

Resource Concerns and Planning Criteria for Conservation Planning
10/1/2015

Resource Concern - Cause	Description of Concern	Land Use * Required Assessment	Resource Concern Component	Planning Criteria	Measurement & Assessment Tools
<p>A resource concern (RC) is an expected degradation of the soil, water, air, plant, or animal resource base to an extent that the sustainability or intended use of the resource is impaired. Because NRCS quantifies or describes resource concerns as part of a comprehensive conservation planning process that includes client objectives, human and energy resources are considered components of the resource base. The "Cause" is the specific reason or threat to the resource that results in the resource concern.</p>			<p>For planning purposes, some resource concerns are divided into components where there is a clear distinction in the causal factors, the mitigating actions, and the anticipated environmental effect.</p>	<p>A planning criterion is a quantitative or qualitative method to assess the existing condition of the natural resources on a site to determine whether additional treatment is needed to address a specific potential resource concern.</p> <p>Planning Consideration A planning consideration is a description of potential actions or activities that should be considered to help address an identified resource concern and/or to address unintended consequences of an action. Planning considerations are identified for resource concerns when it is not appropriate or technologically feasible to identify specific criteria or a threshold for treatment.</p> <p>Screening Level Screening level criteria are defined, when appropriate, to identify sites with conditions that have little or no probability of needing additional treatment to address the specific resource concern. If the site meets the screening level criteria, then no other assessment is needed to document that planning criteria are met on this site. States can delete or edit nationally identified screening criteria to address localized conditions.</p> <p>Basic Assessment Level Basic assessment level criteria are used when a site does not meet screening level criteria, or when no screening level criteria are defined. Assessment levels are also used when formulating and evaluating alternatives. National criteria establish the minimum for all sites. States may add state-specific criteria to address local conditions.</p>	<p>Description of the technology or process for determining if assessment criteria are met.</p>

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SOIL	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools	
1) SOIL EROSION - Sheet, rill, & wind erosion	Detachment and transportation of soil particles caused by rainfall runoff/splash, irrigation runoff or wind that degrades soil quality.	•Crop*	Sheet & Rill	Annual crop production with >30% residue after planting all crops in the rotation and slope < 2% for the planning soil map unit	Water erosion rate ≤ T	RUSLE2	
			Wind	OR Permanent ground cover >90% and slope < 10%	Wind erosion rate ≤ T	WEPS	
		•Pasture*	Sheet & Rill	Permanent ground cover > 90% and slope < 10%	Water erosion rate ≤ T	OR Pasture Condition Score - Soil Erosion element score ≥ 4	RUSLE2
			Wind		Wind erosion rate ≤ T		WEPS
		•Forest*	Sheet & Rill	Soil surface organic residue cover > 80%.	Site is stable and without visible signs of active erosion		Visual Inspection
			Wind				
		•Developed Land* •Farmsteads* •Associated Ag Land* •Designated Protected Area* •Other Rural Land*	Sheet & Rill	Permanent ground cover >90% and slope < 10%	Water erosion rate ≤ T		RUSLE2
			Wind		Wind erosion rate ≤ T		WEPS
2) SOIL EROSION – Concentrated flow erosion	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.	•Crop*	Ephemeral gullies	Ephemeral gullies are not occurring	Conservation practices and managements are in place to prevent or control ephemeral gullies	Field measurements / observations	
			Classic gullies	Classic gullies are not present	Classic gully management is adequate to stop the progression of head cutting and widening and are offsite impacts are minimized by vegetation and/or structures		
		•Forest* •Farmsteads* •Pasture* •Developed Land* •Associated Ag Land* •Designated Protected Area* •Other Rural Land*	Classic gullies	Classic gullies are not present	Classic gully management is adequate to stop the progression of head cutting and widening and are offsite impacts are minimized by vegetation and/or structures		
3) SOIL EROSION– Excessive bank erosion from streams shorelines or water conveyance channels	Sediment from banks or shorelines threatens to degrade water quality and limit use for intended purposes.	•Crop* •Forest •Developed Land* •Associated Ag Land* •Designated Protected Area* •Water* •Other Rural Land* •Farmsteads*		Streams, shoreline or channels are not adjacent to site	For shorelines and water conveyance channels; banks are stable or commensurate with normal geomorphological processes AND If bank erosion is present, it is beyond the client's control, or commensurate with normal geomorphological processes AND For streambanks; SVAP2 bank condition element score ≥5	SVAP2	

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3) SOIL EROSION – Excessive bank erosion from streams shorelines or water conveyance channels (continued)	Sediment from banks or shorelines threatens to degrade water quality and limit use for intended purposes.	<ul style="list-style-type: none"> • Pasture* 		Streams, shoreline or channels are not adjacent to site	Streambanks are grazed but stable. Mix of pasture plants and native water's edge species present. Muddy livestock stream crossing(s) or pond entrance(s) not used heavily. Alternative water sites present. (PCS - Streambank / shoreline erosion element score ≥ 4) AND For shorelines and water conveyance channels; Banks stable or commensurate with normal geomorphological processes AND If bank erosion is present, it is beyond the client's control or commensurate with normal geomorphological processes	SVAP2 PCS - Pasture Condition Score
4) SOIL QUALITY DEGRADATION - 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 resource concern excludes karst / sinkholes issues or depressions caused by underground activities.	<ul style="list-style-type: none"> • Crop • Forest • Associated Ag Land • Designated Protected Area • Pasture 		Histisol soils are not present OR Histisol soils are not exhibiting subsidence	Subsidence is adequately managed to meet client's objectives	Client input / planner observation
5) SOIL QUALITY DEGRADATION – Compaction	Management induced soil compaction resulting in decreased rooting depth that reduces plant growth, animal habitat and soil biological activity.	<ul style="list-style-type: none"> • Crop • Forest • Associated Ag Land • Designated Protected Area • Other Rural Land 		Soil compaction is not a problem	Compaction is managed to meet Client's production and management objectives	Observation of soil and/or plant condition Client input / planner observation
		<ul style="list-style-type: none"> • Pasture 		Activities do not cause soil compaction problems	PCS – Compaction element score ≥ 4	PCS - Pasture Condition Score
6) SOIL QUALITY DEGRADATION – Organic matter depletion	Soil organic matter is not adequate to provide a suitable medium for plant growth, animal habitat, and soil biological activity.	<ul style="list-style-type: none"> • Crop* 		Permanent ground cover >80%	SCI > 0	RUSLE2 WEPS
		<ul style="list-style-type: none"> • Pasture 			SCI > 0 OR PCS – Live Plant cover element score ≥ 4 AND PCS - Plant Residue element score ≥ 4	RUSLE2 PCS - Pasture Condition Score
		<ul style="list-style-type: none"> • Forest 			Soil organic matter depletion is not a problem AND Activities do not cause soil organic matter depletion	Ground cover meets state criteria specific to ecological site OR Soil organic matter is managed to meet Client objectives

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SOIL	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
7) SOIL QUALITY DEGRADATION – Concentration of salts or other chemicals	Concentration of salts leading to salinity and/or sodicity reducing productivity or limiting desired use, or concentrations of other chemicals impacting productivity or limiting desired use.	<ul style="list-style-type: none"> • Crop • Pasture • Associated Ag Land • Farmsteads 		Activities do not cause salinity/sodicity problems	Conservation practices and managements are in place to mitigate on-site effects	Soil diagnostic evaluations such as Soils Test or Soil quality kit (EC Meter)
WATER	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
8) EXCESS WATER – Ponding, flooding, seasonal high water table, seeps, and drifted snow	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.	<ul style="list-style-type: none"> • Crop • Forest • Farmsteads • Pasture • Developed Land • Associated Ag Land • Designated Protected Area • Other Rural Land 	Ponding and Flooding	Ponding or flooding not a problem AND Activities do not cause ponding/flooding problems	Excess water/snow is managed to meet Client’s objectives and wetland policies	Client input / planner observation of items such as physical presence of water, prevalence of hydrophytic vegetation, hydrologic models, soil cores, plant quality and quantity observations, depth and area measurements
			Seasonal High Water Table	Seasonal high water table does not cause a problem		
			Seeps	Excess water from seeps does not cause a problem		
			Drifted Snow	Drifted snow does not cause a problem		
9) INSUFFICIENT WATER – Inefficient moisture management	Natural precipitation is not optimally managed to support desired land use goals or ecological processes.	<ul style="list-style-type: none"> • Crop • Developed Land • Forest • Associated Ag Land • Designated Protected Area 		Moisture management is not a problem AND Activities do not cause inefficient moisture management problems	Runoff and evapotranspiration levels are minimized to meet Client’s management objectives	Client input / planner observation
					<ul style="list-style-type: none"> • Pasture 	
10) INSUFFICIENT WATER – 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.	<ul style="list-style-type: none"> • All* 		PLU is not irrigated	FIRI $\geq 85\%$ of system potential	FIRI – Farm Irrigation Rating Index

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WATER	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
<p>11) WATER QUALITY DEGRADATION: Excess nutrients in surface and ground waters</p>	<p>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.</p>	<ul style="list-style-type: none"> •Crop* 	Excess nutrients in surface water	Organic or inorganic nutrients are not applied	Nutrient and amendment applications are based on soil or tissue tests and nutrient budgets for realistic yields AND Conservation practices and managements are in place to minimize surface water impacts	Client input / planner observation
			Excess nutrients in groundwater	AND PLU is not grazed	Nutrient and amendment applications are based on soil or tissue tests and nutrient budgets for realistic yields AND Conservation practices and managements are in place to minimize groundwater impacts	Nutrient budget
		<ul style="list-style-type: none"> •Pasture* 	Excess nutrients in surface water	<p>Organic or inorganic nutrients are not applied AND PLU is not grazed</p>	Streambanks are grazed but stable. Mix of pasture plants and native water's edge species present. Muddy livestock stream crossing(s) or pond entrance(s) not used heavily. Alternative water sites present. (PCS - Streambank / shoreline erosion element score \geq 4) AND PCS - Livestock concentration areas element score \geq 4	PCS – Pasture Condition Score
			Excess nutrients in groundwater		Nutrient and amendment applications are based on soil or tissue tests and nutrient budgets for realistic yields	Nutrient budget
		<ul style="list-style-type: none"> •Developed Land 	Excess nutrients in surface water	Organic or inorganic nutrients are not applied	Nutrients, if applied, are based on a soil test, tissue tests or nutrient budget AND Conservation practices and managements are in place to minimize surface water impacts	Client input / planner observation
			Excess nutrients in groundwater		Nutrients, if applied, are based on a soil test, tissue tests or nutrient budget AND Conservation practices and managements are in place to minimize groundwater impacts	Nutrient Budget
		<ul style="list-style-type: none"> •Other Rural Land •Associated Ag Land •Designated Protected Area •Water •Forest 	Excess nutrients in surface water	<p>Organic or inorganic nutrients are not applied AND PLU is not grazed</p>	Nutrients, if applied, are based on a soil test, tissue tests or nutrient budget AND Conservation practices and managements are in place to minimize surface water impacts	Client input / planner observation
			Excess nutrients in groundwater		<p>AND There are no confined livestock areas</p>	Nutrients, if applied, are based on a soil test, tissue tests or nutrient budget AND Conservation practices and managements are in place to minimize groundwater impacts

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<p>11) WATER QUALITY DEGRADATION: Excess nutrients in surface and ground waters (continued)</p>	<p>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.</p>	<p>• Farmsteads*</p>	<p>Excess nutrients in surface water</p>	<p>Organic or inorganic nutrients are not applied AND PLU is not grazed AND There are no confined livestock areas</p>	<p>Conservation practices and managements are in place to minimize surface water impacts AND Surface waters are protected from contamination due to runoff and leaching from storage sites, spill and other concentrated sources</p>	<p>Client input / planner observation</p>
			<p>Excess nutrients in groundwater</p>		<p>Conservation practices and managements are in place to minimize groundwater impacts AND Groundwater is protected from contamination due to runoff and leaching from storage sites, spill and other concentrated sources</p>	<p>Nutrient Budget</p>
<p>12) WATER QUALITY DEGRADATION – Pesticides transported to surface and ground waters</p>	<p>Pest control chemicals are transported to receiving waters in quantities that degrade water quality and limit use for intended purposes.</p>	<p>• All</p>	<p>Pesticides transported to surface water</p>	<p>Pest control chemicals are not applied</p>	<p>Pesticides are stored, handled, disposed and managed to prevent runoff, spills, leaks and leaching AND Application and use of pesticides is according to label instructions and University of Illinois Cooperative Extension recommendations. Federal, State, and local laws must be followed AND Conservation practices and managements are in place to minimize offsite impacts</p>	<p>Client input / planner observation</p>
			<p>Pesticides transported to groundwater</p>	<p>Pest control chemicals are not applied</p>	<p>Pesticides are stored, handled, disposed and managed to prevent runoff, spills, leaks and leaching AND Application and use of pesticides is according to label instructions and University of Illinois Cooperative Extension recommendations. Federal, State, and local laws must be followed AND Conservation practices and managements are in place to minimize offsite impacts</p>	<p>WinPST</p>

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13) WATER QUALITY DEGRADATION – Excess pathogens and chemicals from manure, bio-solids or compost applications	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.	<ul style="list-style-type: none"> • Crop* • Farmsteads* • Forest • Developed Land • Associated Ag Land • Other Rural Land • Designated Protected Area • Water • Pasture* 	Pathogens and chemicals from manure, bio-solids, or compost applications transported to surface water	Potential sources of pathogens or pharmaceuticals are not applied on the land	Organic materials are applied, stored, and/or handled to mitigate negative impacts to surface water sources	Client input / planner observation Surface water pathogen sampling and assay.
			Pathogens and chemicals from manure, bio-solids, or compost applications transported to groundwater	Potential sources of pathogens or pharmaceuticals are not applied on the land	Organic materials are applied, stored, and/or handled to mitigate negative impacts to groundwater sources	Client input / planner observation Vadose zone and groundwater chemical sampling and assay
14) WATER QUALITY DEGRADATION – Excessive salts in surface and ground waters	Irrigation or rainfall runoff transports salts to receiving water in quantities that degrade water quality and limit use for intended purposes.	• All	Excessive salts in surface water	Excess salt is not a problem AND Activities do not contribute to excess salt problem	Salt concentrations are managed to mitigate off-site transport to surface waters	Client input / planner observation Soil salinity sampling and assay
			Excessive salts in groundwater	Activities do not contribute to excess salt problem	Salt concentrations are managed to mitigate off-site transport to groundwater	Client input / planner observation Vadose zone and groundwater salinity sampling (total dissolved solids, or electrical conductivity) and assay
15) WATER QUALITY DEGRADATION – Petroleum, heavy metals and other pollutants transported to receiving waters	Heavy metals, petroleum and other pollutants are transported to receiving water sources in quantities that degrade water quality and limit use for intended purposes.	• All	Petroleum, heavy metals, and other pollutants transported to surface water	Activities do not present the potential for contamination by petroleum, heavy metals and other pollutants	Petroleum, heavy metals or other potential pollutants are stored and handled to avoid runoff to surface water	Client input / planner observation Surface water chemical sampling and assay
			Petroleum, heavy metals, and other pollutants transported to groundwater	Activities do not present the potential for contamination by petroleum, heavy metals and other pollutants	Petroleum, heavy metals or other potential pollutants are stored and handled to avoid leaching to groundwater	Client input / planner observation Vadose zone and/or groundwater, chemical sampling and assay

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<p>16) WATER QUALITY DEGRADATION – Excessive sediment in surface waters</p>	<p>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.</p>	<ul style="list-style-type: none"> • Crop* • Developed Land* • Farmsteads* • Other Rural Land • Associated Ag Land • Designated Protected Area • Water 		<p>Permanent ground cover > 90% and slope < 10% AND Classic gullies are not present AND Streams or shoreline are not on or adjacent to site</p>	<p>Upslope treatment and buffer practices address concentrated flows to water bodies AND Livestock and vehicle water crossings are stable AND SVAP2 - bank condition ≥ 5 AND Water erosion rate $\leq T$ AND Wind erosion rate $\leq T$</p>	<p>Client input / planner observation SVAP2 RUSLE2 WEPS</p>
		<ul style="list-style-type: none"> • Pasture* 		<p>Permanent ground cover > 90% and slope < 10% AND Classic gullies are not present AND Streams or shoreline are not on or adjacent to site</p>	<p>PCS Erosion Element score ≥ 4 AND PCS Livestock Concentration areas element score ≥ 4</p>	<p>PCS - Pasture Condition Score</p>
		<ul style="list-style-type: none"> • Forest* 		<p>There are no untreated sources of erosion AND Streams or shoreline are not on or adjacent to site</p>	<p>Upslope treatment and buffer practices address concentrated flows to water bodies AND Heavy use areas are stable AND SVAP2 - bank condition ≥ 5</p>	<p>Client input / planner observation SVAP2</p>
<p>17) WATER QUALITY DEGRADATION – Elevated water temperature</p>	<p>Surface water temperatures exceed State/Federal standards and/or limit use for intended purposes.</p>	<ul style="list-style-type: none"> • All 		<p>Water courses on or adjacent to the site are not designated by a State Agency as a temperature impairment OR Water course temperature is not a client concern</p>	<p>SVAP2 - riparian area quantity element score ≥ 5 AND SVAP2 - riparian area quality element score ≥ 5 AND SVAP2 - canopy cover element score ≥ 6] OR Existing conservation practices are in place to address water temperature</p>	<p>Client input / planner observation SVAP2</p>

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PLANT	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
18) DEGRADED PLANT CONDITION – Undesirable 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. This resource concern includes addressing pollinators and beneficial insects.	<ul style="list-style-type: none"> •Crop •Farmsteads •Developed Land •Designated Protected Area •Associated Ag Land •Other Rural Land 		Plant production and health is not a client concern	Plants are adapted to the site, meet production goals and do not negatively impact other resources AND Plant damage from wind erosion is below Crop Damage Tolerance levels OR Crop yield is 75% or more of the high management yield potential for the planning soil map unit based on the lesser of U of I Extension Bulletin 811, or Section II of the FOTG	Client input / planner observation Crop Tolerance Table U of I Extension Bulletin 811 FOTG
		•Pasture*		Plant production and health is not a client concern	PCS – Percent desirable plants element score \geq 3 AND PCS – Live Plant cover element score \geq 4 AND PCS - Plant vigor element score \geq 4 AND Plants are adapted to the site, meet production goals and do not negatively impact other resources	Client input / planner observation PCS - Pasture Condition Score
		•Forest		Plant production and health is not a client concern	Forest species are adapted to site AND Composition and stand density meets the Client’s objectives and production goals OR Forests consist of healthy stands with vigorous growth having a “fully stocked” stand condition and desirable species representing at least 25% of the overstory trees for the forest site type.	Forest inventory plots and transects forms National Forestry Handbook Current IFMP – Illinois Forest Management Plan (if available)
19) DEGRADED PLANT CONDITION – Inadequate structure and composition	Plant communities have insufficient composition and structure to achieve ecological functions and management objectives. This resource concern includes degradation of wetland habitat, targeted ecosystems, or unique plant communities.	•Pasture		Plant communities support the intended land use and desired ecological functions	PCS- Plant Diversity element score \geq 3 PCS- Plant Vigor element score \geq 4	PCS - Pasture Condition Score
		•Forest		Plant communities support the intended land use and desired ecological functions	Plant communities contain adequate diversity, composition and structure to support desired ecological functions and/or management objectives	Forest inventory plots and transects forms National Forestry Handbook Current IFMP – Illinois Forest Management Plan (if available)
		<ul style="list-style-type: none"> •Designated Protected Area •Associated Ag Land •Water 		Plant communities support the intended land use and desired ecological functions	Plant communities contain adequate diversity, composition and structure to support desired ecological functions and/or management objectives	Client input / planner observation Ecological Site Descriptions

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PLANT	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
20) DEGRADED PLANT CONDITION – Excessive plant pest pressure	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.	<ul style="list-style-type: none"> •Crop •Forest* •Farmsteads •Developed Land •Associated Ag Land •Designated Protected Area •Water •Other Rural Land 		Plant productivity is not limited from pest pressure	Pest damage to plants are below economic or environmental thresholds or client-identified criteria AND Plant pests, including noxious and invasive species are managed to meet client objectives	Client input / planner observation Crop Scouting Local Agronomy guides Crop/soil yield comparison in the vicinity Current IFMP – Illinois Forest Management Plan (if available)
		<ul style="list-style-type: none"> •Pasture 		Plant productivity is not limited from pest pressure	PCS – Plant Vigor element score ≥ 4	PCS – Pasture Condition Score
21) DEGRADED PLANT CONDITION– Wildfire hazard, excessive biomass accumulation	The kinds and amounts of fuel loadings - plant biomass - create wildfire hazards that pose risks to human safety, structures, plants, animals, and air resources.	<ul style="list-style-type: none"> •All 		Wildfire hazard is not a concern	Fuel loads and fuel ladders are managed to provide defensible space and meet client objectives	Client input / planner observation Visual assessment protocols Site and flammable biomass inventories Aerial photo analysis
ANIMAL	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
22) INADEQUATE HABITAT FOR FISH AND WILDLIFE – 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.	<ul style="list-style-type: none"> •All with “wildlife” modifier - (Required when Land Use has a wildlife modifier) 	Quantity, quality of food is inadequate to meet requirements of identified fish, wildlife or invertebrate species		Illinois Wildlife Habitat Evaluation Index of ≥ 0.5 for habitat types that comprise more than 25% of the area AND (when surface stream present and fish habitat is a concern) SVAP2 – barriers to movement element score ≥ 7 AND SVAP2 – fish habitat complexity element score ≥ 7	Client Input / Planner Observation Illinois Wildlife Habitat Evaluation (Biology Technical Note IL-18) SVAP2 Species-specific wildlife habitat assessment tools
			Quantity, quality of water is inadequate to meet requirements of identified fish, wildlife or invertebrate species		Illinois Wildlife Habitat Evaluation Index of ≥ 0.5 for habitat types that comprise more than 25% of the area OR Conservation practices and management are in place that meet or exceed species or guild-specific habitat model thresholds OR Food is available in quality and extent to support habitat requirements for the species of interest	
					OR Conservation practices and management are in place that meet or exceed species or guild-specific habitat model thresholds OR Water is available in quality and extent to support habitat requirements for the species of interest	

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<p>22) INADEQUATE HABITAT FOR FISH AND WILDLIFE – Habitat degradation (continued)</p>	<p>Quantity, quality or connectivity of food, cover, space, shelter and/or water is inadequate to meet requirements of identified fish, wildlife or invertebrate species.</p>	<p>• All with “wildlife” modifier - (Required when Land Use has a wildlife modifier)</p>	<p>Quantity, quality or cover/shelter is inadequate to meet requirements of identified fish, wildlife or invertebrate species</p>		<p>Illinois Wildlife Habitat Evaluation Index of ≥ 0.5 for habitat types that comprise more than 25% of the area AND (when surface stream present) SVAP2 – barriers to movement element score ≥ 7 AND SVAP2 – fish habitat complexity element score ≥ 7</p> <hr/> <p>OR Conservation practices and management are in place that meet or exceed species or guild-specific habitat model thresholds</p> <p>OR Cover is of available quality and extent to support habitat requirements for the species of interest</p>	<p>Client Input / Planner Observation</p> <p>Illinois Wildlife Habitat Evaluation (Biology Technical Note IL-18)</p> <p>SVAP2</p> <p>Species-specific wildlife habitat assessment tools</p>
<p>23) LIVESTOCK PRODUCTION LIMITATION – Inadequate feed and forage</p>	<p>Feed and forage quality or quantity is inadequate for nutritional needs and production goals of the kinds and classes of livestock.</p>	<p>• All with “grazed” modifier (Applicable when Land Use is grazed)</p>			<p>Livestock forage, roughage and supplemental nutritional requirements addressed.</p>	<p>Client input / planner observation</p> <p>Pasture/Hayland/Livestock Inventory Worksheet</p> <p>Graze 4 worksheet</p> <p>GRAS - Grassland Resource Analysis System</p>
<p>24) LIVESTOCK PRODUCTION LIMITATION – Inadequate livestock shelter</p>	<p>Livestock lack adequate shelter from climatic conditions to maintain health or production goals.</p>	<p>• All with “grazed” modifier (Applicable when Land Use is grazed)</p>			<p>Artificial or natural shelters meet animal health needs and client objectives.</p>	<p>Client input / planner observation</p>

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ANIMAL	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
25) LIVESTOCK PRODUCTION LIMITATION – Inadequate 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.	<ul style="list-style-type: none"> • All with “grazed” modifier (Applicable when Land Use is grazed) 			Water of acceptable quality and quantity adequately distributed to meet animal needs.	Client input / planner observation Inventory of distribution needs GRAS - Grassland Resource Analysis System - Tool for water distribution
ENERGY	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
26) INEFFICIENT ENERGY USE – Equipment and facilities	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 processing, drying and storage.	<ul style="list-style-type: none"> • All 		Client is not interested in improving equipment and facilities energy efficiency	A USDA approved energy audit has been implemented to meet client objectives of improving the energy efficiency of equipment and facilities utilized in the farm operation OR On-farm renewable energy and/or energy conserving practices have been implemented to meet client objectives	Client input / planner observation USDA approved Energy Audit (ASABE S612 Type 2 Audit) NRCS Energy Estimator Tools
27) INEFFICIENT ENERGY USE – Farming/ranching practices and field operations	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.	<ul style="list-style-type: none"> • All 		Client is not interested in improving energy use in farm and ranch field operations	A USDA approved energy audit has been implemented to meet client objectives of improving the energy efficiency of field operations equipment utilized in the farm operation OR On-farm renewable energy and/or energy conserving practices have been implemented to meet client objectives	Client input / planner observation USDA approved Energy Audit (ASABE S612 Type 2 Audit) NRCS Energy Estimator Tools RUSLE2

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AIR	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
<p>28) AIR QUALITY IMPACTS - Emissions of Particulate Matter (PM) and PM Precursors</p>	<p>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:</p> <ul style="list-style-type: none"> • The unintended movement of particulate matter - typically dust or smoke - results in safety or nuisance visibility restriction. • The unintended movement of particulate matter and/or chemical droplets results in unwanted deposits on surfaces. • Increased atmospheric concentrations of particulate matter can impact human and animal health and degrade regional visibility. 	<ul style="list-style-type: none"> • Crop • Pasture • Forest • Other Rural Land • Associated Ag Land • Designated Protected Areas • Developed Land • Farmsteads 		<p>Activities that contribute to agricultural source PM or PM precursor emissions are not present.</p> <p>PM producing activity examples include:</p> <ul style="list-style-type: none"> • Prescribed Burn is conducted • Travel ways unpaved or untreated with binding agents • Engines (combustion source) • Tillage • Pesticides are applied • Fertilization (manure/commercial) • CAFO / manure management <p>AND</p> <p>Episodes or complaints of emissions of PM (dust, smoke, exhaust, etc.), or chemical drift have not occurred</p>	<p>PM and PM Precursor emissions are managed to meet client objectives</p>	<p>Client input / planner observation</p> <p>National Air Quality Site Assessment Tool (NAQSAT)</p>
<p>29) AIR QUALITY IMPACTS - Emissions of Greenhouse Gases - GHGs</p>	<p>Emissions increase atmospheric concentrations of greenhouse gases.</p>	<ul style="list-style-type: none"> • All 		<p>Activities that produce GHGs emissions are not present.</p> <p>GHG producing activity examples include:</p> <ul style="list-style-type: none"> • Fertilization (manure/commercial) • CAFO / manure management • Engines (combustion source) • Tillage <p>AND</p> <p>GHGs are not regulated in the planning area</p>	<p>Greenhouse gas emissions are managed to meet client objectives</p>	<p>Client input / planner observation</p> <p>RUSLE2</p> <p>COMET- Energy Tool</p> <p>COMET-Farm</p> <p>National Air Quality Site Assessment Tool (NAQSAT)</p>

**Resource Concerns and Planning Criteria for Conservation Planning
10/1/2015**

AIR	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
<p>30) AIR QUALITY IMPACTS - Emissions of Ozone Precursors</p>	<p>Emissions of ozone precursors (NOx and VOCs) resulting in formation of ground-level ozone, which has negative impacts to plants and animals.</p>	<ul style="list-style-type: none"> • All 		<p>Operations that produce ozone precursor emissions are not present. Ozone precursor producing activity examples include:</p> <ul style="list-style-type: none"> • Engines (combustion source) • Pesticide application • Burning • CAFO / manure management • Fertilization (manure/commercial) 	<p>Ozone precursor emissions are managed to meet client objectives</p>	<p>Client input / planner observation RUSLE2 COMET- Energy Tool COMET-Farm National Air Quality Site Assessment Tool (NAQSAT)</p>
<p>31) AIR QUALITY IMPACTS - Objectionable odors</p>	<p>Emissions of odorous compounds (VOCs, ammonia and odorous sulfur compounds) cause nuisance conditions.</p>	<ul style="list-style-type: none"> • Crop • Pasture • Farmsteads • Other Rural Land 		<p>Activities that contribute to nuisance air quality conditions are not present. Nuisance odor producing activity examples include:</p> <ul style="list-style-type: none"> • Pesticide application • CAFO / manure management • Composting is conducted <p>AND Odor sources are not regulated in this planning area AND Episodes or complaints of emissions of PM (dust, smoke, exhaust, etc.), or chemical drift have not occurred</p>	<p>Odors are managed to meet client objectives</p>	<p>Client input / planner observation National Air Quality Site Assessment Tool (NAQSAT)</p>