MANAGEMENT SYSTEM TEMPLATE

A. BENCHMARK SYSTEM WORKSHEET

1	STATE	OKLAHOMA
2	FIELD OFFICE	Antlers, Atoka, Durant, Hugo, Idabel, Tishomingo
3	MLRA	133B
4.	COMMON RESOURCE AREA (CRA)	133B.40.001
5	RESOURCE INTERPRETATIONS	*see Section II FOTG for interpretations*
5.1	SOIL	FOTG, SECTION I - EROSION PREDICTION FOTG, SECTION II - SOIL AND SITE INFORMATION FOTG, SECTION II - SOILS LEGEND FOTG, SECTION II - SOIL DESCRIPTIONS - NONTECHNICAL FOTG, SECTION II - SOIL DESCRIPTIONS - TECHNICAL FOTG, SECTION II - WATER QUANTITY AND QUALITY INTERPRETATIONS FOTG, SECTION II - HYDRIC SOILS INTERPRETATIONS FOTG, SECTION II - PASTURE AND HAYLAND INTERPRETATIONS FOTG, SECTION II - WILDLIFE INTERPRETATIONS FOTG, SECTION III - RESOURCE MANAGEMENT SYSTEMS - SOIL FOTG, SECTION V-A-1 - CONSERVATION EFFECTS - SOIL FOTG, SECTION V-1-2 - EFFECTS FOR GUIDANCE DOCUMENTS
5.2	WATER	FOTG, SECTION I - CLIMATIC DATA FOTG, SECTION II - WATER QUANTITY AND QUALITY INTERPRETATIONS FOTG, SECTION III - RESOURCE MANAGEMENT SYSTEMS - WATER FOTG, SECTION V-A-1 - CONSERVATION EFFECTS - WATER FOTG, SECTION V-A-2 - EFFECTS FOR GUIDANCE DOCUMENTS
5.3	AIR	FOTG, SECTION I - CLIMATIC DATA FOTG, SECTION I - STATE/LOCAL LAWS, ORDINANCES, REGULATIONS FOTG, SECTION III - RESOURCE MANAGEMENT SYSTEMS - AIR FOTG, SECTION V-A-2 - EFFECTS FOR GUIDANCE DOCUMENTS
5.4	PLANT	FOTG, SECTION I - THREATENED AND ENDANGERED SPECIES FOTG, SECTION III - RESOURCE MANAGEMENT SYSTEMS - PLANTS FOTG, SECTION III - RESOURCE MANAGEMENT SYSTEMS - PASTURE
5.5	ANIMAL	FOTG, SECTION I - THREATENED AND ENDANGERED SPECIES FOTG, SECTION II - WILDLIFE INTERPRETATIONS FOTG, SECTION V-A-1 - CONSERVATION EFFECTS - ANIMALS FOTG, SECTION V-A-2 - EFFECTS FOR GUIDANCE DOCUMENTS
5.6	HUMAN	FOTG, SECTION I - CULTURAL RESOURCE INFORMATION FOTG, SECTION V-B-1 - CONSERVATION EFFECTS - PRODUCER EXPERIENCES
6	HYDROLOGIC UNIT	
7	SYSTEM TEMPLATE LABEL	SAJZ2
8	SYSTEM NAME	PASTURELAND (with Waste Management)
9	PLANNING PHASE	BENCHMARK
10	PLANNING LEVEL	N/A
11	NRCS LANDUSE	PASTURE

12	EXISTING CONSERVATION PRACTICES	
	1. 312 - Waste Management System 2. 313 - Waste Storage Facility 3. 317 - Composting Facility 4. 359 - Waste Treatment Lagoon 5. 378 - Pond 6. 382 - Fence 7. 430FF - Irrigation Water Conveyance, Pipeline, Steel	8. 442 - Irrigation System, Sprinkler 9. 512 - Pasture and Hayland Planting 10. 528-A - Prescribed Grazing 11. 590 - Nutrient Management 12. 595 - Pest Management 13. 633 - Waste Utilization 14. 642 - Well
13	SYSTEM NARRATIVE	
	Most pastures are already established in a bermudagrass/legume mixture, however, there are some established in bahiagrass, tall fescue or ryegrass. Poultry litter and swine waste are often being applied at an excessive rate on some of these areas. Forage production is usually more than adequate, however, some areas are still being overgrazed. Weeds and brush, due to high levels of nutrient application, need to be addressed when there are 3 or more weeds per square foot or when canopy cover exceeds 50 percent. Improper timing of waste application is fairly common. An adequate supply of livestock water is usually available in the form of ponds, tanks, springs and streams. Poultry litter is usually being surface applied with a manure spreader. Swine waste is usually being applied with a traveling gun (sprinkler) irrigation system. Waste is rarely tested for nutrient content prior to application, whether it be swine or poultry waste. Soil tests are usually being done every third year. Waste should be applied on days with light or no wind and preferably lower humidity levels in order to prevent odors from traveling excessive distances before dispersing. Phosphorus levels in soils have accumulated to over 400 lbs./acre of soil index P in some locations. Some surface water tests have indicated phosphorus levels as high as 0.3 ppm. Maximum EPA standards for quality water is 0.1 ppm of phosphorus. It is common practice to apply waste without testing the waste for nutrient content. This has led to excessive phosphorus application in some cases. High amounts of algae and tolerant macroinvertibrates have indicated poor water quality and excessive nutrient levels in surface waters in some areas. Wildlife food, cover and shelter is lacking, especially where all land in a farming unit has been converted to tame pasture (especially bermudagrass). Odor from feeding operations creates a nuisance for people living within 0.5 mile or less of the operation. Odors can be a nuisance at even further distances if applied inappropriately such as when wind levels are relatively high. Diseases and parasites are common among livestock in this resource area.	
14	RESOURCE CONCERNS	MAGNITUDE/EFFECTS
	1. Excess Fertilizer in Soil	1. Due to application of animal waste from confined swine and chicken operations, there is an excess accumulation of phosphorus (in excess of 400 lbs/acre of soil index P) in surface soil in some areas where improper application rates are being applied and/or where waste application has been ongoing for several years. Total phosphorus applied annually is 200 lbs./acre/year of P_2O_5.
	2. Nutrients and Organics in Surface Water	2. Nutrient and organics in surface water can be a problem, especially on areas where rare or occasional flooding are a problem or where overhead water is a problem. It can also be a problem on areas where forage has been removed in excess of NRCS standards. Animal waste is currently being applied at 3.5 to 4 tons/acre/year. High amounts of algae growth in ponds and streams below waste application areas, along with high counts of tolerant macroinvertibrates and/or lack of macroinvertibrates indicate that water quality may be poor. The pollution severity code in many areas will usually be coded 1 or 2, but in some cases will be coded 3 because of lack of data, or code 4 because of no impairment of designated use. Some tests have indicated as high as 0.3 ppm. EPA standards for quality water allow only 0.1 ppm or less of phosphorus. Total phosphorus applied annually is 200 lbs./acre/year of P_2O_5. Flooding and runoff from rarely to occasionally flooded soils where waste is being applied is a potential pollution concern.

	3. Airborne Odors	3. Confined swine and/or chicken operations within the area can commonly create odor problems, especially when flushing and/or cleaning of facilities is occurring and waste is being spread.
	4. Nutrient Management	4. Animal waste is often being applied without testing for nutrient content and has resulted in over application of phosphorus in some cases.
	5. Plant Pests	5. Brush, undesirable grasses, and weeds are competing for water and nutrients needed by desirable grasses.
	6. Wildlife Food Requirements	6. Most tame pasture grasses (especially bermudagrass) do not provide a source of food for wildlife.
	7. Wildlife Cover - Shelter	7. Most tame pasture grasses (especially bermudagrass) do not provide adequate cover or shelter for wildlife.
	8. Animals Population - Resource Balance Management	8. Livestock numbers and forage requirements of livestock are often in excess of forage production.
	9. Animal Health Management	9. Livestock diseases and parasites (both internal and external) frequently occur in this resource area. The occurrence of intestinal parasites intensifies with overgrazing and single cell (year round) grazing of forage. Grazing too soon after waste application may also intensify disease and parasite occurrences.