

National and State Resource Concerns and Quality Criteria					
WATER					
National Natural Resource Concern	Description of Concern	Quality Criteria	State Quality Criteria	Measurement Units	Assessment Tools for Quality Criteria Evaluation
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.	SAME AS NATIONAL	Non Measurable	<ul style="list-style-type: none"> • Visual assessment • Client interview • Stream Visual Assessment Protocol • National Engineering Handbook (EFH – Chapter 2 and 3) • Hydrologic models, e.g. HECRAS, TR-20, TR-55
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.	SAME AS NATIONAL	Non Measurable	<ul style="list-style-type: none"> • Visual assessment of soil cores and coring holes • Plant quality and quantity measurements • National Engineering Handbook, Part 650 (EFH-Chapter 14)
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. <i>The contributing area is treated so it does not adversely contribute to the identified problem.</i>	Cubic yards – volume of sediment in cubic yards removed to maintain water conveyances for the field or planning area/unit	<ul style="list-style-type: none"> • National Engineering Handbook, Part 650 (EFH – Chapters 2,3,7) • Client interview • Visual assessment • Hydrologic models, e.g., HECRAS, TR-20, TR-55 • Critical Area Planting (342) standard • Water erosion prediction tools (RUSLE2)

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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.	SAME AS NATIONAL	Acre-Inches/Year – average annual reduction in acre-inches in sediment deposition within water bodies for the field or planning area/unit	<ul style="list-style-type: none"> • Visual assessment • Depth and area measurements • National Engineering Handbook, Part 650 (EFH – Chapters 2,3,7,11)
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. <i>This is accomplished by meeting label instructions and Pest Management (595) standard.</i>	Non Measurable	<ul style="list-style-type: none"> • WIN-PST (Windows Pesticide Screening Tool – USDA/NRCS) • Vadose zone and groundwater chemical sampling and assay • Pest Management (595) standard

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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. <i>Application of nutrients and organic are in accordance with a nutrient management plan prepared by a Certified Nutrient Management consultant.</i>	Non Measurable	<ul style="list-style-type: none"> • National Engineering Handbook, Part 651, Ag. Waste Mgt. Field • Nitrate Leaching Index • Farm*A*Syst • Nutrient Management (590) standard worksheets
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.	SAME AS NATIONAL	Non Measurable	<ul style="list-style-type: none"> • Vadose zone and groundwater chemical sampling and assay

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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. <i>For manure or sludge land applications buffers or setbacks are used around sinkholes or wellheads.</i>	Non Measurable	<ul style="list-style-type: none"> • Vadose zone and groundwater chemical sampling and assay • Visual assessment • Conservation Practice Physical Effects (CPPE) Practice List Section V of the eFOTG
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. <i>Meet Pest Management (595) standard and quality criteria level of treatment using the CPPE documentation. Buffers are maintained between water bodies, streams and cropland fields where the herbicide Atrazine is applied according to label.</i>	Non Measurable	<ul style="list-style-type: none"> • WIN-PST (Windows Pesticide Screening Tool – USDA/NRCS) • Surface water chemical sampling assay • Visual assessment of buffer • Conservation Practice Physical Effects (CPPE) Practice List Sec.5 Field Office Technical Guide • Interview with client

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Water Quality – Excessive Suspended Sediment in Surface Water	Excessive concentrations of suspended sediment or organic particles degrades surface water quality.	The delivery or resuspensions and transport of fine sediment and organic particles are managed so that surface water uses are not adversely affected.	The delivery or resuspensions and transport of fine sediment and organic particles are managed so that surface water uses are not adversely affected. <i>Areas of accelerated and excessive sheet and rill erosion, gullying or streambank loss are stabilized.</i>	Tons/Acre/Year – average annual tons of sediment/materials per acre kept from entering surface water for the field or planning area/unit	<ul style="list-style-type: none"> • WVDEP Water Quality Reports • Visual assessment

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Water Quality – Excessive Turbidity in Surface Water	Excessive concentrations of suspended sediment, organic particles, algae, or other sources of turbidity degrade surface water quality.	Excessive suspended sediment, organic particles is managed so that surface water uses are not adversely affected.	SAME AS NATIONAL	Nephelometric Turbidity Units (NTU) measured with calibrated turbidimeter. The degree of transparency of lake water can be determined by the use of a secchi disk (depth in inches).	<ul style="list-style-type: none"> • WVDEP Water Quality Reports • Sampling and Assay • Secchi Disk
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. Meets Federal and State standards.	Non Measurable	<ul style="list-style-type: none"> • Surface water chemical sampling and assay
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 are coordinated to minimize impacts on surface water temperatures. <i>Temperature is acceptable for intended use based upon stream temperature during critical summer months.</i>	Non Measurable	<ul style="list-style-type: none"> • SVAP (Stream Visual Assessment Protocol – USDA/NRCS) – canopy cover • HSI model for target species (Habitat Suitability Index – USF&WS) • Surface water temperature sampling and assay

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