RESOURCE CONCERN FIELD ID WORKSHEET – FORM A

RESOURCE CONCERNS [1/]	LAND USES [2/] C	R	P	H	F	O	BENCHMARK CONDITION [3/]
A. SOIL							
1. SOIL EROSION							
a. Sheet, Rill, and Wind Erosion							
b. Concentrated Flow Erosion							
c. Shoreline, Bank and Channel Erosion							
2. SOIL QUALITY DEGRADATION							
a. Subsidence							
b. Compaction							
c. Organic Matter Depletion							
d. Concentration of Salts and Other Chemicals							
B. WATER							
1. EXCESS/INSUFFICIENT WATER							
a. Ponding, Flooding, Seasonal High Water Table, Seeps, and Drifted Snow							
b. Inefficient Moisture Management							
c. Inefficient Use of Irrigation Water							
2. WATER QUALITY DEGRADATION							
a. Excess Nutrients in surface or ground water							
b. Pesticides transported to surface or ground water							
c. Excess Pathogens and Chemicals from manure, bio-solids, or compost applications in surface water or ground water							
d. Excessive Salts in surface water or ground water							
e. Petroleum, Heavy metals, and other pollutants, transported to waters							
f. Excessive Sediment in surface water							
g. Elevated Water Temperature							
C. AIR							
1. AIR QUALITY IMPACTS							
a. Emissions of Particulate Matter (PM) and PM Precursors							
b. Emissions of Greenhouse Gases (GHGs)							
c. Emissions of Ozone Precursors							
d. Objectionable Odors							

RESOURCE CONCERN FIELD ID WORKSHEET – FORM A

RESOURCE CONCERNS [1/]	LAND USES [2/] C	R	P	H	F	O	BENCHMARK CONDITION [3/]
D. PLANTS							
1. DEGRADED PLANT CONDITION							
a. Plant Productivity and Health							
b. Structure and Composition							
c. Excessive Plant Pest Pressure							
d. Wildfire Hazard, Excessive Biomass Accumulation							
E. ANIMALS							
1. LIVESTOCK PRODUCTION LIMITATION							
a. Inadequate Feed and Forage							
b. Inadequate Livestock Shelter							
c. Inadequate Livestock Water							
2. INADEQUATE HABITAT FOR FISH AND WILDLIFE							
a. Habitat Degradation (Food, Water, Cover/Shelter, and Habitat Continuity/Space)							
F. ENERGY							
1. INEFFICIENT ENERGY USE							
a. Equipment and Facilities							
b. Farming/Ranching Practices and Field Operations							

[1/] Problems that degrade or reduce sustainability of the identified resource.

[2/] Mark each land use where a resource concern has been identified.
C=Cropland, R=Rangeland, H=Hayland, P=Pastureland, F=Forestland, O=Other.

[3/] Description of existing condition (i.e., 8 tons/acre/year soil loss from wind erosion).

RESOURCE CONCERN FIELD ID WORKSHEET – FORM B

RESOURCE CONCERNS [1/]	LAND USES [2/] C	R	P	H	F	O	RESOURCE INDICATORS [3/]
A. SOIL							
1. SOIL EROSION							
a. Sheet, Rill and Wind Erosion							Changes in soil horizon thickness, soil deposition, plant pedestals, rills
b. Concentrated Flow Erosion							Branching or tree-like patterns of rills, gullies, headcuts
c. Shoreline, Bank and Channel Erosion							Eroding banks, degrading streambed, and manipulated stream channels
2. SOIL QUALITY DEGRADATION							
a. Subsidence							Loss of volume and depth of organic soils
b. Compaction							Bulk density increases, increased penetration resistance, decreased porosity, root growth patterns
c. Organic Matter Depletion							Compaction, slaking, soil crusting, crop moisture stress, poor soil structure, OM tests
d. Concentration of Salts and Other Chemicals							White crusting of soil, irregular crop growth, and lack of plant vigor
B. WATER							
1. EXCESS/INSUFFICIENT WATER							
a. Ponding, Flooding, Seasonal High Water Table, Seeps, and Drifted Snow							Little to no established vegetation due to excess water, wet areas due to restrictive soil layers, and flood prone areas, OM residues
b. Inefficient Moisture Management (Dryland – crop, range, pasture, etc.)							Lower than expected production (germination, cover, yield, etc.), invasive species encroachment, no winter or fallow soil cover, tillage
c. Inefficient Use of Irrigation Water							Plant stress, inefficient water application method and/or supply system
2. WATER QUALITY DEGRADATION							
a. Excess Nutrients in surface or ground water							Algae blooms, mass death of fish or aquatic organisms, low dissolved oxygen concentrations, hypoxia, water test, proximity of application to water body
b. Pesticides transported to surface or ground waters							Pesticide use in the farm/ranch operation, water test, WinPST intermediate/high hazards, proximity of use to water body
c. Excess Pathogens and Chemicals from manure, bio-solids, or compost applications in surface water or ground water							Storage, handling, and application of manure, bio-solids, or compost, water test, proximity of application to water body
d. Excessive Salts in in surface water or ground water							White crusting of soil, irregular crop growth, and lack of plant vigor
e. Petroleum, Heavy Metals, and other pollutants transported to waters							Storage and handling of petroleum, use of biosludge, contaminated animal manure, and artificial fertilizers, water test, odor, proximity to water body
f. Excessive Sediment in surface water							Cloudy or muddy water, stream/water body soil deposition, water turbidity test
g. Elevated Water Temperature							Water temperature exceeds legal standard, threatens the health of aquatic organisms, temperature measurements, riparian habitat shade less than undisturbed native areas

RESOURCE CONCERN FIELD ID WORKSHEET – FORM B

RESOURCE CONCERNS [1/]	LAND USES [2/] C	R	P	H	F	O	RESOURCE INDICATORS
C. AIR							
1. AIR QUALITY IMPACTS							
a. Emissions of Particulate Matter (PM) and PM Precursors							Dust, smoke, chemical and fertilizer use, animal activities
b. Emissions of Greenhouse Gases (GHGs)							Greenhouse Gas emissions, fertilizer application methods, manure management methods
c. Emissions of Ozone Precursors							Engines, pesticides, burning, tillage, and animal operations unnecessarily used
d. Objectionable Odors							Manure storage facilities, animal housing, manure and land application, proximity to neighbors or urban areas, predominant wind direction, odors
D. PLANTS							
1. DEGRADED PLANT CONDITION							
a. Plant Productivity and Health							Yield or growth is substantially less than expected, plants are disease and/or pest-ridden, plants fail to thrive
b. Structure and Composition							Lack of species variety and differences in plant ages
c. Excessive Plant Pest Pressure							Animal, insect, and/or disease damage, or competition from common weeds or invasive plants substantially reduces yield or growth
d. Wildfire Hazard, Excessive Biomass Accumulation							Excess biomass, biomass distribution, lack of preparedness
E. ANIMALS							
1. LIVESTOCK PRODUCTION LIMITATION							
a. Inadequate Feed and Forage							Feed and forage not adequate to support the livestock operation
b. Inadequate Livestock Shelter							Vegetative, landscape, and/or structural options for livestock shelter do not exist; livestock are exposed to severe climatic conditions
c. Inadequate Livestock Water							Lack of water, poor water quality, poor distribution can affect livestock health
2. INADEQUATE HABITAT FOR FISH AND WILDLIFE							
a. Habitat Degradation (Food, Water, Cover/Shelter, and Habitat Continuity/Space)							Loss of habitat necessary to adequately support desired wildlife species
F. ENERGY							
1. INEFFICIENT ENERGY USE							
a. Equipment and Facilities							Inefficient energy use
b. Farming/Ranching Practices and Field Operations							Inefficient energy use

[1/] Problems that degrade or reduce sustainability of the identified resource.

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[2/] Mark each land use where a resource concern has been identified.
C=Cropland, R=Rangeland, H=Hayland, P=Pastureland, F=Forestland, O=Other.

[3/] Examples of Problems/Indicators, as well as examples of Causes and Solutions are contained on the Information Sheet for each Resource Concern that can be found in Amendment 5 (January 2013) of the NRCS National Planning Procedures Handbook.

RESOURCE CONCERN FIELD ID WORKSHEET
RESOURCE CONCERN DEFINITIONS*

A. Soil

1. Soil Erosion

a. **Sheet, Rill and Wind Erosion**: Detachment and transportation of soil particles caused by rainfall runoff/splash, irrigation runoff, or wind that degrades soil quality.

b. **Concentrated Flow Erosion**: Un-treated classic gullies may enlarge progressively by headcutting 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.

c. **Shoreline, Bank and Channel Erosion**: Sediment from banks, shorelines or conveyance channels threatens to degrade water quality and limit use for intended purposes.

2. Soil Quality Degradation

a. **Subsidence**: 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/sinkhole issues or depressions caused by underground activities.

b. **Compaction**: Management induced soil compaction resulting in decreased rooting depth that reduces plant growth, animal habitat and soil biological activity. Compaction results in increased soil bulk density and decreased soil porosity.

c. **Organic Matter**: Soil organic matter is not adequate to provide a suitable medium for plant growth, animal habitat, and soil biological activity. Decreasing trend in soil organic matter; soil organic matter levels less than are possible under the current landuse if well-managed.

d. **Concentration of Salts and Chemicals**: Concentration of salts leading to salinity and/or sodicity reducing productivity or limiting desired use. The resource concern is also applicable to concentrations of other chemicals impacting productivity or limiting desired use.

B. Water

1. Excess/Insufficient Water

a. **Ponding, Flooding, Other Excess**: 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. **Inefficient Moisture Management**: Natural precipitation is not optimally managed to support desired land use goals or ecological processes.

c. **Inefficient Use of Irrigation Water**: 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.

Resource Concern Definitions--CONTINUED

2. **Water Quality Degradation**

   a. **Excess Nutrients in Surface or Ground Water**: Nutrients (organics and inorganics) 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. **Pesticides**: Pest control chemicals are transported to receiving waters in quantities that degrade water quality and limit use for intended purposes.

   c. **Pathogens**: Pathogens, pharmaceuticals, and other chemicals are carried by soil amendments that are applied to the land and are subsequently 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.

   d. **Salts**: Irrigation or rainfall runoff transports salts to receiving waters in quantities that degrade water quality and limit use for intended purposes.

   e. **Petroleum and Heavy Metals**: Heavy metals, petroleum and other pollutants are transported to receiving water sources in quantities that degrade water quality and limit use for intended purposes.

   f. **Sediment**: 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.

   g. **Elevated Water Temperature**: Surface water temperatures exceed State/Federal standards and/or limit use for intended purposes.

C. Air

1. **Air Quality Impacts**

   a. **Particulate Matter**: Direct emissions of particulate matter (PM) – dust and smoke – as well as the formation of fine particulate matter in the atmosphere from other agricultural emissions – ammonia, NOx, and VOCs.

   b. **Greenhouse Gases**: Emissions increase atmospheric concentrations of greenhouse gases.

   c. **Ozone Precursors**: Emissions of ozone precursors – NOx and VOCs – resulting in formation of ground-level ozone that causes negative impacts to plants and animals.

   d. **Odors**: Emissions of odorous compounds – VOCs, ammonia, and odorous sulfur compounds – cause nuisance conditions.

D. Plants

1. **Degraded Plant Condition**

   a. **Plant Productivity and Health**: 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.

   b. **Structure and Composition**: Plant communities have insufficient composition and structure to achieve ecological functions and management objectives. Inadequate structure and composition also includes degradation of wetland habitat, targeted ecosystems, or unique plant communities.

Resource Concern Definitions--CONTINUED

c. **Plant Pests**: Excessive pest damage to plants including that from undesired plants, diseases, animals, soil borne pathogens, and nematodes.

d. **Wildfire Hazard**: Accumulated plant residue (biomass) creates wildfire hazards that pose risks to human safety, structures, plants, animals, and air resources.

E. Animals

1. Livestock Production Limitation

a. **Feed and Forage**: Feed and forage quality or quantity is inadequate for nutritional needs and production goals of the kinds and classes of livestock.

b. **Livestock Shelter**: Livestock lack adequate shelter from climatic conditions to maintain health or production goals.

c. **Livestock Water**: Quantity, quality, and/or distribution of drinking water are insufficient to maintain health or production goals for the kinds and classes of livestock.

2. Inadequate Habitat for Fish and Wildlife

a. **Habitat Degradation**: Quantity, quality or connectivity of food, cover, space, shelter and/or water is inadequate to meet requirements of identified fish, wildlife or invertebrate species.

F. Energy

1. Inefficient Energy Use

a. **Equipment and Facilities**: The inefficient use of energy increases costs and dependence on non-renewable energy sources.

b. **Field Operations**: The inefficient use of energy increases costs and dependence on non-renewable energy sources.

* - These Resource Concern Definitions are taken directly from the NRCS Resource Concern Information Sheets contained in Amendment 5 (January 2013) of the National Planning Procedures Handbook.