

## Resource Concerns and Definitions 2013

<u>Resource Concerns</u>	<u>Definitions</u>
<b>SOIL</b>	
<b>SOIL EROSION - Sheet, rill, &amp; wind erosion</b>	Detachment and transportation of soil particles caused by rainfall runoff/splash, irrigation runoff or wind that degrades soil quality
<b>SOIL EROSION – Concentrated flow erosion</b>	Untreated classic gullies may enlarge progressively by head cutting and/or lateral widening. Ephemeral gullies occur in the same flow area and are obscured by tillage. This includes concentrated flow erosion caused by runoff from rainfall, snowmelt or irrigation water.
<b>SOIL EROSION– Excessive bank erosion from streams shorelines or water conveyance channels</b>	Sediment from banks or shorelines threatens to degrade water quality and limit use for intended purposes
<b>SOIL QUALITY DEGRADATION - Subsidence</b>	Loss of volume and depth of organic soils due to oxidation caused by above normal microbial activity resulting from excessive water drainage, soil disturbance, or extended drought. This excludes karst / sinkholes issues or depressions caused by underground activities.
<b>SOIL QUALITY DEGRADATION – Compaction</b>	Management induced soil compaction resulting in decreased rooting depth that reduces plant growth, animal habitat and soil biological activity
<b>SOIL QUALITY DEGRADATION – Organic matter depletion</b>	Soil organic matter is not adequate to provide a suitable medium for plant growth, animal habitat, and soil biological activity
<b>SOIL QUALITY DEGRADATION – Concentration of salts or other chemicals</b>	Concentration of salts leading to salinity and/or sodicity reducing productivity or limiting desired use Concentrations of other chemicals impacting productivity or limiting desired use
<b>WATER</b>	
<b>EXCESS WATER – Ponding, flooding, seasonal high water table, seeps, and drifted snow</b>	Surface water or poor subsurface drainage restricts land use and management goals. Wind-blown snow accumulates around and over surface structures, restricting access to humans and animals.
<b>INSUFFICIENT WATER – Inefficient moisture management</b>	Natural precipitation is not optimally managed to support desired land use goals or ecological processes

## Resource Concerns and Definitions 2013

<b>INSUFFICIENT WATER – Inefficient use of irrigation water</b>	Irrigation water is not stored, delivered, scheduled and/or applied efficiently. Aquifer or surface water withdrawals threaten sustained availability of ground or surface water. Available irrigation water supplies have been reduced due to aquifer depletion, competition, regulation and/or drought.
<b>WATER QUALITY DEGRADATION – Excess nutrients in surface and ground waters</b>	Nutrients - organic and inorganic - are transported to receiving waters through surface runoff and/or leaching into shallow ground waters in quantities that degrade water quality and limit use for intended purposes.
<b>WATER QUALITY DEGRADATION – Excess nutrients in surface and ground waters</b>	Nutrients - organic and inorganic - are transported to receiving waters through surface runoff and/or leaching into shallow ground waters in quantities that degrade water quality and limit use for intended purposes.
<b>WATER QUALITY DEGRADATION – Pesticides transported to surface and ground waters</b>	Pest control chemicals are transported to receiving waters in quantities that degrade water quality and limit use for intended purposes.
<b>WATER QUALITY DEGRADATION – Excess pathogens and chemicals from manure, bio-solids or compost applications</b>	Pathogens, pharmaceuticals, and other chemicals carried by land applied soil amendments are transported to receiving waters in quantities that degrade water quality and limit use for intended purposes. This resource concern also includes the off-site transport of leachate and runoff from compost or other organic materials of animal origin.
<b>WATER QUALITY DEGRADATION – Excessive salts in surface and ground waters</b>	Irrigation or rainfall runoff transports salts to receiving water in quantities that degrade water quality and limit use for intended purposes.
<b>WATER QUALITY DEGRADATION – Petroleum, heavy metals and other pollutants transported to receiving waters</b>	Heavy metals, petroleum and other pollutants are transported to receiving water sources in quantities that degrade water quality and limit use for intended purposes.
<b>WATER QUALITY DEGRADATION – Excessive sediment in surface waters</b>	Off-site transport of sediment from sheet, rill, gully, and wind erosion into surface water that threatens to degrade surface water quality and limit use for intended purposes.
<b>WATER QUALITY DEGRADATION – Elevated water temperature</b>	Surface water temperatures exceed State/Federal standards and/or limit use for intended purposes.

## Resource Concerns and Definitions 2013

<b>PLANT</b>	
<b>DEGRADED PLANT CONDITION – Undesirable plant productivity and health</b>	Plant productivity, vigor and/or quality negatively impacts other resources or does not meet yield potential due to improper fertility, management or plants not adapted to site This includes addressing pollinators and beneficial insects.
<b>DEGRADED PLANT CONDITION – Inadequate structure and composition</b>	Plant communities have insufficient composition and structure to achieve ecological functions and management objectives This includes degradation of wetland habitat, targeted ecosystems, or unique plant communities.
<b>DEGRADED PLANT CONDITION – Excessive plant pest pressure</b>	Excessive pest damage to plants including that from undesired plants, diseases, animals, soil borne pathogens, and nematodes This concern addresses invasive plant, animal and insect species
<b>DEGRADED PLANT CONDITION– Wildfire hazard, excessive biomass accumulation</b>	The kinds and amounts of fuel loadings - plant biomass - create wildfire hazards that pose risks to human safety, structures, plants, animals, and air resources
<b>ANIMAL</b>	
<b>INADEQUATE HABITAT FOR FISH AND WILDLIFE – Habitat degradation</b>	Quantity, quality or connectivity of food, cover, space, shelter and/or water is inadequate to meet requirements of identified fish, wildlife or invertebrate species
<b>LIVESTOCK PRODUCTION LIMITATION – Inadequate feed and forage</b>	Feed and forage quality or quantity is inadequate for nutritional needs and production goals of the kinds and classes of livestock
<b>LIVESTOCK PRODUCTION LIMITATION – Inadequate livestock shelter</b>	Livestock lack adequate shelter from climatic conditions to maintain health or production goals
<b>LIVESTOCK PRODUCTION LIMITATION – Inadequate livestock water</b>	Quantity, quality and/or distribution of drinking water are insufficient to maintain health or production goals for the kinds and classes of livestock
<b>ENERGY</b>	
<b>INEFFICIENT ENERGY USE – Equipment and facilities</b>	Inefficient use of energy in the Farm Operation increases dependence on non-renewable energy sources that can be addressed through improved energy efficiency and the use of on-farm renewable energy sources. As an example, this concern addresses inefficient energy use in pumping plants, on-farm

## Resource Concerns and Definitions 2013

	processing, drying and storage.
<b>INEFFICIENT ENERGY USE – Farming/ranching practices and field operations</b>	Inefficient use of energy in field operations increases dependence on non-renewable energy sources that can be addressed through improved efficiency and the use of on-farm renewable energy sources.
<b>AIR</b>	
<b>AIR QUALITY IMPACTS - Emissions of Particulate Matter - PM - and PM Precursors</b>	Direct emissions of particulate matter - dust and smoke -, as well as the formation of fine particulate matter in the atmosphere from other agricultural emissions - ammonia, NOx, and VOCs - cause multiple environmental impacts, such as: 1) The unintended movement of particulate matter - typically dust or smoke - results in safety or nuisance visibility restriction, 2) The unintended movement of particulate matter and/or chemical droplets results in unwanted deposits on surfaces, 3) Increased atmospheric concentrations of particulate matter can impact human and animal health and degrade regional visibility.
<b>AIR QUALITY IMPACTS - Emissions of Greenhouse Gases - GHGs -</b>	Emissions increase atmospheric concentrations of greenhouse gases.
<b>AIR QUALITY IMPACTS - Emissions of Ozone Precursors</b>	Emissions of ozone precursors - NOx and VOCs - resulting in formation of ground- level ozone that cause negative impacts to plants and animals.
<b>AIR QUALITY IMPACTS - Objectionable odors</b>	Emissions of odorous compounds - VOCs, ammonia and odorous sulfur compounds - cause nuisance conditions
<b>Human</b>	
<b>Cultural Resources and/or Historic Properties Present or Suspected to be Present (Effect)</b>	The degree to which implementation of the conservation practice is expected to increase or decrease the risk of cultural resource disturbance, degradation, or loss.
<b>Depletion of Fossil Fuel Resources (Effect)</b>	Inefficient use of fossil-originated energy sources (diesel, gasoline, propane, natural gas, coal), lubricants, and other materials.

## Resource Concerns and Definitions 2013

<b>Underutilization of Non-Fossil Energy Sources (Effect)</b>	Available and cost-effective alternative energy sources (solar, wind, biofuel, hydroelectric, geothermal) are not being used or are being used inefficiently.
<b>Land - Change in Land Use</b>	The degree to which implementing the conservation practice is expected to cause a change from one land use to another.
<b>Land - Land in Production</b>	The degree to which implementing the conservation practice is expected to cause an increase or decrease in the amount of land in production.
<b>Capital - Change in Equipment</b>	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.
<b>Capital - Total Investment Cost</b>	A qualitative measure of the increase in total investment dollars required in order to implement the conservation practice.
<b>Capital - Annual Cost</b>	A qualitative measure of the expected change in annual capital costs required in order to operate and maintain the conservation practice.
<b>Capital - Credit &amp; Farm Program Eligibility</b>	Included to make conservation planners aware of the potential availability of funding for implementing conservation practices.
<b>Labor - Labor</b>	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.
<b>Labor - Change in Management Level</b>	The degree to which implementing the conservation practice is likely to cause an increase or decrease in the total amount of required active management on a farm or ranch.
<b>Risk - Yield</b>	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.
<b>Risk - Flexibility</b>	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.
<b>Risk - Timing</b>	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

## Resource Concerns and Definitions 2013

	implementing the conservation practice.
<b>Risk - Cash Flow</b>	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.
<b>Profitability - Change in Profitability</b>	The degree to which farm or ranch profitability is expected to increase or decrease as a result of implementing the conservation practice.
<b>Operations &amp; Maintenance Factor</b>	The percentage of initial installation cost that a producer is expected to need to spend on an annual basis in order to perform the operations and maintenance (O&M) necessary to meeting the requirements of NRCS practice standards. To calculate expected annual O&M costs, multiply the installation cost by the O&M factor.
<b>Practice Life</b>	The period of time, measured in years, during which the conservation practice must remain fully functional--through design, construction, implementation, and/or O&M--in order to meet the requirements of NRCS practice standards.
<b>Estimated Average Installation Cost</b>	An estimate, based on national data, of the average total cost of installing a typical or representative case of the conservation practice. This figure includes only "cost-shareable" expenses and is intended to give conservation planners a rough or "ballpark" idea as to the relative costs of implementing different conservation practices. It is not intended for use as the basis for calculating actual cost estimates for specific conservation systems or practices on individual land units.
<b>Estimated Average Annual Cost</b>	Calculated by amortizing the estimated average annual installation cost over the practice standard life of the practice and then adding expected annual O&M costs in order to estimate the average annual cost of implementing the practice.