MANAGEMENT SYSTEM TEMPLATE

B. CONSERVATION MANAGEMENT SYSTEM OPTIONS 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**	SAJZ3
8	**SYSTEM NAME**	PASTURE (with Waste Management)
9	**PLANNING PHASE**	NON-BENCHMARK
10	**PLANNING LEVEL**	RMS
11	**NRCS LANDUSE**	PASTURE

12	PLANNED CONSERVATION PRACTICES	*enter code / name of practice*

1. 312 - Waste Management System
2. 313 - Waste Storage Facility
3. 314 - Brush Management
4. 317 - Compost Facility
5. 338 - Prescribed Burning
6. 342 - Critical Area Planting
7. 359 - Waste Treatment Lagoon
8. 362 - Diversion
9. 378 - Pond
10. 382 - Fencing
11. 391 - Riparian Forest Buffer
12. 393 - Filter Strip
13. 394 - Firebreak
14. 410 - Grade Stabilization Structure
15. 430FF - Irrigation Water Conveyance, Pipeline, Steel
16. 442 - Irrigation System, Sprinkler
17. 449 - Irrigation Water Management
18. 512 - Pasture and Hayland Planting
19. 516 - Pipeline
20. 528-A - Prescribed Grazing
21. 580 - Streambank and Shoreline Protection
22. 590 - Nutrient Management
23. 595 - Pest Management
24. 614 - Trough or Tank
25. 633 - Waste Utilization
26. 642 - Well
27. 644 - Wildlife Wetland Habitat Management
28. 645 - Wildlife Upland Habitat Management

13	SYSTEM NARRATIVE	*describe how the practices work together as a system*

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 will be applied at rates that comply with a waste management plan. At a minimum, animal waste should be tested periodically for nutrient content in order to assure proper amounts of nutrients are being applied. Waste management plans give maximum application rates, and therefore, these rates should be adjusted down if at all possible in order to avoid a potential buildup of phosphorus in soil. Some soils already have an excess of phosphorus and phosphorus in animal waste should only be applied to these areas according to plant needs. Animal waste will be applied in accordance with the NRCS waste utilization standard and proper timing of application will be adhered to. Livestock numbers and forage requirements will be adjusted to be in balance with forage production by using prescribed grazing techniques. When there are 3 weeds per square foot or weed canopy exceeds 50, herbicide and/or mechanical treatment will be used in order to prevent economic loss. Ponds, pipelines, troughs and tanks will be constructed, as needed, where livestock water is inadequate, and will be strategically placed in order to facilitate grazing distribution. Existing ponds, etc. will be properly maintained. Waste will only be applied to occasionally flooded soils between June 20 and September 20 warm season grasses or between February 1 and April 20 on cool season grasses in order to avoid risk of contaminating surface waters. Waste should be applied when odor will be most easily dispersed into the atmosphere when the air is moving upward. Phosphorus levels in surface waters exceeding 0.1 ppm will need to be lowered using appropriate waste management techniques. Wildlife food, cover and shelter will be improved by developing riparian areas, establishing food plots and by establishing strips of native grasses in protected areas.

14	RESOURCE CONCERNS	MAGNITUDE/EFFECTS	IMPACTS
	1. Excess Fertilizer in Soil	1. By reducing application rates and following a waste management plan, excessive buildup of phosphorus in the soil can be avoided. If maximum levels of phosphorus in soils has already been reached, only enough P can be applied to meet plant needs.	1. Reduced or avoided buildup of phosphorus in soils.

	2. Nutrients and Organics in Surface Water	2. Water quality concerns associated with animal waste application can be controlled or avoided by following a waste management plan and by monitoring for adverse impacts following waste application. When algae amounts appear to increase in streams or ponds and/or when intolerant macroinvertebrates decline and tolerant macro-invertebrates increase. Fencing of riparian areas along streams to exclude or limit livestock access will also improve water quality. Waste should only be applied on rarely or occasionally flooded areas when flooding risk is at a minimum (between June 20 and September 20 on occasionally flooded soils on warm season grasses or between February 1 and April 20 on cool season grasses that are at least 3 inches in height at the time of application).	2. Sustained and/or improved water quality. Reduction in phosphorus application by 100 lbs./acre/year, if possible. Reduction in water pollution severity code from 1 or 2 to a code of 4. Reduction of phosphorus in surface water content by 0.2 ppm in areas where current levels are 0.3 ppm or more. Reduction in animal waste application rates of 1.75 to 2 tons/acre/year or more. Self imposed reduction in P application rates vs. soil test P index required reduction. Reduced risk of potential contamination of surface waters due to occasional flooding.
	3. Airborne Odors	3. Application of waste will done when wind is relatively low and when humidity levels are down. These conditions more conducive to dispersion of odor. Animal waste lagoons will be operated in accordance with a waste management plan.	3. Less odor complaints from neighbors.
	4. Nutrient Management	4. Soil and waste will be tested periodically for nutrient levels in order to determine appropriate application rates.	4. Proper application of nutrients. Reduced risk of contamination of surface waters.
	5. Plant Pests	5. Weeds will be controlled by chemical or mechanical means when 3 or more weeds per square foot exist, or when canopy cover of weeds exceeds 50 percent.	5. Reduced competition of weeds and brush. Improved economic return.
	6. Wildlife Food Requirements	6. By establishing food plots, leaving strips of native grass and forbs for seed production and protecting riparian areas from damage by livestock, most wildlife food requirements can be met.	6. Increase in wildlife food supply. Subsequent increase in wildlife population.
	7. Wildlife Cover - Shelter	7. Protected riparian areas and native grass strips will provide adequate cover and shelter for wildlife.	7. Improved wildlife cover and shelter.

	8. Animals Population - Resource Balance Management	8. By utilizing prescribed grazing techniques, live-stock numbers and forage requirements can be balanced with forage production.	8. Proper use of forage resource. Improved cost efficiency. Improve livestock performance.
	9. Animal Health Management	9. Properly managed forage will raise the grazing height of the forage and reduce the potential for livestock to ingest intestinal parasites from ground sources. Controlled burning may also help aid in reducing tick populations. Regularly scheduled preventative treatment will help control disease and parasite occurrences.	9. Improved livestock health. Reduced parasite infestations and disease outbreak.
CRA	**133B.40.001**	**SYSTEM TEMPLATE LABEL** SAJZ3	
15	*** QUALITY CRITERIA DOCUMENTATION** *list resource concerns then indicate yes/no (X)*		

1. Excess Fertilizer in Soil	_X_YES ___NO
2. Nutrients and Organics in Surface Water	_X_YES ___NO
3. Airborne Odors	_X_YES ___NO
4. Nutrient Management	_X_YES ___NO
5. Plant Pests	_X_YES ___NO
6. Wildlife Food Requirements	_X_YES ___NO
7. Wildlife Cover - Shelter	_X_YES ___NO
8. Animals Population - Resource Balance Management	_X_YES ___NO
9. Animal Health Management	_X_YES ___NO

* Provides an indication that the resource quality criteria will be met.

Conservation Practice Physical Effects on Resource Concerns
Candidate Practice List

State	Oklahoma	Field Office	Antlers, Atoka, Durant, Hugo, Idabel, Tishomingo	MLRA	133B	System Template Label	SAJZ3
Soil Interpretations							

Resource Concerns / Conservation Practices	Excess Fertilizer in Soil	Nutrients and Organics in Surface Water	Airborne Odors	Nutrient Management	Plant Pests	Wildlife Food Requirements	Wildlife Cover - Shelter	Animals Population - Resource Balance Management
312-Waste Management System	+ + +	+ + +	+ +	+ + +	+	+ +	N/A	+ + +
313-Waste Storage Facility	F+ +	+ +	+	F	N/A	+	+	N/A
314-Brush Management	+	0	N/A	F	+ + +	0	0	+ + +
317-Compost Facility	+	+ + +	+ + +	F	N/A	N/A	N/A	N/A
338-Prescribed Burning	0	-	0	+	+ + +	+ + +	+ +	+ +
342-Critical Area Planting	0	+ +	N/A	0	+	+ +	+ + +	+
359-Waste Treatment Lagoon	F+ +	+ + +	+ + +	F	N/A	+	+	N/A
362-Diversion	N/A	+ +	N/A	N/A	N/A	N/A	N/A	N/A
378-Pond	N/A	+	N/A	N/A	N/A	+	+	+ + +
382-Fencing	0	N/A	N/A	0	+ +	+ + +	+ +	F+ + +
391-Riparian Forest Buffer	0	+ + +	+ +	+ +	+	+ + +	+ + +	+
393-Filter Strip	+	+ + +	0	+ +	+	+ +	+ +	+ +
394-Firebreak	N/A	+	N/A	0	F	+ +	+	+

RATINGS:

Not Applicable	=	N/A	Slight	=	+ or -
Negligible	=	0	Moderate	=	+ + or --
Facilitating	=	F	Significant	=	+ + + or ---

Conservation Practice Physical Effects on Resource Concerns
Candidate Practice List

State	Oklahoma	Field Office	Antlers, Atoka, Durant, Hugo, Idabel, Tishomingo	MLRA	133B	System Template Label	SAJZ3
Soil Interpretations							

Resource Concerns / Conservation Practices	Animal Health Management							
312-Waste Management System	+ + +							
313-Waste Storage Facility	F							
314-Brush Management	+							
317-Compost Facility	F							
338-Prescribed Burning	+ +							
342-Critical Area Planting	+							
359-Waste Treatment Lagoon	F							
362-Diversion	+							
378-Pond	+ + +							
382-Fencing	F + +							
391-Riparian Forest Buffer	+ +							
393-Filter Strip	+ + +							
394-Firebreak	F + + +							

RATINGS:

Not Applicable	=	N/A	Slight	=	+ or -
Negligible	=	0	Moderate	=	+ + or --
Facilitating	=	F	Significant	=	+ + + or ---

Conservation Practice Physical Effects on Resource Concerns
Candidate Practice List

State	Oklahoma	Field Office	Antlers, Atoka, Durant, Hugo, Idabel, Tishomingo	MLRA	133B	System Template Label	SAJZ3
Soil Interpretations							

Resource Concerns / Conservation Practices	Excess Fertilizer in Soil	Nutrients and Organics in Surface Water	Airborne Odors	Nutrient Management	Plant Pests	Wildlife Food Requirements	Wildlife Cover - Shelter	Animals Population - Resource Balance Management
410-Grade Stabilization Structure	N/A	+ +	N/A	N/A	0	+ +	+	+ +
430FF-Irr. Water Conv., Pipe, Stl.	F	F	N/A	F	N/A	N/A	N/A	F
442-Irrigation System, Sprinkler	F	F	N/A	F	N/A	N/A	N/A	F
449-Irrigation Water Management	F	+ +	+ + +	F	+	+	N/A	+ + +
512-Pasture & Hayland Planting	+ +	+ +	0	+	+	+	--	+ + +
516-Pipeline	N/A	N/A	N/A	N/A	N/A	N/A	N/A	F+ + +
528A-Prescribed Grazing	+	+ + +	+	+ +	+ +	+ + +	+ +	+ + +
580-Streambank & Shoreline Prot.	0	+ + +	0	0	0	+ + +	+ + +	+
590-Nutrient Management	+ + +	+ + +	+ +	+ + +	+ +	+ + +	+	+ + +
595-Pest Management	0	0	N/A	+	+ + +	0	0	+ +
614-Trough or Tank	N/A	N/A	N/A	N/A	N/A	+	N/A	F+ + +
633-Waste Utilization	+ + +	+ + +	+ + +	+ + +	+ +	+ + +	+	+ + +
642-Well	N/A	N/A	N/A	N/A	N/A	+	N/A	F+ + +

RATINGS:

Not Applicable	= N/A	Slight	= + or -
Negligible	= 0	Moderate	= + + or --
Facilitating	= F	Significant	= + + + or ---

Conservation Practice Physical Effects on Resource Concerns
Candidate Practice List

State	Oklahoma	Field Office	Antlers, Atoka, Durant, Hugo, Idabel, Tishomingo	MLRA	133B	System Template Label	SAJZ3
Soil Interpretations							

Resource Concerns / Conservation Practices	Animal Health Management							
410-Grade Stabilization Structure	+ +							
430FF-Irr. Water Conv., Pipe, Stl.	N/A							
442-Irrigation System, Sprinkler	N/A							
449-Irrigation Water Management	+							
512-Pasture & Hayland Planting	+ +							
516-Pipeline	F + + +							
528A-Prescribed Grazing	+ + +							
580-Streambank & Shoreline Prot.	+							
590-Nutrient Management	+ + +							
595-Pest Management	+ +							
614-Trough or Tank	+ + +							
633-Waste Utilization	+ + +							
642-Well	F + + +							

RATINGS:

Not Applicable	=	N/A	Slight	=	+ or -
Negligible	=	0	Moderate	=	+ + or --
Facilitating	=	F	Significant	=	+ + + or ---

Conservation Practice Physical Effects on Resource Concerns
Candidate Practice List

State	Oklahoma	Field Office	Antlers, Atoka, Durant, Hugo, Idabel, Tishomingo	MLRA	133B	System Template Label	SAJZ3
Soil Interpretations							

Resource Concerns / Conservation Practices	Excess Fertilizer in Soil	Nutrients and Organics in Surface Water	Airborne Odors	Nutrient Management	Plant Pests	Wildlife Food Requirements	Wildlife Cover - Requirements	Animals Population - Resource Balance Management
644-Wildlife Wetland Habitat Mgt.	+	+ + +	+ +	+	0	+ + +	+ + +	+
645-Wildlife Upland Habitat Mgt.	+	+ + +	+	+	0	+ + +	+ + +	+

RATINGS:

Not Applicable	=	N/A	Slight	=	+ or -
Negligible	=	0	Moderate	=	+ + or --
Facilitating	=	F	Significant	=	+ + + or ---

Conservation Practice Physical Effects on Resource Concerns
Candidate Practice List

State	Oklahoma	Field Office	Antlers, Atoka, Durant, Hugo, Idabel, Tishomingo	MLRA	133B	System Template Label	SAJZ3
Soil Interpretations							

Resource Concerns / Conservation Practices	Animal Health Management							
644-Wildlife Wetland Habitat Mgt.	+							
645-Wildlife Upland Habitat Mgt.	+							

RATINGS:

Not Applicable	=	N/A	Slight	=	+ or -
Negligible	=	0	Moderate	=	+ + or --
Facilitating	=	F	Significant	=	+ + + or ---