

SWAPA Resource Concern	Resource Concern Definiton
Soil Erosion – Sheet and Rill	Detachment and transport of soil particles caused by rainfall splash and runoff degrade soil quality.
Soil Erosion – Wind	Detachment and transport of soil particles caused by wind degrade soil quality and/or damage plants.
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.
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.
Soil Erosion – Streambank	Accelerated loss of streambank soils restricts land and water use and management.
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.
Soil Erosion – Irrigation induced	Improper irrigation water application and equipment operation are causing soil erosion that degrades soil quality.
Soil Erosion – Mass Movement	Soil slippage, landslides, or slope failures, normally on hillsides, result in large volumes of soil and rock movement.
Soil Erosion – Road, Roadsides and Construction Sites	Soil loss occurs on areas left unprotected during or after road building and/or construction activities.
Soil Condition – Organic Matter Depletion	Soil organic matter has lowered or will diminish to a level that degrades soil quality.
Soil Condition – Rangeland Site Stability	The capacity to limit redistribution and loss of soil resources (including nutrients and organic matter) by wind and water.
Soil Condition – Compaction	Compressed soil particles and aggregates caused by mechanical compaction adversely affect plant-soil-moisture relationships.
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.
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.
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.
Soil Condition – Contaminants: Animal Waste and Other Organics – P	Phosphorus nutrient levels from applied animal waste and other organics restrict desired use of the land.
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.
Soil Condition – Contaminants: Commercial Fertilizer – N	Over application of nitrogen degrades plant health and vigor or exceeds the soil capacity to retain nutrients.
Soil Condition – Contaminants: Commercial Fertilizer – P	Over application of phosphorus degrades plant health and vigor or exceeds the soil capacity to retain nutrients.
Soil Condition – Contaminants: Commercial Fertilizer – K	Over application of potassium degrades plant health and vigor or exceeds the soil capacity to retain nutrients.
Soil Condition – Contaminants: Residual Pesticides	Residual pesticides in the soil have an adverse effect on non-targeted plants and animals.
Soil Condition – Damage from Sediment Deposition	Sediment deposition damages or restricts land use/management or adversely affects ecological processes.
Water Quantity – Rangeland Hydrologic Cycle	The capacity to capture, store, and safely release water from rainfall, run-on, and snowmelt (where relevant).
Water Quantity – Excessive Seepage	Subsurface water oozing to the surface restricts land use and management.
Water Quantity – Excessive Runoff, Flooding, or Ponding	The land becomes inundated, restricting land use and management.
Water Quantity – Excessive Subsurface Water	Water saturates upper soil layers, restricting land use and management.
Water Quantity – Drifted Snow	Wind-blown snow forms deposits and accumulates around and over surface structures, restricting ingress, egress, and conveyance of humans and animals.
Water Quantity – Inadequate Outlets	Natural or constructed outlets are too small to remove excess water in a timely manner.
Water Quantity – Inefficient Water Use on Irrigated Land	Limited water supplies are not optimally utilized.
Water Quantity – Inefficient Water Use on Nonirrigated Land	Natural moisture is not optimally utilized.
Water Quantity – Reduced Capacity of Conveyances by Sediment Deposition	Sediment deposits in ditches, canals, culverts, and other water conveyances reduce the desired flow capacity.
Water Quantity – Reduced Storage of Water Bodies by Sediment Accumulation	Sediment deposits in water bodies reduce the desired volume capacity.
Water Quantity – Aquifer Overdraft	Water withdrawals exceed the safe yield for the aquifer.
Water Quantity – Insufficient Flows in Watercourses	Water flows are not consistently available in sufficient quantities to support ecological processes and land use and management.
Water Quality – Harmful Levels of Pesticides in Groundwater	Residues resulting from the use of pest control chemicals degrade groundwater quality.

Water Quality – Excessive Nutrients and Organics in Groundwater	Pollution from natural or human-induced nutrients such as N, P, and S (including animal and other wastes) degrades groundwater quality.
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.
Water Quality – Harmful Levels of Heavy Metals in Groundwater	Natural or human-induced metal pollutants present in toxic amounts degrade groundwater quality.
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.
Water Quality – Harmful Levels of Petroleum in Groundwater	Fuel, oil, gasoline, and other hydrocarbons present in toxic amounts degrade groundwater quality.
Water Quality – Harmful Levels of Pesticides in Surface Water	Pest control chemicals present in toxic amounts degrade surface water quality.
Water Quality – Excessive Nutrients and Organics in Surface Water	Pollution from natural or human induced nutrients such as N, P, and S (including animal and other wastes) degrades surface water quality.
Water Quality – Excessive Suspended Sediment and Turbidity in Surface Water	Excessive concentrations of mineral or organic particles, algae, or organic stains degrade surface water quality.
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.
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.
Water Quality – Harmful Temperatures of Surface Water	Undesired thermal conditions degrade surface water quality.
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.
Water Quality – Harmful Levels of Petroleum in Surface Water	Fuel, oil, gasoline, and other hydrocarbons present in toxic amounts degrade surface water quality.
Water Quality – Colorado River Excessive Salinity	Colorado River Basin Salinity Control Program (CRBSC) tracks effects of improved irrigation techniques to reduce salt entering Colorado River waters that eventually flow into Mexico.
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.
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.
Air Quality – Excessive Ozone	High concentrations of ozone are adversely affecting human health, reducing plant yields, and creating smog.
Air Quality – Excessive Greenhouse Gas: CO₂ (carbon dioxide)	Increased CO ₂ concentrations are adversely affecting ecosystem processes.
Air Quality – Excessive Greenhouse Gas: N₂O (nitrous oxide)	Increased N ₂ O concentrations are adversely affecting ecosystem processes.
Air Quality – Excessive Greenhouse Gas: CH₄ (methane)	Increased CH ₄ concentrations are adversely affecting ecosystem processes.
Air Quality – Ammonia (NH₃)	Animal waste and inorganic commercial fertilizers emit ammonia that contributes to odor, is a PM _{2.5} precursor, and contributes to acid rain.
Air Quality – Chemical Drift	Materials applied to control pests drift downwind and contaminate/injure non-targeted fields, crops, soils, water, animals and humans.
Air Quality – Objectionable Odors	Land use and management operations produce offensive smells.
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).
Air Quality – Undesirable Air Movement	Wind velocities (too little or too much) reduce animal or plant productivity, impact human comfort and increase energy consumption.
Air Quality – Adverse Air Temperature	Air temperatures (too cold or too hot) reduce animal or plant productivity, impact human comfort and increase energy consumption.
Plants not adapted or suited	Plants are not adapted and/or suited to site conditions or client objectives.
Plant Condition – Productivity, Health and Vigor	Plants do not produce the yields, quality, and soil cover to meet client objectives.
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.
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 that hav
Plant Condition – Noxious and Invasive Plants	The site has noxious or invasive plants present.
Plant Condition – Forage Quality and Palatability	Plants do not have adequate nutritive value or palatability for the intended use.

Plant Condition – Wildfire Hazard	The kinds and amounts of fuel loadings (plant biomass) pose risks to human safety, structures, and resources, should wildfire occur.
Fish and Wildlife – Inadequate Food	Quantity and quality of food are unavailable to meet the life history requirements of the species or guild of species of concern.
Fish and Wildlife – Inadequate Cover/Shelter	Cover/shelter for the species or guild of species of concern is unavailable or inadequate. This includes lack of hiding, thermal, and/or refuge cover.
Fish and Wildlife – Inadequate Water	The quantity and quality of water is unacceptable for the species or guild of species of concern.
Fish and Wildlife – Inadequate Space	Lack of required areas disrupts the life history of the species or guild of species of concern.
Fish and Wildlife – Habitat Fragmentation	Habitat has insufficient structure, extent, and connectivity to provide ecological functions and/or achieve management objectives.
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.
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.
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 wi
Domestic Animals – Inadequate Quantities and Quality of Feed and Forage	Total feed and forage are insufficient to meet the nutritional and production needs of the kinds and classes of livestock.
Domestic Animals – Inadequate Shelter	Livestock are not protected sufficiently to meet the production goals for the kinds and classes of livestock.
Domestic Animals – Inadequate Stock Water	The quantity, quality and distribution of drinking water are insufficient to meet the production goals for the kinds and classes of livestock.
Domestic Animals – Stress and Mortality	Animals exhibit illness or death from disease, parasites, insects, poisonous plants, or other factors.
Land - Change in Land Use	The degree to which implementing the conservation practice is expected to cause an increased change from one land use to another.
Land - Land in Production	The degree to which implementing the conservation practice is expected to cause an increase or decrease in the amount of land in production.
Capital - Change in Equipment	The degree to which implementing the conservation practice is expected to cause an increase or decrease in the amount of capital equipment required for farm or ranch operations.
Capital - Total Investment Cost	A qualitative measure of the increase in total investment dollars required in order to implement the conservation practice.
Capital - Annual Cost	A qualitative measure of the expected change in annual capital costs required in order to operate and maintain the conservation practice.
Capital - Credit & Farm Program Eligibility	Included to make conservation planners aware of the potential availability of funding for implementing conservation practices.
Labor - Labor	The degree to which implementing the conservation practice is likely to cause an increase or decrease in the total amount of overall farm or ranch labor required for operations.
Labor - Change in Management Level	The degree to which implementing the conservation practice is likely to cause an increase or decrease in the total amount of required active management, or skills, on a farm or ranch.
Risk - Yield	The degree to which risk, as related to crop or livestock yields, is expected to increase or decrease as a result of implementing the conservation practice.
Risk - Flexibility	The degree to which risk, as related to the flexibility of farm or ranch operations, is expected to increase or decrease as a result of implementing the conservation practice. For example, converting from flood irrigation to a sprinkler system gives a farmer an increase in flexibility of irrigation, which results in a decrease in the level of risk associated with inflexibility of operations.
Risk - Timing	The degree to which risk, as related to the timing of farm or ranch operations, is expected to increase or decrease as a result of implementing the conservation practice.
Risk - Cash Flow	The degree to which risk, as related to cash flow in farm or ranch operations, is expected to increase or decrease as a result of implementing the conservation practice.
Profitability - Change in Profitability	The degree to which farm or ranch profitability is expected to increase or decrease as a result of implementing the conservation practice (benefits exceed costs).
Human Social - Client Well Being	The client believes they benefit from applying the practice.
Human Social - Community Well Being	The community believes they benefit from the widespread application of the practice.
Human Cultural - Impact on Cultural Resource Sites	The likelihood a conservation practice could damage a cultural resource site.