**	**National Quality Criteria**	**WA Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
WATER				
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.	Use and management of land and water including suitable aquatic habitat and the geomorphic condition of the stream are coordinated to minimize impacts on surface water temperatures. Water Sampling: State Standards. Shade/Canopy Cover: 60--80% where the site supports trees.	Stream Visual Assessment Protocol - USDA/NRCS National Water and Climate Center Technical Note 99-1) - canopy cover; HSI model for target species (Habitat Suitability Index - USF&WS); Surface water temperature sampling and assay; Shade/Canopy Cover
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.	Materials that harbor pathogens are stored, handled, disposed of, applied, and managed such that surface water uses are not adversely affected. See Surface Water Nutrients and Organics Tools and Quality Criteria to determine if animal wastes are properly managed. Meeting quality criteria for nutrients will minimize the risks of pathogen contamination when livestock waste is being utilized.	Surface water pathogen sampling and assay; Soil Interpretation Table AWM-1 - Disposal of Wastewater by Irrigation; Soil Interpretation Table AWM-1 - Land Application of Municipal Sewage Sludge; Soil Interpretation Table AWM-2 - Overland Flow Process Treatment of Wastewater; Soil Interpretation Table AWM-2 - Rapid Infiltration Disposal of Wastewater; Soil Interpretation Table AWM-2 - Slow Rate Process Treatment of Wastewater; NRCS-WA Water Quality Technical Note 1-Livestock Confinement Area Management Worksheet; NRCS-WA Water Quality Technical Note 1-Livestock Waste Storage Worksheet; NRCS-WA Water Quality Technical Note 2 - Phosporus Index
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.	Petroleum products are used, stored, handled, and disposed of such that surfacewater uses are not adversely affected. Petroleum Product Storage Worksheet: Low or Low to Moderate Rating.	Surface water chemical sampling and assay; NRCS-WA Water Quality Technical Note 1-Petroleum Product Storage Worksheet

National-and Washington Resource Concerns and Quality Criteria				
National Resource Concern	**Description of Concern**	**National Quality Criteria**	**WA Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
AIR				
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 comply with PM 10 requirements of the State or Federal Implementation Plan and all applicable Federal, Tribal, State, and Local regulations	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. Treated area does not adversely affect visibility, human, or animal health. Tools and observation indicate that excessive dust and airborne sediments are not emitted during normal weather conditions for the area. Excessive PM<= 50% of the planning soil T factor for the rotation.	Specific guidelines contained in State or Federal Implementation Plan; or other approved NRCS tools.; Air quality analysis; All applicable air quality standards; Monitoring equipment; Visual assessment; WEQ for the planned or existing cover and amount during critical periods.
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 comply with PM 2.5 requirements of the State or Federal Implementation Plan and all applicable Federal, Tribal, State, and Local regulations.	Same as National	Specific guidelines contained in State or Federal Implementation Plan; or other approved NRCS tools.
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.	Same as National	Specific guidelines contained in State or Federal Implementation Plan; or other approved NRCS tools.
Air Quality - Excessive Greenhouse Gas - CO2 (carbon dioxide)	Increased CO2 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.	Same as National	Model simulations (Century, EPIC, CQUESTER); sampling for soil carbon or International Panel on Climate Change methodology; or other NRCS approved tools

National-and Washington Resource Concerns and Quality Criteria				
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AIR				
Air Quality - Excessive Greenhouse Gas - N2O (nitrous oxide)	Increased N2O 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.	Same as National	Model simulations (NLEAP or DayCENT), or IPCC methodology; or other NRCS approved tools
Air Quality - Excessive Greenhouse Gas - CH4 (methane)	Increased CH4 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.	Same as National	IPCC methodology; or other NRCS approved tools
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 comply with requirements of all applicable Federal, Tribal, State, and Local regulations.	Same as National	Approved NRCS technical guidance and tools
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	Approved NRCS technical guidance and tools
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; National Engineering Handbook, Part 651, Agricultural Waste Management Field Handbook (AWMFH); NRCS approved tools

National-and Washington Resource Concerns and Quality Criteria				
National Resource Concern	**Description of Concern**	**National Quality Criteria**	**WA Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
AIR				
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.	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. Assessments identify source areas and treat to meet quality criteria for soil erosion and other related resource concerns.	Visual assessment; Regional air partnership recommendations and/or state guidance for smoke management; All applicable air quality standards; Monitoring equipment; Accident records
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.	Same as National	Visual assessment; Anemometers; Approved NRCS technical guidance and tools
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.	Same as National	Chill factor indices; heat indices; Air temperature assessment

National-and Washington Resource Concerns and Quality Criteria				
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PLANT				
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)	Same as National	On-site investigation and records; Forage Suitability Groups (FSG); Pasture Condition Scoring (PCS); Client interview; PLANTS Website; Soil Interpretation Table U - Windbreak Plantings; NRCS Washington and Oregon Guide for Conservation Seedings and Plantings; Plant hardiness zone map; Soil Interpretation Table J1 - Physical Properties; Soil Interpretation Table FOR-5 - Potential Seedling Mortality; Local agronomy guides; University Extension Service information; Soil survey manuscripts; Ecological Site Descriptions (ESD); Conservation Tree and Shrub Groups (CTSG) software or Environmental Plantings section of Soil Survey Report; Silvics of North America USDA-FS Agriculture Handbook 694; NRCS discipline manuals/handbooks

National-and Washington Resource Concerns and Quality Criteria				
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PLANT				
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% of site potential. 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.	Same as National	Local agronomy guides; Client interview; Plant tissue and harvest analysis; Crop scouting; NRCS discipline manuals/handbooks; NRCS National Range and Pasture Handbook; Ecological Site Descriptions (ESD); Rangeland Similarity Index; Forage Suitability Groups (FSG); Plot sampling of understory vegetation; Soil survey reports; Soil Testing; Crop/soil yield comparison in the vicinity; Pasture Condition Scoring (PCS); Keys for disease and insect symptoms; Keys for nutrient deficiencies, toxicities, and other conditions; Rangeland Health Assessment; Stocking rate of desired species; Plot sampling of understory vegetation; Stocking measurement for the tree stands; Conservation Tree and Shrub Groups (CTSG) software or Environmental Plantings section of Soil Survey Report; Trend Evaluations; Forage Utilization Procedures

National-and Washington Resource Concerns and Quality Criteria				
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PLANT				
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	Client interview; Inventory site; NRCS General Manual, 190, Part 410; US Fish and Wildlife Service county endangered species lists and/or National Oceanic Atmospheric Administration-Fisheries; Federal and state endangered species rules and regulations; Consultation with appropriate federal, state, and local agencies/groups; PLANTS Website
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	Client interview; Inventory site; Consult weed management associations; Consultation with appropriate federal, state, and local agencies/groups; State or local noxious weed list; PLANTS Website; NRCS Washington Technical Note Plant Materials 20
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.	Same as National	Visual assessment protocols; Site and flammable biomass inventories; Aerial photo analysis; Soil Interpretation Table FOR-5 – Potential Fire Damage Hazard

National-and Washington Resource Concerns and Quality Criteria				
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ANIMAL				
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.	Food availability meets the life history requirements of the species or guild of species of concern. TN14: Crop and Hay-40%; Pasture-50%; Range-60%; Forest-60%; Aquatic-75%.	Visual assessment; Inventory of food species; Aerial photo analysis; State Adapted Wildlife Habitat Evaluation Guide (WHEG); NRCS National Biology Handbook; NRCS-WA Biology Technical Note 14 - Aquatic and terrestrial habitat evaluation procedures
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.	The ecosystem or habit types support the necessary plant species in the kinds, amounts, and physical structure; and the connectivity wildlife cover is adequate to support, over time, the species of concern. Adequate hiding, thermal and/or refuge cover is provided for aquatic species of concern. TN14: Crop and Hay-40%; Pasture-50%; Range-60%; Forest-60%; Aquatic-75%.	Visual assessment; Inventory of cover/shelter; Aerial photo analysis; State Adapted Wildlife Habitat Evaluation Guide (WHEG); NRCS National Biology Handbook; NRCS-WA Biology Technical Note 14 - Aquatic and terrestrial habitat evaluation procedures
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.	The quantity and quality of water meets the life history requirements of the species of concern. TN14: Crop and Hay-40%; Pasture-50%; Range-60%; Forest-60%; Aquatic-75%.	Surface water dissolved oxygen sampling and assay; Stream Visual Assessment Protocol - USDA/NRCS National Water and Climate Center Technical Note 99-1; HSI model for target species (Habitat Suitability Index - USF&WS); Inventory of water supplies; Aerial photo analysis; State Adapted Wildlife Habitat Evaluation Guide (WHEG); NRCS National Biology Handbook; NRCS-WA Biology Technical Note 14 - Aquatic and terrestrial habitat evaluation procedures

National-and Washington Resource Concerns and Quality Criteria				
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ANIMAL				
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)	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, fish passage). TN14: Crop and Hay-40%; Pasture-50%; Range-60%; Forest-60%; Aquatic-75%.	Visual assessment; Stream Visual Assessment Protocol - USDA/NRCS National Water and Climate Center Technical Note 99-1; Inventory of space/areas; Aerial photo analysis; State Adapted Wildlife Habitat Evaluation Guide (WHEG); NRCS National Biology Handbook; NRCS-WA Biology Technical Note 14 - Aquatic and terrestrial habitat evaluation procedures
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	Fish and wildlife habitat functions of connected plant communities are maintained sufficiently to support the species or guild of species of concern. TN14: Crop and Hay-40%; Pasture-50%; Range-60%; Forest-60%; Aquatic-75%.	Stream Visual Assessment Protocol - USDA/NRCS National Water and Climate Center Technical Note 99-1; NRCS-WA Biology Technical Note 14 - Aquatic and terrestrial habitat evaluation procedures; State Adapted Wildlife Habitat Evaluation Guide (WHEG)
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.	Same as National	Fish and wildlife agency guidance and protocols; Feed and Forage Balance Sheets or equivalent procedures, including Grazing Land Assessment Procedure (GLA)

National-and Washington Resource Concerns and Quality Criteria				
National Resource Concern	**Description of Concern**	**National Quality Criteria**	**WA Quality Criteria**	**Assessment Tools for Quality Criteria Evaluation**
ANIMAL				
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	Client interview; Inventory of presence/absence of T&E species; NRCS General Manual, 190, Part 410; US Fish and Wildlife Service county endangered species lists; Fish and wildlife recovery plans; Federal and state endangered species rules and regulations; Consultation with appropriate federal, state, and local agencies/groups; Fish and wildlife agency web sites
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.	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. Visual Assessment of animals: Body Condition Store: Cattle BCS >= 4, Sheep BCS >= 3	Measured inventory; NRCS National Range and Pasture Handbook; Grazing Lands Application (GLA) software; Nutritional Balance Program (NUTBAL); NIRS/Nutritional Balance Profile Program (NUTBAL Pro); Forage quality laboratory analysis; NRCS-WA adopted forage/livestock management software, worksheets, specifications and job sheets; Visual inspection of animals
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.	Same as National	Visual assessment; Inventory of facilities and their capacities; Aerial photo analysis; NRCS National Range and Pasture Handbook

National-and Washington Resource Concerns and Quality Criteria				
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ANIMAL				
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.	Same as National	Visual assessment; Inventory of distribution needs; Aerial photo analysis; NRCS National Range and Pasture Handbook
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.	Same as National	Animal health/mortality alerts; State and local biosecurity protocols; State and local standards for animal disposal