Watershed Assessment

Introduction

A Rapid Watershed Assessment (RWA) resource assessment matrix has been developed to provide an estimate of conservation systems and practices which are commonly used to address the resource concerns identified in the RWA Resource Profile. The assessment also provides a method to compare current resource conditions with desired future conditions within the watershed.

The rapid assessment matrix summarizes, in tabular form, the projected level of conservation application and the related installation costs at the current rate of participation in NRCS conservation programs. The projected resource conditions and conservation implementation activities are those expected if NRCS programs and funding levels remain the same over the five year evaluation period.

Resource professionals provided an estimate by percent of the conservation systems or practices that are commonly applied in Progressive and RMS systems or on Baseline land units that address resource concerns identified in the resource profile. The estimates are based on long-term watershed trends for participation rates in the existing conservation programs using the Performance Results System (PRS) reports of planned and applied conservation practices for the watershed. This information was merged with estimated costs for practice installation and operation and maintenance to generate a cost estimate by individual practice for each conservation system projected to be applied.

Conservation systems are described in this assessment as a combination of conservation practices developed to address resource concerns on various land uses. The current condition of the soil, water, plant, animal, and human (SWAPA+H) resources for the watershed has been assessed for each land use. The current intensity of resource management was divided into three categories: Baseline, Progressive, or a Resource Management System (RMS).

Baseline **–**represents those landowners who typically are not participating in conservation programs. There may, however, be a few practices that have been commonly adopted by all landowners in a particular watershed. For example, most landowners follow a “conservation cropping system” that meets Natural Resources Conservation Service (NRCS) conservation practice standards and specifications.

Progressive Management System **–** progressive adoption of conservation systems which may lead to a full RMS. Landowners at this level are actively participating in conservation programs and have adopted several practices but have not satisfied all of the “Quality Criteria” in Section III of the Field Office Technical Guide (FOTG) for either North Dakota or South Dakota. Progressive conservation plans consist of one or more facilitative practices without any resource management.

RMS **–**system of conservation practices that address all the SWAPA+H resource concerns typically seen for this land use in this watershed.

The Progressive and RMS level for conservation systems have been defined and are shown in Section III of the Field Office Technical Guide (FOTG).

The systems that have been evaluated in the assessment are not meant to be comprehensive or address all resource concerns for each land unit in the watershed; rather, only the priority resource

concerns and the typical system of conservation practices that are currently applied for the identified resource concerns. Numerous alternatives and combinations of practices exist that are available to watershed landowners and producers in order to meet their desired level of treatment for any resource concern.

Specific resource concerns have been identified for each major land use at the state level. Local watershed residents provided further prioritization of these concerns, identifying the top 13 resource concerns for the watershed:

- Windbreaks and Shelterbelts
- Surface Water Quality – Sediment and Nutrients
- Agricultural Waste Management
- Riparian Area and Streambank Erosion
- Water Quantity for Livestock
- Soil Erosion
- Nutrient Management
- Loss of CRP Acres
- Weed and Pest Management
- Lack of Grazing Management
- Wetland and Wildlife Habitat Management
- Groundwater Quality
- Air Quality

The resource concerns specific to the watershed have been identified and evaluated by major land use in the watershed assessment.

ASSESSMENT SUMMARY TABLES

The assessment matrix is used to individually assess the identified resource concerns for each land use within the watershed. The land uses that have been assessed in this watershed are cropland, rangeland/pastureland, hayland, wildlife/CRP, and headquarters/farmstead. The acres in each land use category were obtained from the 1997 National Resources Inventory (NRI) Broad Land Use data. The tables in each land use section summarize the current and projected future conditions by conservation system along with the average present value cost per acre and the conservation practices at each treatment level (Baseline, Progressive, and RMS).

Cropland – A land cover/use category that includes areas used for the production of adapted crops for harvest. Cultivated cropland comprises land in row crops or close-grown crops and other cultivated cropland, for example, hayland or pastureland that is in rotation with row or close-grown crops. The cropland acres identified in the watershed are predominantly managed in a corn/soybean/small grain cropping rotation.

Hayland –Land managed for the production of forage crops that are machine harvested. These crops may be grasses, legumes, or a combination.

Rangeland/Pastureland/Grazed Forest – Rangeland is defined as undisturbed acres that still support a predominantly native population of grasses managed for livestock forage. Pastureland is defined as land managed primarily for the production of introduced forage plants for livestock grazing. Pastureland cover may consist of a single species in a pure stand, a grass mixture, or a grass-legume mixture. Grazed Forest is a land cover/use that includes forest land that is being grazed by livestock and managed using range or pasture management principles and practices adapted to the forest ecosystem.

Wildlife/CRP Land – For the purposes of the watershed assessment Conservation Reserve Program (CRP) acres were evaluated with land cover/use categories that include areas that are not actively managed as part of any other land use.

Headquarters/Farmsteads – The headquarters or farmstead areas consist of land used for dwellings, outbuildings, barns, pens, corrals, and feedlots next to buildings, farmstead or feedlot windbreaks and family gardens associated with operating farms or ranches.

Resource Assessment Summary

The following summaries are based on the Resource Assessment matrices that evaluate the projected conservation resource applications and investments expected to occur at current participation rates and program funding levels. Only the top four resource concerns were evaluated for each land use. The cost estimates are based on the typical conservation practices applied that treat these resource concerns.

Disclaimer: This assessment is a combination of North and South Dakota PRS and cost data. The costs and cost share will vary by state for individual practices and combination of practices.

Upper James - 10160003

Projected Conservation Program Participation & Costs*

Land Uses	Participation Rate	Acres Treated	Installation Costs		
			Federal		Private
		Total	Cost Share	Technical Assistance	
Cropland	15%	193,365	$3,360,000	$1,079,000	$3,360,000
Grazingland	10%	46,107	$584,000	$133,000	$584,000
Hayland	10%	3,335	$1,000	$8,000	$1,000
HQ	8%	3,843	$1,722,000	$347,000	$1,722,000
Wildlife/CRP	10%	18,677	$693,000	$151,000	$693,000

*Estimate of federal and private investments in conservation activities over the next 5 year period. Assumes that past program participation and funding levels will continue over this period.

*Costs rounded to the nearest thousand dollars.

Resource Assessment by Landuse

Cropland

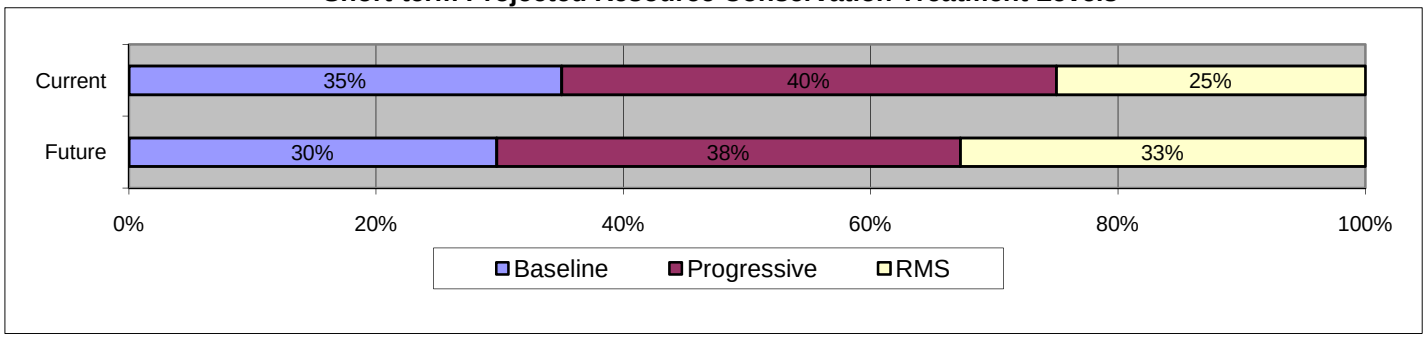
Resource Concerns:

Soil Erosion – Sheet and Rill
Soil Erosion – Wind
Soil Erosion – Ephemeral Gully
Water Quality – Excessive Nutrients and Organics in Surface Water

Conservation Practices Evaluated:

Conservation Cover; Conservation Crop Rotation; Cover Crop; Grassed Waterway; Irrigation System, Sprinkler; Irrigation Water Management; Mulching; Nutrient Management; Pest Management; Residue and Tillage Management, Mulch Till; Residue Management, No-Till/Strip Till/Direct Seed; Residue Management, Seasonal; Salinity and Sodic Soil Management; Underground Outlet; Upland Wildlife Habitat Management; Windbreak/Shelterbreak Establishment.

Short-term Projected Resource Conservation Treatment Levels



Rangeland/ Pastureland

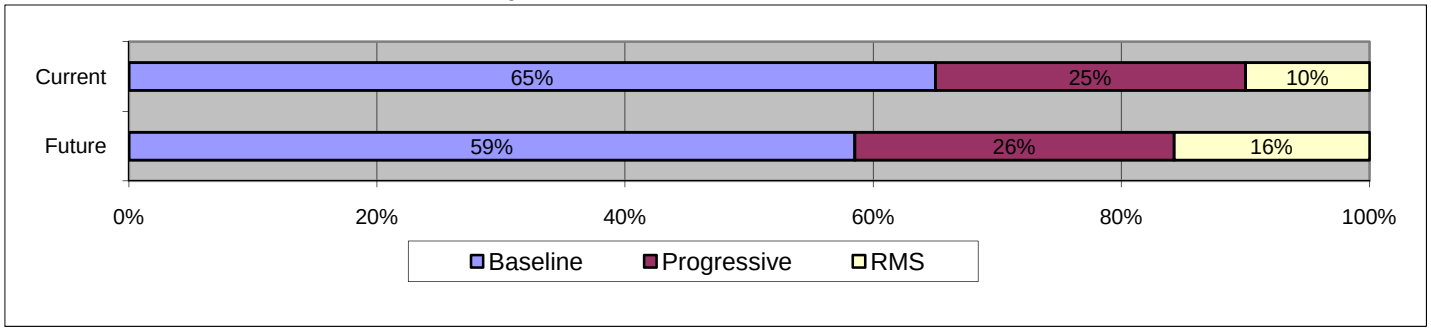
Resource Concerns:

Soil Erosion – Sheet and Rill
Plant Condition – Noxious and Invasive Plants
Domestic Animals – Inadequate Quantities and Quality of Feed and Forage
Domestic Animals – Inadequate Stock Water

Conservation Practices Evaluated:

Access Control; Brush Management; Fence; Pasture & Hayland Planting; Pest Management; Pipeline; Pond; Prescribed Grazing; Pumping Plant; Range Planting; Stream Crossing; Water Well; Watering Facility.

Short-term Projected Resource Conservation Treatment Levels



Hayland

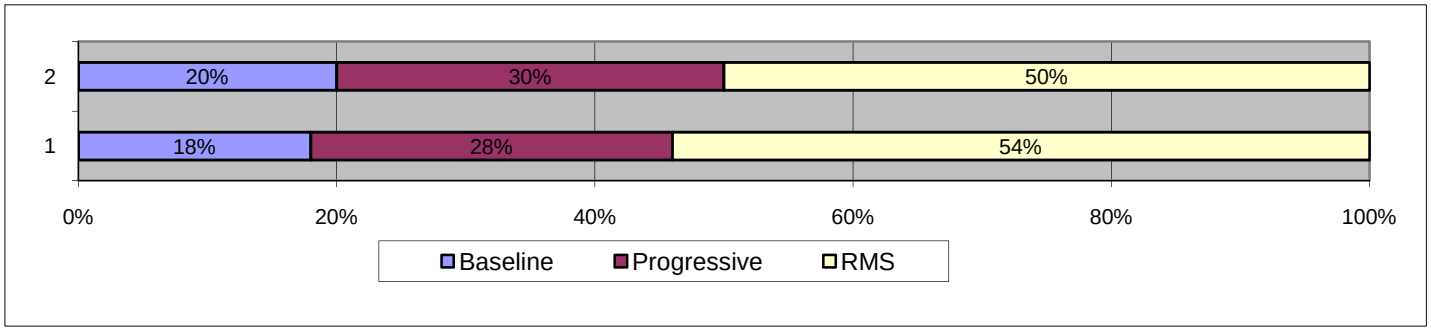
Resource Concerns:

Soil Erosion – Sheet and Rill
Plant Condition – Productivity, Health and Vigor
Plant Condition – Noxious and Invasive Plants
Plant Condition – Forage Quality and Palatability

Conservation Practices Evaluated:

Forage Harvest Management; Nutrient Management; Pasture & Hayland Planting; Pest Management.

Short-term Projected Resource Conservation Treatment Levels



Headquarters

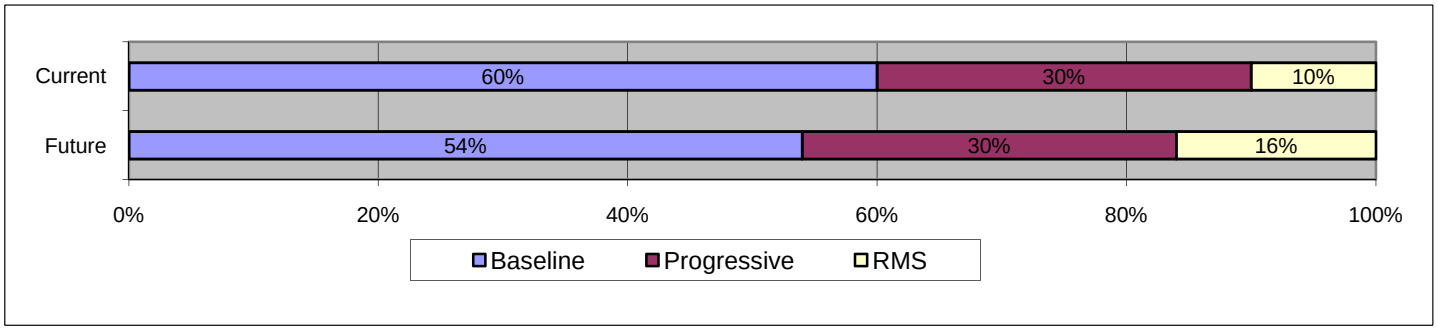
Resource Concerns:

Water Quality – Excessive Nutrients and Organics in Groundwater
Water Quality – Excessive Nutrients and Organics in Surface Water
Water Quality – Excessive Suspended Sediment and Turbidity in Surface Water
Air Quality – Objectionable Odors

Conservation Practices Evaluated:

Critical Area Planting; Dike; Diversion; Heavy Use Area Protection; Mulching; Sediment Basin; Waste Storage Facility; Waste Utilization; Well Decommissioning; Windbreak/Shelterbreak Establishment; Windbreak/Shelterbreak Renovation.

Short-term Projected Resource Conservation Treatment Levels



Wildlife/ CRP

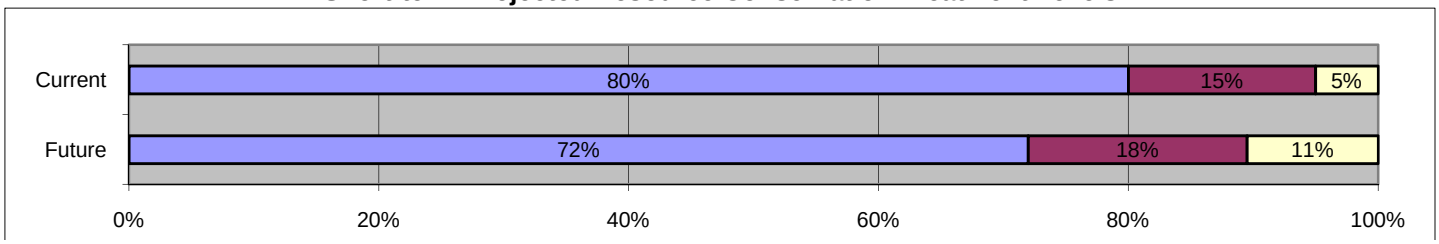
Resource Concerns:

Plant Condition – Noxious and Invasive Plants
Fish and Wildlife – Inadequate Cover/Shelter
Fish and Wildlife – Habitat Fragmentation
Fish and Wildlife – T & E Fish/Wildlife Species: Listed or Proposed under ESA

Conservation Practices Evaluated:

Conservation Cover; Early Successional Habitat Development/Management; Filter Strip; Mulching; Pest Management; Restoration and Management of Declining Habitats; Riparian Forest Buffer; Riparian Herbaceous Cover; Upland Wildlife Habitat Management; Access Control; Wetland Enhancement; Wetland Restoration; Wetland Wildlife Habitat Management; Windbreak/Shelterbreak Establishment.

Short-term Projected Resource Conservation Treatment Levels



Enter Watershed Variables Below

Watershed Name	Upper James	Watershed Code	10160003		Help
Landuse Type	Cropland	Landuse Acres	1,718,800	Interest Rate	6%
Typical Unit Size (ac)	80	Percent TA of FA	20%	Cost-Share Rate	50%

Estimated Time Frame = 5 years

Participation Rate (Based on Watershed Profile): 15% — COMPARE — 15% Calculated Participation Rate (Based on Projected Future Conditions)

Next

Current Conditions			Projected Change			Projected Future Condition				
System	Percent	Acres	System	Percent	Acres	System	Percent	Acres		
								Total	Static	Treated
Baseline	35%	601,580	Baseline	85%	511,343	Baseline	30%	511,343	511,343	0
			Progressive	10%	60,158					
			RMS	5%	30,079					
			Must Total 100%	100%						

Current Conditions			Projected Change			Projected Future Condition				
System	Percent	Acres	System	Percent	Acres	System	Percent	Acres		
								Total	Static	Treated
Progressive	40%	687,520	Progressive	85%	584,392	Progressive	38%	644,550	584,392	60,158
			RMS	15%	103,128					
			Must Total 100%	100%						

Current Conditions			Projected Change			Projected Future Condition				
System	Percent	Acres	System	Percent	Acres	System	Percent	Acres		
								Total	Static	Treated
RMS	25%	429,700	RMS	100%	429,700	RMS	33%	562,907	429,700	133,207
Grand Totals	100%	1,718,800					100%	1,718,800	1,525,435	193,365

DOCUMENTATION SECTION

Use an "x" to place conservation practices in each treatment level. Click the "Next" Button to move forward. Help		Conservation Treatment Levels		
Practices from CPPE Tool Output	**Code**	**Base**	**Prog**	**RMS**
Conservation Cover (ac.) 327	327	x	x	x
Conservation Crop Rotation (ac.) 328	328	x	x	x
Cover Crop (ac.) 340	340			x
Grassed Waterway (ac.) 412	412			x
Irrigation System, Sprinkler (ac.) 442	442			x
Irrigation Water Management (ac.) 449	449			x
Mulching (ac.) 484	484	x	x	x
Nutrient Management (ac.) 590	590		x	x
Pest Management (ac.) 595	595		x	x
Residue and Tillage Management, Mulch Till (ac.) 345	345		x	x
Residue Management, No-Till/Strip Till/Direct Seed (ac.) 329	329		x	x
Residue Management, Seasonal (ac.) 344	344	x	x	x
Salinity and Sodic Soil Management (ac.) 610	610			x
Underground Outlet (ft.) 620	620			x
Upland Wildlife Habitat Management (ac.) 645	645		x	x
Windbreak/Shelterbreak Establishment (ft.) 380	380	x	x	x

DOCUMENTATION SECTION

Back

PRACTICE FACTOR SHEET

Only shaded practices are in this analysis.

Modify the formula for each Base, Prog, RMS to enter feet, no. or acres for each practice factor.

Please enter appropriate factor for each level of treatment (Baseline, Progressive, & RMS)

Next

Code	BASE	PROG	RMS	SHORT NOTE *TU = Typical Unit Size*	Practice Name Help
327	x 10.0%	x 20.0%	x 35.0%	PERCENT of TU	Conservation Cover (ac.) 327
328	x 10.0%	x 50.0%	x 100.0%	PERCENT of TU	Conservation Crop Rotation (ac.) 328
329	0.0%	x 10.0%	x 40.0%	PERCENT of TU	Residue Management, No-Till/Strip Till/Direct Seed (ac.) 329
340	0.0%	0.0%	x 0.8%	PERCENT of TU	Cover Crop (ac.) 340
344	x 25.0%	x 65.0%	x 48.0%	PERCENT of TU	Residue Management, Seasonal (ac.) 344
345	0.0%	x 25.0%	x 12.0%	PERCENT of TU	Residue and Tillage Management, Mulch Till (ac.) 345
380	x 400	x 425	x 450	FEET per TU	Windbreak/Shelterbreak Establishment (ft.) 380
412	0.0%	0.0%	x 0.0%	PERCENT of TU	Grassed Waterway (ac.) 412
442	0.0%	0.0%	x 5.0%	PERCENT of TU	Irrigation System, Sprinkler (ac.) 442
449	0.0%	0.0%	x 4.0%	PERCENT of TU	Irrigation Water Management (ac.) 449
484	x 0.5%	x 0.6%	x 0.7%	PERCENT of TU	Mulching (ac.) 484
590	0.0%	x 25.0%	x 92.0%	PERCENT of TU	Nutrient Management (ac.) 590
595	0.0%	x 15.0%	x 53.0%	PERCENT of TU	Pest Management (ac.) 595
610	0.0%	0.0%	x 0.2%	PERCENT of TU	Salinity and Sodic Soil Management (ac.) 610
610	100.0%	100.0%	x 100.0%	PERCENT of TU	Toxic Salt Reduction (ac.) 610
620	0	0	x 0	FEET per TU	Underground Outlet (ft.) 620
645	0.0%	x 5.0%	x 13.0%	PERCENT of TU	Upland Wildlife Habitat Management (ac.) 645
600	0	0	5	FEET per TU	Terrace (ft.) 600
585	0.0%	5.0%	10.0%	PERCENT of TU	Stripcropping (ac.) 585
633	0.0%	0.0%	0.0%	PERCENT of TU	Waste Utilization (ac.) 633
378	1	0	0	NUMBER per TU	Pond (no.) 378
382	1,000	2,500	7,500	FEET per TU	Fence (ft.) 382
512	0.0%	10.0%	0.0%	PERCENT of TU	Pasture & Hayland Planting (ac.) 512
516	0	5,000	10,000	FEET per TU	Pipeline (ft.) 516
528	25.0%	50.0%	100.0%	PERCENT of TU	Prescribed Grazing (ac.) 528
533	0	1	1	NUMBER per TU	Pumping Plant (no.) 533
550	0.0%	0.0%	10.0%	PERCENT of TU	Range Planting (ac.) 550
574	1	1	1	NUMBER per TU	Spring Development (no.) 574
614	1	3	5	NUMBER per TU	Watering Facility (no.) 614
642	0	1	1	NUMBER per TU	Water Well (no.) 642

WATERSHED NAME & CODE	UPPER JAMES - 10160003				LANDUSE ACRES		1,718,800	
LANDUSE TYPE	CROPLAND				TYPICAL UNIT SIZE ACRES		80	
ASSESSMENT INFORMATION					CALCULATED PARTICIPATION		15%	
	Benchmark Conditions	Future Conditions			RESOURCE CONCERNS			
Conservation Systems by Treatment Level	Total Units	Existing Unchanged Units	New Treatment Units	Total Units	Soil Erosion – Sheet and Rill	Soil Erosion – Wind	Soil Erosion – Ephemeral Gully	Water Quality – Excessive Nutrients and Organics in Surface Water
Baseline				**System Rating ->**	**4**	**5**	**4**	**3**
Conservation Cover (ac.) 327	60,158	51,134	0	51,134	5	5	5	3
Conservation Crop Rotation (ac.) 328	60,158	51,134	0	51,134	3	3	3	2
Mulching (ac.) 484	3,008	2,557	0	2,557	4	4	4	4
Residue Management, Seasonal (ac.) 344	150,395	127,836	0	127,836	0	2	2	1
Windbreak/Shelterbreak Establishment (ft.) 380	3,007,900	2,556,715	0	2,556,715	0	5	0	1
Total Acreage at Baseline	**601,580**	**511,343**	**0**	**511,343**				
Progressive				**System Rating ->**	**5**	**5**	**5**	**5**
Conservation Cover (ac.) 327	137,504	122,894	6,016	128,910	5	5	5	3
Conservation Crop Rotation (ac.) 328	343,760	298,212	24,063	322,275	3	3	3	2
Mulching (ac.) 484	3,781	3,515	30	3,545	4	4	4	4
Nutrient Management (ac.) 590	171,880	146,098	15,040	161,138	0	0	0	5
Pest Management (ac.) 595	103,128	87,659	9,024	96,683	1	1	1	5
Residue and Tillage Management, Mulch Till (ac.) 345	171,880	146,098	15,040	161,138	4	4	4	2
Residue Management, No-Till/Strip Till/Direct Seed (ac.) 329	68,752	58,439	6,016	64,455	5	5	4	4
Residue Management, Seasonal (ac.) 344	446,888	394,894	24,063	418,958	0	2	2	1
Upland Wildlife Habitat Management (ac.) 645	34,376	29,220	3,008	32,228	3	3	3	3
Windbreak/Shelterbreak Establishment (ft.) 380	3,652,450	3,405,373	18,799	3,424,172	0	5	0	1
Total Acreage at Progressive Level	**687,520**	**584,392**	**60,158**	**644,550**				
RMS				**System Rating ->**	**5**	**5**	**5**	**5**
Conservation Cover (ac.) 327	150,395	174,029	22,989	197,017	5	5	5	3
Conservation Crop Rotation (ac.) 328	429,700	484,272	78,635	562,907	3	3	3	2
Cover Crop (ac.) 340	3,438	3,438	1,066	4,503	4	4	3	2
Grassed Waterway (ac.) 412	172	172	53	225	0	0	3	4
Irrigation System, Sprinkler (ac.) 442	21,485	21,485	6,660	28,145	0	3	0	1
Irrigation Water Management (ac.) 449	17,188	17,188	5,328	22,516	0	3	0	4
Mulching (ac.) 484	2,793	3,511	148	3,659	4	4	4	4
Nutrient Management (ac.) 590	395,324	421,106	96,768	517,874	0	0	0	5
Pest Management (ac.) 595	227,741	243,210	55,131	298,341	1	1	1	5
Residue and Tillage Management, Mulch Till (ac.) 345	51,564	63,939	3,609	67,549	4	4	4	2
Residue Management, No-Till/Strip Till/Direct Seed (ac.) 329	171,880	182,193	42,970	225,163	5	5	4	4
Residue Management, Seasonal (ac.) 344	206,256	263,277	6,918	270,195	0	2	2	1
Salinity and Sodic Soil Management (ac.) 610	859	859	266	1,126	4	4	4	2
Underground Outlet (ft.) 620	537	537	167	704	1	0	4	-1
Upland Wildlife Habitat Management (ac.) 645	55,861	61,017	12,161	73,178	3	3	3	3
Windbreak/Shelterbreak Establishment (ft.) 380	2,417,063	3,115,325	51,027	3,166,352	0	5	0	1
Total Acreage at RMS Level	**429,700**	**429,700**	**133,207**	**562,907**				

WATERSHED NAME & CODE	UPPER JAMES - 10160003	LANDUSE ACRES	1,718,800
LANDUSE TYPE	CROPLAND	TYPICAL UNIT SIZE ACRES	80
CONSERVATION COST TABLE		CALCULATED PARTICIPATION	15%

Conservation Systems by Treatment Level	FUTURE	FEDERAL				PRIVATE		
	New Treatment Units	Installation Cost 50%	Management Cost - 3 yrs 100%	Technical Assistance 20%	Total Present Value Cost	Installation Cost 50%	Annual O & M + Mgt Costs 100%	Total Present Value Cost
Progressive								
Conservation Cover (ac.) 327	6,016	$225,593	$0	$45,118	$270,711	$225,593	$13,536	$282,609
Conservation Crop Rotation (ac.) 328	24,063	$0	$0	$24,063	$24,063	$0	$120,316	$185,209
Mulching (ac.) 484	30	$16,543	$0	$3,309	$19,852	$16,543	$0	$16,543
Nutrient Management (ac.) 590	15,040	$0	$0	$15,040	$15,040	$0	$75,198	$115,755
Pest Management (ac.) 595	9,024	$0	$0	$9,024	$9,024	$0	$45,119	$69,453
Residue and Tillage Management, Mulch Till (ac.) 345	15,040	$0	$0	$30,079	$30,079	$0	$150,395	$231,511
Residue Management, No-Till/Strip Till/Direct Seed (ac.) 329	6,016	$0	$0	$18,047	$18,047	$0	$90,237	$138,906
Residue Management, Seasonal (ac.) 344	24,063	$0	$0	$24,063	$24,063	$0	$120,316	$185,209
Upland Wildlife Habitat Management (ac.) 645	3,008	$0	$0	$3,008	$3,008	$0	$15,040	$23,151
Windbreak/Shelterbreak Establishment (ft.) 380	18,799	$11,750	$0	$2,350	$14,100	$11,750	$235	$12,739
Subtotal	**60,158**	**$253,886**	**$0**	**$174,101**	**$427,987**	**$253,886**	**$630,390**	**$1,261,086**
RMS								
Conservation Cover (ac.) 327	22,989	$862,086	$0	$172,417	$1,034,503	$862,086	$51,725	$1,079,971
Conservation Crop Rotation (ac.) 328	78,635	$0	$0	$78,635	$78,635	$0	$393,176	$605,235
Cover Crop (ac.) 340	1,066	$0	$0	$15,985	$15,985	$0	$79,924	$123,031
Grassed Waterway (ac.) 412	53	$39,962	$0	$7,992	$47,955	$39,962	$1,598	$46,695
Irrigation System, Sprinkler (ac.) 442	6,660	$2,331,123	$0	$466,225	$2,797,347	$2,331,123	$93,245	$2,723,904
Irrigation Water Management (ac.) 449	5,328	$0	$0	$5,328	$5,328	$0	$26,641	$41,010
Mulching (ac.) 484	148	$81,536	$0	$16,307	$97,843	$81,536	$0	$81,536
Nutrient Management (ac.) 590	96,768	$0	$0	$96,768	$96,768	$0	$483,842	$744,803
Pest Management (ac.) 595	55,131	$0	$0	$55,131	$55,131	$0	$275,653	$424,326
Residue and Tillage Management, Mulch Till (ac.) 345	3,609	$0	$0	$7,219	$7,219	$0	$36,095	$55,563
Residue Management, No-Till/Strip Till/Direct Seed (ac.) 329	42,970	$0	$0	$128,910	$128,910	$0	$644,550	$992,189
Residue Management, Seasonal (ac.) 344	6,918	$0	$0	$6,918	$6,918	$0	$34,591	$53,247
Salinity and Sodic Soil Management (ac.) 610	266	$13,321	$0	$2,664	$15,985	$13,321	$1,332	$18,932
Underground Outlet (ft.) 620	167	$500	$0	$100	$599	$500	$10	$542
Upland Wildlife Habitat Management (ac.) 645	12,161	$0	$0	$12,161	$12,161	$0	$60,803	$93,597
Windbreak/Shelterbreak Establishment (ft.) 380	51,027	$31,892	$0	$6,378	$38,270	$31,892	$638	$34,579
Subtotal	**133,207**	**$3,360,418**	**$0**	**$1,079,138**	**$4,439,556**	**$3,360,418**	**$2,183,822**	**$7,119,161**
Grand Total	**193,365**	**$3,614,303**	**$0**	**$1,253,239**	**$4,867,543**	**$3,614,303**	**$2,814,213**	**$8,380,247**

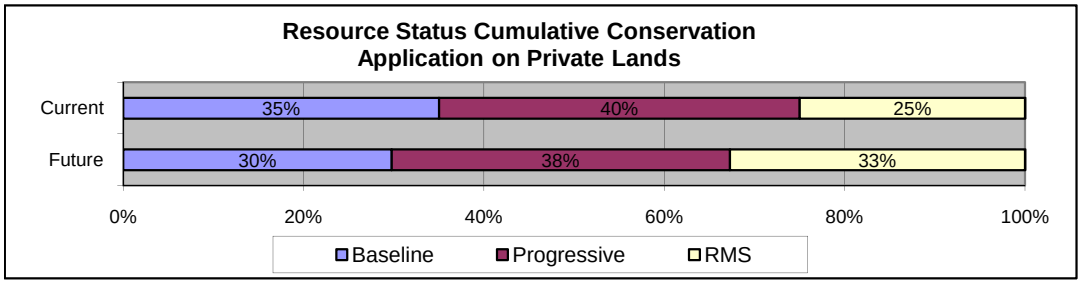


Chart Refers To	
Landuse Type	CROPLAND
Calculated Participation Rate	15%

Average PV Costs per Ac		
System	Federal	Private
Prog	$7.11	$20.96
RMS	$33.33	$53.44

WATERSHED NAME & CODE	UPPER JAMES - 10160003					LANDUSE ACRES			1,718,800
LANDUSE TYPE	CROPLAND					CAL UNIT SIZE ACRES			80
POSSIBLE SOURCES OF FUNDING						ATED PARTICIPATION			15%
	FUTURE	FARM BILL				OTHERS			
Conservation Systems by Treatment Level	New Treatment Units	CTA	EQIP	WRP	WHIP	Fed	State	Local	NOTES/COMMENTS
Progressive									
Conservation Cover (ac.) 327	6,016	X							
Conservation Crop Rotation (ac.) 328	24,063	X							
Mulching (ac.) 484	30	X	X		X				
Nutrient Management (ac.) 590	15,040	X							
Pest Management (ac.) 595	9,024	X	X	X	X				
Residue and Tillage Management, Mulch Till (ac.) 345	15,040	X							
Residue Management, No-Till/Strip Till/Direct Seed (ac.) 329	6,016	X							
Residue Management, Seasonal (ac.) 344	24,063	X							
Upland Wildlife Habitat Management (ac.) 645	3,008	X	X		X				
Windbreak/Shelterbreak Establishment (ft.) 380	18,799	X	X		X				
New Treatment Acreage	**60,158**								
RMS									
Conservation Cover (ac.) 327	22,989	X							
Conservation Crop Rotation (ac.) 328	78,635	X							
Cover Crop (ac.) 340	1,066	X							
Grassed Waterway (ac.) 412	53	X	X		X				
Irrigation System, Sprinkler (ac.) 442	6,660	X	X						
Irrigation Water Management (ac.) 449	5,328	X	X						
Mulching (ac.) 484	148	X	X		X				
Nutrient Management (ac.) 590	96,768	X							
Pest Management (ac.) 595	55,131	X	X	X	X				
Residue and Tillage Management, Mulch Till (ac.) 345	3,609	X							
Residue Management, No-Till/Strip Till/Direct Seed (ac.) 329	42,970	X							
Residue Management, Seasonal (ac.) 344	6,918	X							
Salinity and Sodic Soil Management (ac.) 610	266	X	X						
Underground Outlet (ft.) 620	167	X	X		X				
Upland Wildlife Habitat Management (ac.) 645	12,161	X	X		X				
Windbreak/Shelterbreak Establishment (ft.) 380	51,027	X	X		X				

DOCUMENTATION SECTION

Rapid Assessment Tool Data

Conservation Practice	Code	Units	Installation Cost	Life	O&M Factor	Total Annual Cost	Resource Concerns: Soil Erosion – Sheet and Rill	Soil Erosion – Wind	Soil Erosion – Ephemeral Gully	Water Quality – Excessive Nutrients and Organics in Surface Water
Conservation Cover (ac.) 327	327	Ac	$75.00	10	0.03	$12.14	5	5	5	3
Conservation Crop Rotation (ac.) 328	328	Ac	$5.00	1	0.00	$5.00	3	3	3	2
Cover Crop (ac.) 340	340	Ac	$75.00	1	0.00	$75.00	4	4	3	2
Grassed Waterway (ac.) 412	412	Ac	$1,500.00	10	0.02	$227.81	0	0	3	4
Irrigation System, Sprinkler (ac.) 442	442	Ac	$700.00	15	0.02	$83.16	0	3	0	1
Irrigation Water Management (ac.) 449	449	Ac	$5.00	1	0.00	$5.00	0	3	0	4
Mulching (ac.) 484	484	Ac	$1,100.00	5	0.00	$256.71	4	4	4	4
Nutrient Management (ac.) 590	590	Ac	$5.00	1	0.00	$5.00	0	0	0	5
Pest Management (ac.) 595	595	Ac	$5.00	1	0.00	$5.00	1	1	1	5
Residue and Tillage Management, Mulch Till (ac.) 345	345	Ac	$10.00	1	0.00	$10.00	4	4	4	2
Residue Management, No-Till/Strip Till/Direct Seed (ac.) 329	329	Ac	$15.00	1	0.00	$15.00	5	5	4	4
Residue Management, Seasonal (ac.) 344	344	Ac	$5.00	1	0.00	$5.00	0	2	2	1
Salinity and Sodic Soil Management (ac.) 610	610	Ac	$100.00	5	0.05	$28.34	4	4	4	2
Underground Outlet (ft.) 620	620	Ft	$6.00	20	0.01	$0.56	1	0	4	-1
Upland Wildlife Habitat Management (ac.) 645	645	Ac	$5.00	1	0.00	$5.00	3	3	3	3
Windbreak/Shelterbreak Establishment (ft.) 380	380	Ft	$1.25	15	0.01	$0.14	0	5	0	1

Enter Watershed Variables Below

Watershed Name	*Upper James*	Watershed Code	*10160003*	Help	
Landuse Type	*Rangeland and Pasture*	Landuse Acres	*512,300*	Interest Rate	*6%*
Typical Unit Size (ac)	*100*	Percent TA of FA	*20%*	Cost-Share Rate	*50%*

Estimated Time Frame = 5 years

Participation Rate *(Based on Watershed Profile)* *6%* — COMPARE — 10% **Calculated Participation Rate** (*Based on Projected Future Conditions*) — Next

Current Conditions			Projected Change			Projected Future Condition				
System	Percent	Acres	System	Percent	Acres	System	Percent	Acres		
								Total	Static	Treated
Baseline	*65%*	332,995	Baseline	*90%*	299,696	Baseline	59%	299,696	299,696	0
			Progressive	*5%*	16,650					
			RMS	*5%*	16,650					
			Must Total 100%	*100%*						

Current Conditions			Projected Change			Projected Future Condition				
System	Percent	Acres	System	Percent	Acres	System	Percent	Acres		
								Total	Static	Treated
Progressive	*25%*	128,075	Progressive	*90%*	115,268	Progressive	26%	131,917	115,268	16,650
			RMS	*10%*	12,808					
			Must Total 100%	*100%*						

Current Conditions			Projected Change			Projected Future Condition				
System	Percent	Acres	System	Percent	Acres	System	Percent	Acres		
								Total	Static	Treated
RMS	*10%*	51,230	RMS	100%	51,230	RMS	16%	80,687	51,230	29,457
Grand Totals	**100%**	**512,300**					**100%**	**512,300**	**466,193**	**46,107**

DOCUMENTATION SECTION

Use an "x" to place conservation practices in each treatment level. Click the "Next" Button to move forward. Help		Conservation Treatment Levels		
Practices from CPPE Tool Output	**Code**	**Base**	**Prog**	**RMS**
Access Control (ac.) 472	472			x
Brush Management (ac.) 314	314			x
Fence (ft.) 382	382	x	x	x
Pasture & Hayland Planting (ac.) 512	512	x	x	x
Pest Management (ac.) 595	595		x	x
Pipeline (ft.) 516	516		x	x
Pond (no.) 378	378	x	x	
Prescribed Grazing (ac.) 528	528		x	x
Pumping Plant (no.) 533	533		x	x
Range Planting (ac.) 550	550		x	x
Stream Crossing (ft.) 578	578			x
Water Well (no.) 642	642		x	x
Watering Facility (no.) 614	614		x	x

DOCUMENTATION SECTION

Back

PRACTICE FACTOR SHEET

Only shaded practices are in this analysis.

Modify the formula for each Base, Prog, RMS to enter feet, no. or acres for each practice factor.

Please enter appropriate factor for each level of treatment (Baseline, Progressive, & RMS)

Next

Code	BASE		PROG		RMS		SHORT NOTE *TU = Typical Unit Size*	Practice Name Help
314		0.0%		0.0%	x	0.3%	PERCENT of TU	Brush Management (ac.) 314
378	x	1	x	1		0	NUMBER per TU	Pond (no.) 378
382	x	200	x	400	x	1,000	FEET per TU	Fence (ft.) 382
472		0.0%		0.0%	x	4.0%	PERCENT of TU	Access Control (ac.) 472
512	x	1.0%	x	2.0%	x	4.5%	PERCENT of TU	Pasture & Hayland Planting (ac.) 512
516		0	x	140	x	180	FEET per TU	Pipeline (ft.) 516
528		0.0%	x	5.0%	x	30.0%	PERCENT of TU	Prescribed Grazing (ac.) 528
533		0	x	0	x	0	NUMBER per TU	Pumping Plant (no.) 533
550		0.0%	x	0.5%	x	1.0%	PERCENT of TU	Range Planting (ac.) 550
578		0		0	x	55	FEET per TU	Stream Crossing 578
595		0.0%	x	0.0%	x	25.0%	PERCENT of TU	Pest Management (ac.) 595
614		0	x	0	x	0	NUMBER per TU	Watering Facility (no.) 614
642		0	x	0	x	0	NUMBER per TU	Water Well (no.) 642
574		0		0		0	NUMBER per TU	Spring Development (no.) 574
511		0.0%		0.0%		0.1%	PERCENT of TU	Forage Harvest Management (ac.) 511
548		0.0%		0.0%		10.0%	PERCENT of TU	Grazing Land Mechanical Treatment (ac.) 548
410		0		0		1	NUMBER per TU	Grade Stabilization Structure (no.) 410
561		0.0%		0.0%		5.0%	PERCENT of TU	Heavy Use Area Protection (ac.) 561
575		5.0%		5.0%		5.0%	PERCENT of TU	Animal Trails and Walkways (ac.) 575
328		100.0%		100.0%		100.0%	PERCENT of TU	Conservation Crop Rotation (ac.) 328
353		1		1		1	NUMBER per TU	Monitoring Well (no.) 353
412		5.0%		5.0%		5.0%	PERCENT of TU	Grassed Waterway (ac.) 412
442		100.0%		100.0%		100.0%	PERCENT of TU	Irrigation System, Sprinkler (ac.) 442
560		500		500		500	FEET per TU	Access Road (ft.) 560
702		1		1		1	NUMBER per TU	Agrichemical Handling Facility (no.) 702
311		30.0%		30.0%		30.0%	PERCENT of TU	Alley Cropping (ac.) 311
591		1		1		1	NUMBER per TU	Amendments for the Treatment of Agricultural Waste (no.) 591
365		1		1		1	NUMBER per TU	Anaerobic Digester, Ambient Temperature (no.) 365
366		1		1		1	NUMBER per TU	Anaerobic Digester, Controlled Temperature (no.) 366
316		1		1		1	NUMBER per TU	Animal Mortality Facility (no.) 316

WATERSHED NAME & CODE	UPPER JAMES - 10160003				LANDUSE ACRES	512,300		
LANDUSE TYPE	RANGELAND AND PASTURE				TYPICAL UNIT SIZE ACRES	100		
ASSESSMENT INFORMATION					CALCULATED PARTICIPATION	10%		
	Benchmark Conditions	Future Conditions			RESOURCE CONCERNS			
Conservation Systems by Treatment Level	Total Units	Existing Unchanged Units	New Treatment Units	Total Units	Soil Erosion – Sheet and Rill	Plant Condition – Noxious and Invasive Plants	Domestic Animals – Inadequate Quantities and Quality of Feed and Forage	Domestic Animals – Inadequate Stock Water
Baseline				**System Rating ->**	**2**	**1**	**4**	**3**
Fence (ft.) 382	665,990	599,391	0	599,391	0	0	3	0
Pasture & Hayland Planting (ac.) 512	3,330	2,997	0	2,997	4	2	5	0
Pond (no.) 378	2,830	2,547	0	2,547	0	-1	0	5
Total Acreage at Baseline	**332,995**	**299,696**	**0**	**299,696**				
Progressive				**System Rating ->**	**4**	**4**	**5**	**5**
Fence (ft.) 382	512,300	494,370	33,300	527,669	0	0	3	0
Pasture & Hayland Planting (ac.) 512	2,562	2,472	166	2,638	4	2	5	0
Pest Management (ac.) 595	0	0	0	0	1	5	4	0
Pipeline (ft.) 516	179,305	161,375	23,310	184,684	0	0	0	5
Pond (no.) 378	1,217	1,237	17	1,253	0	-1	0	5
Prescribed Grazing (ac.) 528	6,404	5,763	832	6,596	4	4	5	1
Pumping Plant (no.) 533	13	12	2	13	0	0	0	5
Range Planting (ac.) 550	640	576	83	660	4	4	5	0
Water Well (no.) 642	13	12	2	13	0	0	2	5
Watering Facility (no.) 614	64	58	8	66	1	0	3	5
Total Acreage at Progressive Level	**128,075**	**115,268**	**16,650**	**131,917**				
RMS				**System Rating ->**	**4**	**5**	**5**	**5**
Access Control (ac.) 472	2,049	2,049	1,178	3,227	2	4	4	0
Brush Management (ac.) 314	128	128	74	202	4	5	3	0
Fence (ft.) 382	512,300	596,830	210,043	806,873	0	0	3	0
Pasture & Hayland Planting (ac.) 512	2,305	2,728	903	3,631	4	2	5	0
Pest Management (ac.) 595	12,808	12,808	7,364	20,172	1	5	4	0
Pipeline (ft.) 516	92,214	110,145	35,093	145,237	0	0	0	5
Prescribed Grazing (ac.) 528	15,369	16,009	8,197	24,206	4	4	5	1
Pumping Plant (no.) 533	10	12	5	16	0	0	0	5
Range Planting (ac.) 550	512	576	231	807	4	4	5	0
Stream Crossing (ft.) 578	28,177	28,177	16,201	44,378	0	0	3	3
Water Well (no.) 642	20	22	11	32	0	0	2	5
Watering Facility (no.) 614	64	70	30	101	1	0	3	5
Total Acreage at RMS Level	**51,230**	**51,230**	**29,457**	**80,687**				

WATERSHED NAME & CODE	UPPER JAMES - 10160003	LANDUSE ACRES	512,300
LANDUSE TYPE	RANGELAND AND PASTURE	TYPICAL UNIT SIZE ACRES	100
CONSERVATION COST TABLE		CALCULATED PARTICIPATION	10%

Conservation Systems by Treatment Level	FUTURE	FEDERAL				PRIVATE		
	New Treatment Units	Installation Cost 50%	Management Cost - 3 yrs 100%	Technical Assistance 20%	Total Present Value Cost	Installation Cost 50%	Annual O & M + Mgt Costs 100%	Total Present Value Cost
Progressive								
Fence (ft.) 382	33,300	$16,650	$0	$3,330	$19,980	$16,650	$666	$19,455
Pasture & Hayland Planting (ac.) 512	166	$4,995	$0	$999	$5,994	$4,995	$100	$5,416
Pest Management (ac.) 595	0	$0	$0	$0	$0	$0	$0	$0
Pipeline (ft.) 516	23,310	$23,310	$0	$4,662	$27,972	$23,310	$932	$27,237
Pond (no.) 378	17	$49,949	$0	$9,990	$59,939	$49,949	$4,995	$70,990
Prescribed Grazing (ac.) 528	832	$0	$0	$832	$832	$0	$4,162	$6,407
Pumping Plant (no.) 533	2	$2,914	$0	$583	$3,496	$2,914	$117	$3,405
Range Planting (ac.) 550	83	$4,162	$0	$832	$4,995	$4,162	$83	$4,513
Water Well (no.) 642	2	$12,487	$0	$2,497	$14,985	$12,487	$250	$13,539
Watering Facility (no.) 614	8	$7,076	$0	$1,415	$8,491	$7,076	$425	$8,865
Subtotal	**16,650**	**$121,543**	**$0**	**$25,141**	**$146,684**	**$121,543**	**$11,730**	**$159,827**
RMS								
Access Control (ac.) 472	1,178	$7,070	$0	$1,414	$8,484	$7,070	$424	$8,857
Brush Management (ac.) 314	74	$1,473	$0	$295	$1,767	$1,473	$29	$1,597
Fence (ft.) 382	210,043	$105,022	$0	$21,004	$126,026	$105,022	$4,201	$122,717
Pasture & Hayland Planting (ac.) 512	903	$27,088	$0	$5,418	$32,505	$27,088	$542	$29,370
Pest Management (ac.) 595	7,364	$0	$0	$7,364	$7,364	$0	$36,822	$56,681
Pipeline (ft.) 516	35,093	$35,093	$0	$7,019	$42,111	$35,093	$1,404	$41,005
Prescribed Grazing (ac.) 528	8,197	$0	$0	$8,197	$8,197	$0	$40,984	$63,089
Pumping Plant (no.) 533	5	$8,069	$0	$1,614	$9,682	$8,069	$323	$9,428
Range Planting (ac.) 550	231	$11,527	$0	$2,305	$13,832	$11,527	$231	$12,498
Stream Crossing (ft.) 578	16,201	$162,015	$0	$32,403	$194,418	$162,015	$3,240	$175,664
Water Well (no.) 642	11	$78,766	$0	$15,753	$94,519	$78,766	$1,575	$85,402
Watering Facility (no.) 614	30	$25,855	$0	$5,171	$31,026	$25,855	$1,551	$32,390
Subtotal	**29,457**	**$461,976**	**$0**	**$107,956**	**$569,932**	**$461,976**	**$91,326**	**$638,698**
Grand Total	**46,107**	**$583,519**	**$0**	**$133,097**	**$716,617**	**$583,519**	**$103,055**	**$798,525**

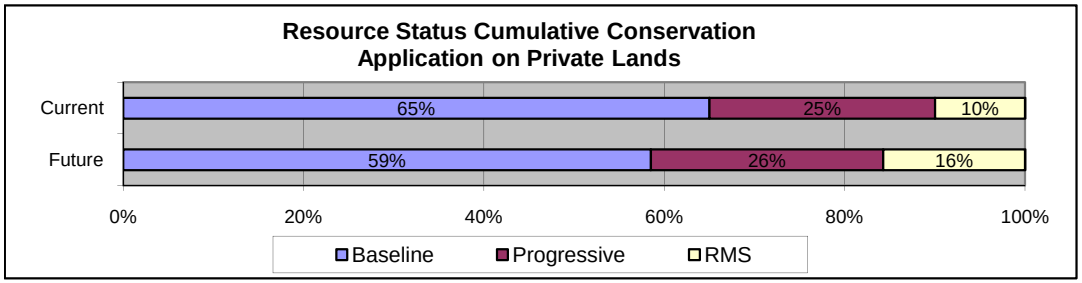


Chart Refers To	
Landuse Type	RANGELAND AND PASTURE
Calculated Participation Rate	10%

Average PV Costs per Ac		
System	Federal	Private
Prog	$8.81	$9.60
RMS	$19.35	$21.68

WATERSHED NAME & CODE	UPPER JAMES - 10160003	LANDUSE ACRES	512,300
LANDUSE TYPE	RANGELAND AND PASTURE	TYPICAL UNIT SIZE ACRES	100
POSSIBLE SOURCES OF FUNDING		CALCULATED PARTICIPATION	10%

	FUTURE	FARM BILL						OTHERS			
Conservation Systems by Treatment Level	New Treatment Units	CTA	EQIP	WRP	WHIP	CSP	CRP/ CREP	Fed	State	Local	NOTES/COMMENTS
Progressive											
Fence (ft.) 382	33,300	X	X	X	X	X	X				
Pasture & Hayland Planting (ac.) 512	166	X	X		X						
Pest Management (ac.) 595	0	X	X	X	X						
Pipeline (ft.) 516	23,310	X	X		X						
Pond (no.) 378	17	X	X		X						
Prescribed Grazing (ac.) 528	832	X									
Pumping Plant (no.) 533	2	X	X		X						
Range Planting (ac.) 550	83	X	X	X	X						
Water Well (no.) 642	2	X	X		X						
Watering Facility (no.) 614	8	X	X		X						
New Treatment Acreage	**16,650**										
RMS											
Access Control (ac.) 472	1,178	X									
Brush Management (ac.) 314	74	X	X		X						
Fence (ft.) 382	210,043	X	X	X	X	X	X				
Pasture & Hayland Planting (ac.) 512	903	X	X		X						
Pest Management (ac.) 595	7,364	X	X	X	X						
Pipeline (ft.) 516	35,093	X	X		X						
Prescribed Grazing (ac.) 528	8,197	X									
Pumping Plant (no.) 533	5	X	X		X						
Range Planting (ac.) 550	231	X	X	X	X						
Stream Crossing (ft.) 578	16,201	X	X		X						
Water Well (no.) 642	11	X	X		X						
Watering Facility (no.) 614	30	X	X		X						
New Treatment Acreage	**29,457**										

DOCUMENTATION SECTION

Rapid Assessment Tool Data

Conservation Practice	Code	Units	Installation Cost	Life	O&M Factor	Total Annual Cost	Resource Concerns: Soil Erosion – Sheet and Rill	Plant Condition – Noxious and Invasive Plants	Domestic Animals – Inadequate Quantities and Quality of Feed and Forage	Domestic Animals – Inadequate Stock Water
Access Control (ac.) 472	472	Ac	$12.00	10	0.03	$1.94	2	4	4	0
Brush Management (ac.) 314	314	Ac	$40.00	10	0.01	$5.67	4	5	3	0
Fence (ft.) 382	382	Ft	$1.00	20	0.02	$0.10	0	0	3	0
Pasture & Hayland Planting (ac.) 512	512	Ac	$60.00	10	0.01	$8.51	4	2	5	0
Pest Management (ac.) 595	595	Ac	$5.00	1	0.00	$5.00	1	5	4	0
Pipeline (ft.) 516	516	Ft	$2.00	20	0.02	$0.21	0	0	0	5
Pond (no.) 378	378	No	$6,000.00	20	0.05	$796.88	0	-1	0	5
Prescribed Grazing (ac.) 528	528	Ac	$5.00	1	0.00	$5.00	4	4	5	1
Pumping Plant (no.) 533	533	No	$3,500.00	15	0.02	$415.80	0	0	0	5
Range Planting (ac.) 550	550	Ac	$100.00	10	0.01	$14.19	4	4	5	0
Stream Crossing (ft.) 578	578	ft.	$20.00	15	0.01	$2.18	0	0	3	3
Water Well (no.) 642	642	No	$15,000.00	20	0.01	$1,392.20	0	0	2	5
Watering Facility (no.) 614	614	No	$1,700.00	10	0.03	$275.18	1	0	3	5

Enter Watershed Variables Below

Watershed Name	Upper James	Watershed Code	10160003	Help	
Landuse Type	Hayland	Landuse Acres	66,700	Interest Rate	6%
Typical Unit Size (ac)	40	Percent TA of FA	20%	Cost-Share Rate	50%

Estimated Time Frame = 5 years

Participation Rate (Based on Watershed Profile): 6% — COMPARE — 10% **Calculated Participation Rate** (Based on Projected Future Conditions)

Next

Current Conditions			Projected Change			Projected Future Condition				
System	Percent	Acres	System	Percent	Acres	System	Percent	Acres		
								Total	Static	Treated
Baseline	20%	13,340	Baseline	90%	12,006	Baseline	18%	12,006	12,006	0
			Progressive	5%	667					
			RMS	5%	667					
			Must Total 100%	100%						

Current Conditions			Projected Change			Projected Future Condition				
System	Percent	Acres	System	Percent	Acres	System	Percent	Acres		
								Total	Static	Treated
Progressive	30%	20,010	Progressive	90%	18,009	Progressive	28%	18,676	18,009	667
			RMS	10%	2,001					
			Must Total 100%	100%						

Current Conditions			Projected Change			Projected Future Condition				
System	Percent	Acres	System	Percent	Acres	System	Percent	Acres		
								Total	Static	Treated
RMS	50%	33,350	RMS	100%	33,350	RMS	54%	36,018	33,350	2,668
Grand Totals	100%	66,700					100%	66,700	63,365	3,335

DOCUMENTATION SECTION

Use an "x" to place conservation practices in each treatment level. Click the "Next" Button to move forward. Help		Conservation Treatment Levels		
Practices from CPPE Tool Output	**Code**	**Base**	**Prog**	**RMS**
Forage Harvest Management (ac.) 511	511			x
Nutrient Management (ac.) 590	590			x
Pasture & Hayland Planting (ac.) 512	512	x	x	x
Pest Management (ac.) 595	595			x

DOCUMENTATION SECTION

Back

PRACTICE FACTOR SHEET

Only shaded practices are in this analysis.

Modify the formula for each Base, Prog, RMS to enter feet, no. or acres for each practice factor.

Please enter appropriate factor for each level of treatment (Baseline, Progressive, & RMS)

Next

Code		BASE		PROG		RMS	SHORT NOTE *TU = Typical Unit Size*	Practice Name Help
511		0.0%		0.0%	x	100.0%	PERCENT of TU	Forage Harvest Management (ac.) 511
512	x	1.0%	x	2.0%	x	3.0%	PERCENT of TU	Pasture & Hayland Planting (ac.) 512
590		0.0%		0.0%	x	100.0%	PERCENT of TU	Nutrient Management (ac.) 590
595		0.0%		0.0%	x	75.0%	PERCENT of TU	Pest Management (ac.) 595
430		0		15		40	FEET per TU	Irrigation Water Conveyance, Pipeline (ft.) 430
442		0.0%		0.0%		0.1%	PERCENT of TU	Irrigation System, Sprinkler (ac.) 442
449		0.0%		0.0%		10.0%	PERCENT of TU	Irrigation Water Management (ac.) 449
388		300		300		300	FEET per TU	Irrigation Field Ditch (ft.) 388
443		0.0%		0.0%		5.0%	PERCENT of TU	Irrigation System, Surface and Subsurface (ac.) 443
606		0		0		0	FEET per TU	Subsurface Drain (ft.) 606
378		1		0		0	NUMBER per TU	Pond (no.) 378
382		1,000		2,500		7,500	FEET per TU	Fence (ft.) 382
516		0		5,000		10,000	FEET per TU	Pipeline (ft.) 516
528		25.0%		50.0%		100.0%	PERCENT of TU	Prescribed Grazing (ac.) 528
533		0		1		1	NUMBER per TU	Pumping Plant (no.) 533
550		0.0%		0.0%		10.0%	PERCENT of TU	Range Planting (ac.) 550
574		1		1		1	NUMBER per TU	Spring Development (no.) 574
614		1		3		5	NUMBER per TU	Watering Facility (no.) 614
642		0		1		1	NUMBER per TU	Water Well (no.) 642
314		10.0%		20.0%		40.0%	PERCENT of TU	Brush Management (ac.) 314
410		0		0		1	NUMBER per TU	Grade Stabilization Structure (no.) 410
548		0.0%		0.0%		10.0%	PERCENT of TU	Grazing Land Mechanical Treatment (ac.) 548
561		0.0%		0.0%		5.0%	PERCENT of TU	Heavy Use Area Protection (ac.) 561
575		5.0%		5.0%		5.0%	PERCENT of TU	Animal Trails and Walkways (ac.) 575
328		100.0%		100.0%		100.0%	PERCENT of TU	Conservation Crop Rotation (ac.) 328
353		1		1		1	NUMBER per TU	Monitoring Well (no.) 353
412		5.0%		5.0%		5.0%	PERCENT of TU	Grassed Waterway (ac.) 412
560		500		500		500	FEET per TU	Access Road (ft.) 560
702		1		1		1	NUMBER per TU	Agrichemical Handling Facility (no.) 702
311		30.0%		30.0%		30.0%	PERCENT of TU	Alley Cropping (ac.) 311

WATERSHED NAME & CODE	UPPER JAMES - 10160003				LANDUSE ACRES	66,700		
LANDUSE TYPE	HAYLAND				TYPICAL UNIT SIZE ACRES	40		
ASSESSMENT INFORMATION					CALCULATED PARTICIPATION	10%		
	Benchmark Conditions	Future Conditions			RESOURCE CONCERNS			
Conservation Systems by Treatment Level	Total Units	Existing Unchanged Units	New Treatment Units	Total Units	Soil Erosion – Sheet and Rill	Plant Condition – Productivity, Health and Vigor	Plant Condition – Noxious and Invasive Plants	Plant Condition – Forage Quality and Palatability
Baseline				**System Rating ->**	**2**	**3**	**1**	**3**
Pasture & Hayland Planting (ac.) 512	133	120	0	120	4	5	2	5
Total Acreage at Baseline	**13,340**	**12,006**	**0**	**1**				
Progressive				**System Rating ->**	**2**	**3**	**1**	**3**
Pasture & Hayland Planting (ac.) 512	400	367	7	374	4	5	2	5
Total Acreage at Progressive Level	**20,010**	**18,009**	**667**	**18,676**				
RMS				**System Rating ->**	**3**	**5**	**4**	**4**
Forage Harvest Management (ac.) 511	33,350	33,350	2,668	36,018	3	4	3	4
Nutrient Management (ac.) 590	33,350	33,350	2,668	36,018	0	3	0	4
Pasture & Hayland Planting (ac.) 512	1,001	1,047	33	1,081	4	5	2	5
Pest Management (ac.) 595	25,013	25,013	2,001	27,014	1	5	5	4
Total Acreage at RMS Level	**33,350**	**33,350**	**2,668**	**36,018**				

WATERSHED NAME & CODE	UPPER JAMES - 10160003	LANDUSE ACRES	66,700
LANDUSE TYPE	HAYLAND	TYPICAL UNIT SIZE ACRES	40
CONSERVATION COST TABLE		CALCULATED PARTICIPATION	10%

	FUTURE	FEDERAL				PRIVATE		
Conservation Systems by Treatment Level	New Treatment Units	Installation Cost 50%	Management Cost - 3 yrs 100%	Technical Assistance 20%	Total Present Value Cost	Installation Cost 50%	Annual O & M + Mgt Costs 100%	Total Present Value Cost
Progressive								
Pasture & Hayland Planting (ac.) 512	7	$200	$0	$40	$240	$200	$4	$217
Subtotal	**667**	**$200**	**$0**	**$40**	**$240**	**$200**	**$4**	**$217**
RMS								
Forage Harvest Management (ac.) 511	2,668	$0	$0	$2,668	$2,668	$0	$13,340	$20,535
Nutrient Management (ac.) 590	2,668	$0	$0	$2,668	$2,668	$0	$13,340	$20,535
Pasture & Hayland Planting (ac.) 512	33	$1,001	$0	$200	$1,201	$1,001	$20	$1,085
Pest Management (ac.) 595	2,001	$0	$0	$2,001	$2,001	$0	$10,005	$15,401
Subtotal	**2,668**	**$1,001**	**$0**	**$7,537**	**$8,538**	**$1,001**	**$36,705**	**$57,556**
Grand Total	**3,335**	**$1,201**	**$0**	**$7,577**	**$8,778**	**$1,201**	**$36,709**	**$57,773**

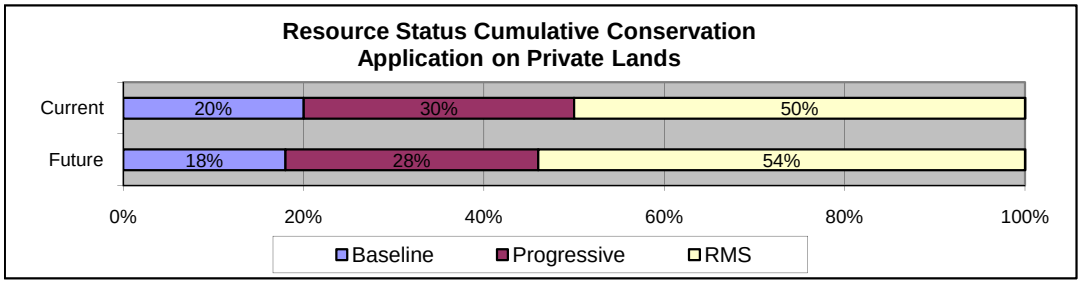


Chart Refers To	
Landuse Type	HAYLAND
Calculated Participation Rate	10%

Average PV Costs per Ac		
System	Federal	Private
Prog	$0.36	$0.33
RMS	$3.20	$21.57

WATERSHED NAME & CODE	UPPER JAMES - 10160003						LANDUSE ACRES			66,700
LANDUSE TYPE	HAYLAND						TYPICAL UNIT SIZE ACRES			40
POSSIBLE SOURCES OF FUNDING							CALCULATED PARTICIPATION			10%
	FUTURE	FARM BILL						OTHERS			NOTES/COMMENTS
Conservation Systems by Treatment Level	New Treatment Units	CTA	EQIP	WRP	WHIP	CSP	CRP/ CREP	Fed	State	Local	
Progressive											
Pasture & Hayland Planting (ac.) 512	7	X	X		X						
New Treatment Acreage	**667**										
RMS											
Forage Harvest Management (ac.) 511	2,668	X									
Nutrient Management (ac.) 590	2,668	X									
Pasture & Hayland Planting (ac.) 512	33	X	X		X						
Pest Management (ac.) 595	2,001	X	X	X	X						
New Treatment Acreage	**2,668**										

DOCUMENTATION SECTION

Rapid Assessment Tool Data

Conservation Practice	Code	Units	Installation Cost	Life	O&M Factor	Total Annual Cost	Resource Concerns: Soil Erosion – Sheet and Rill	Plant Condition – Productivity, Health and Vigor	Plant Condition – Noxious and Invasive Plants	Plant Condition – Forage Quality and Palatability
Forage Harvest Management (ac.) 511	511	Ac	$5.00	1	0.00	$5.00	3	4	3	4
Nutrient Management (ac.) 590	590	Ac	$5.00	1	0.00	$5.00	0	3	0	4
Pasture & Hayland Planting (ac.) 512	512	Ac	$60.00	10	0.01	$8.51	4	5	2	5
Pest Management (ac.) 595	595	Ac	$5.00	1	0.00	$5.00	1	5	5	4

Enter Watershed Variables Below

Watershed Name	*Upper James*	Watershed Code	*10160003*	Help	
Landuse Type	*Headquarters - Farmstead*	Landuse Acres	*42,700*	Interest Rate	*6%*
Typical Unit Size (ac)	*15*	Percent TA of FA	*20%*	Cost-Share Rate	*50%*

Estimated Time Frame = 5 years

Participation Rate *(Based on Watershed Profile)* *8%* COMPARE 10% **Calculated Participation Rate** *(Based on Projected Future Conditions)* Next

Current Conditions			Projected Change			Projected Future Condition				
System	Percent	Acres	System	Percent	Acres	System	Percent	Acres		
								Total	Static	Treated
Baseline	*60%*	25,620	Baseline	*90%*	23,058	Baseline	54%	23,058	23,058	0
			Progressive	*5%*	1,281					
			RMS	*5%*	1,281					
			Must Total 100%	*100%*						

Current Conditions			Projected Change			Projected Future Condition				
System	Percent	Acres	System	Percent	Acres	System	Percent	Acres		
								Total	Static	Treated
Progressive	*30%*	12,810	Progressive	*90%*	11,529	Progressive	30%	12,810	11,529	1,281
			RMS	*10%*	1,281					
			Must Total 100%	*100%*						

Current Conditions			Projected Change			Projected Future Condition				
System	Percent	Acres	System	Percent	Acres	System	Percent	Acres		
								Total	Static	Treated
RMS	*10%*	4,270	RMS	100%	4,270	RMS	16%	6,832	4,270	2,562
Grand Totals	**100%**	**42,700**					**100%**	**42,700**	**38,857**	**3,843**

DOCUMENTATION SECTION

Use an "x" to place conservation practices in each treatment level. Click the "Next" Button to move forward. Help		Conservation Treatment Levels		
Practices from CPPE Tool Output	**Code**	**Base**	**Prog**	**RMS**
Critical Area Planting (ac.) 342	342		x	x
Dike (ft.) 356	356			x
Diversion (ft.) 362	362			x
Heavy Use Area Protection (ac.) 561	561		x	x
Mulching (ac.) 484	484	x	x	x
Sediment Basin (no.) 350	350			x
Waste Storage Facility (no.) 313	313			x
Waste Utilization (ac.) 633	633			x
Well Decommissioning (no.) 351	351			x
Windbreak/Shelterbreak Establishment (ft.) 380	380	x	x	x
Windbreak/Shelterbreak Renovation (ft.) 650	650	x	x	x

DOCUMENTATION SECTION

Back

PRACTICE FACTOR SHEET

Only shaded practices are in this analysis.

Modify the formula for each Base, Prog, RMS to enter feet, no. or acres for each practice factor.

Please enter appropriate factor for each level of treatment (Baseline, Progressive, & RMS)

Next

Code	BASE		PROG		RMS		SHORT NOTE *TU = Typical Unit Size*	Practice Name Help
313		0		0	x	0	NUMBER per TU	Waste Storage Facility (no.) 313
342		1.0%	x	1.5%	x	2.5%	PERCENT of TU	Critical Area Planting (ac.) 342
350		0		0	x	0	NUMBER per TU	Sediment Basin (no.) 350
351		0		0	x	0	NUMBER per TU	Well Decommissioning (no.) 351
356		0		0	x	100	FEET per TU	Dike (ft.) 356
362		0		0	x	65	FEET per TU	Diversion (ft.) 362
380	x	500	x	550	x	600	FEET per TU	Windbreak/Shelterbreak Establishment (ft.) 380
484	x	1.0%	x	1.3%	x	1.5%	PERCENT of TU	Mulching (ac.) 484
561		0.0%	x	1.0%	x	6.0%	PERCENT of TU	Heavy Use Area Protection (ac.) 561
633		0.0%		0.0%	x	100.0%	PERCENT of TU	Waste Utilization (ac.) 633
650	x	100	x	250	x	500	FEET per TU	Windbreak/Shelterbreak Renovation (ft.) 650
317		0		0		0	NUMBER per TU	Composting Facility (no.) 317
590		0.0%		0.0%		15.0%	PERCENT of TU	Nutrient Management (ac.) 590
595		20.0%		40.0%		50.0%	PERCENT of TU	Pest Management (ac.) 595
328		100.0%		100.0%		100.0%	PERCENT of TU	Conservation Crop Rotation (ac.) 328
329		0.0%		15.0%		30.0%	PERCENT of TU	Residue Management, No-Till/Strip Till/Direct Seed (ac.) 329
344		100.0%		40.0%		10.0%	PERCENT of TU	Residue Management, Seasonal (ac.) 344
345		0.0%		5.0%		10.0%	PERCENT of TU	Residue and Tillage Management, Mulch Till (ac.) 345
412				5.0%		5.0%	PERCENT of TU	Grassed Waterway (ac.) 412
585		0.0%		5.0%		10.0%	PERCENT of TU	Stripcropping (ac.) 585
378		1		0		0	NUMBER per TU	Pond (no.) 378
382		1,000		2,500		7,500	FEET per TU	Fence (ft.) 382
512		0.0%		10.0%		0.0%	PERCENT of TU	Pasture & Hayland Planting (ac.) 512
516		0		5,000		10,000	FEET per TU	Pipeline (ft.) 516
528		25.0%		50.0%		100.0%	PERCENT of TU	Prescribed Grazing (ac.) 528
533		0		1		1	NUMBER per TU	Pumping Plant (no.) 533
550		0.0%		0.0%		10.0%	PERCENT of TU	Range Planting (ac.) 550
574		1		1		1	NUMBER per TU	Spring Development (no.) 574
614		1		3		5	NUMBER per TU	Watering Facility (no.) 614
642		0		1		1	NUMBER per TU	Water Well (no.) 642

WATERSHED NAME & CODE	UPPER JAMES - 10160003				LANDUSE ACRES	42,700		
LANDUSE TYPE	HEADQUARTERS - FARMSTEAD				TYPICAL UNIT SIZE ACRES	15		
ASSESSMENT INFORMATION					CALCULATED PARTICIPATION	10%		
	Benchmark Conditions	Future Conditions			RESOURCE CONCERNS			
Conservation Systems by Treatment Level	Total Units	Existing Unchanged Units	New Treatment Units	Total Units	Water Quality – Excessive Nutrients and Organics in Groundwater	Water Quality – Excessive Nutrients and Organics in Surface Water	Water Quality – Excessive Suspended Sediment and Turbidity in Surface Water	Air Quality – Objectionable Odors
Baseline				**System Rating ->**	**2**	**2**	**2**	**1**
Dike (ft.) 356	0	0	0	0	0	0	0	0
Mulching (ac.) 484	256	231	0	231	1	4	2	0
Windbreak/Shelterbreak Establishment (ft.) 380	854,000	768,600	0	768,600	2	1	2	2
Windbreak/Shelterbreak Renovation (ft.) 650	170,800	153,720	0	153,720	2	2	1	2
Total Acreage at Baseline	**25,620**	**23,058**	**0**	**23,058**				
Progressive				**System Rating ->**	**2**	**4**	**2**	**2**
Dike (ft.) 356	0	0	0	0	0	0	0	0
Critical Area Planting (ac.) 342	192	173	19	192	1	3	1	0
Heavy Use Area Protection (ac.) 561	128	115	13	128	1	5	2	1
Mulching (ac.) 484	160	157	3	160	1	4	2	0
Windbreak/Shelterbreak Establishment (ft.) 380	469,700	465,430	4,270	469,700	2	1	2	2
Windbreak/Shelterbreak Renovation (ft.) 650	213,500	200,690	12,810	213,500	2	2	1	2
Total Acreage at Progressive Level	**12,810**	**11,529**	**1,281**	**12,810**				
RMS				**System Rating ->**	**4**	**5**	**3**	**2**
Critical Area Planting (ac.) 342	107	126	45	171	1	3	1	0
Dike (ft.) 356	28,467	28,467	17,080	45,547	0	0	0	0
Diversion (ft.) 362	18,503	18,503	11,102	29,605	0	0	2	0
Heavy Use Area Protection (ac.) 561	256	269	141	410	1	5	2	1
Mulching (ac.) 484	64	93	10	102	1	4	2	0
Sediment Basin (no.) 350	7	7	4	11	4	4	0	0
Waste Storage Facility (no.) 313	43	43	26	68	3	4	0	-2
Waste Utilization (ac.) 633	4,270	4,270	2,562	6,832	2	3	0	4
Well Decommissioning (no.) 351	6	6	3	9	5	0	0	0
Windbreak/Shelterbreak Establishment (ft.) 380	170,800	260,470	12,810	273,280	2	1	2	2
Windbreak/Shelterbreak Renovation (ft.) 650	142,333	172,223	55,510	227,733	2	2	1	2
Total Acreage at RMS Level	**4,270**	**4,270**	**2,562**	**6,832**				

WATERSHED NAME & CODE	UPPER JAMES - 10160003	LANDUSE ACRES	42,700
LANDUSE TYPE	HEADQUARTERS - FARMSTEAD	TYPICAL UNIT SIZE ACRES	15
CONSERVATION COST TABLE		CALCULATED PARTICIPATION	10%

	FUTURE	FEDERAL				PRIVATE		
Conservation Systems by Treatment Level	New Treatment Units	Installation Cost 50%	Management Cost - 3 yrs 100%	Technical Assistance 20%	Total Present Value Cost	Installation Cost 50%	Annual O & M + Mgt Costs 100%	Total Present Value Cost
Progressive								
Dike (ft.) 356	0	$0	$0	$0	$0	$0	$0	$0
Critical Area Planting (ac.) 342	19	$961	$0	$192	$1,153	$961	$96	$1,365
Heavy Use Area Protection (ac.) 561	13	$448	$0	$90	$538	$448	$45	$637
Mulching (ac.) 484	3	$1,761	$0	$352	$2,114	$1,761	$0	$1,761
Windbreak/Shelterbreak Establishment (ft.) 380	4,270	$2,669	$0	$534	$3,202	$2,669	$53	$2,894
Windbreak/Shelterbreak Renovation (ft.) 650	12,810	$17,294	$0	$3,459	$20,752	$17,294	$0	$17,294
Subtotal	**1,281**	**$23,133**	**$0**	**$4,627**	**$27,759**	**$23,133**	**$194**	**$23,951**
RMS								
Critical Area Planting (ac.) 342	45	$2,242	$0	$448	$2,690	$2,242	$224	$3,186
Dike (ft.) 356	17,080	$21,350	$0	$4,270	$25,620	$21,350	$2,135	$30,343
Diversion (ft.) 362	11,102	$38,857	$0	$7,771	$46,628	$38,857	$1,554	$45,404
Heavy Use Area Protection (ac.) 561	141	$4,932	$0	$986	$5,918	$4,932	$493	$7,009
Mulching (ac.) 484	10	$5,284	$0	$1,057	$6,341	$5,284	$0	$5,284
Sediment Basin (no.) 350	4	$5,338	$0	$1,068	$6,405	$5,338	$320	$6,687
Waste Storage Facility (no.) 313	26	$1,537,200	$0	$307,440	$1,844,640	$1,537,200	$61,488	$1,796,210
Waste Utilization (ac.) 633	2,562	$0	$0	$2,562	$2,562	$0	$12,810	$19,719
Well Decommissioning (no.) 351	3	$854	$0	$171	$1,025	$854	$0	$854
Windbreak/Shelterbreak Establishment (ft.) 380	12,810	$8,006	$0	$1,601	$9,608	$8,006	$160	$8,681
Windbreak/Shelterbreak Renovation (ft.) 650	55,510	$74,939	$0	$14,988	$89,926	$74,939	$0	$74,939
Subtotal	**2,562**	**$1,699,001**	**$0**	**$342,362**	**$2,041,363**	**$1,699,001**	**$79,185**	**$1,998,316**
Grand Total	**3,843**	**$1,722,134**	**$0**	**$346,989**	**$2,069,122**	**$1,722,134**	**$79,379**	**$2,022,267**

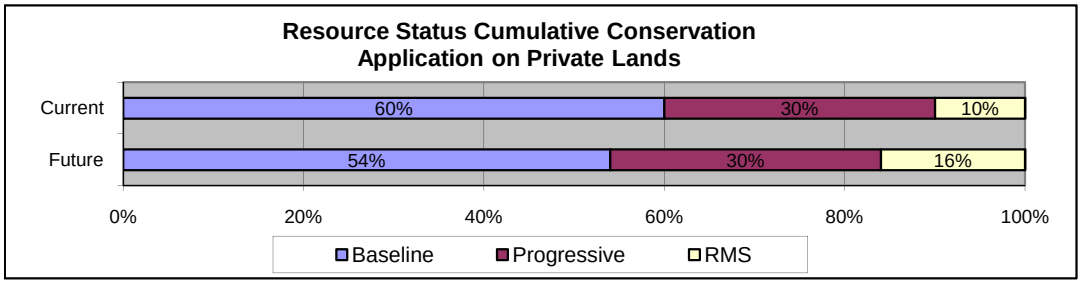


Chart Refers To	
Landuse Type	HEADQUARTERS - FARMSTEAD
Calculated Participation Rate	10%

Average PV Costs per Ac		
System	Federal	Private
Prog	$21.67	$18.70
RMS	$796.79	$779.98

WATERSHED NAME & CODE	UPPER JAMES - 10160003					LANDUSE ACRES			42,700
LANDUSE TYPE	HEADQUARTERS - FARMSTEAD					CAL UNIT SIZE ACRES			15
POSSIBLE SOURCES OF FUNDING	UPPER JAMES - 10160003					ATED PARTICIPATION			10%
	FUTURE	FARM BILL				OTHERS			
Conservation Systems by Treatment Level	New Treatment Units	CTA	EQIP	WRP	WHIP	Fed	State	Local	NOTES/COMMENTS
Progressive									
Dike (ft.) 356	0	X	X		X				
Critical Area Planting (ac.) 342	19	X	X		X				
Heavy Use Area Protection (ac.) 561	13	X	X						
Mulching (ac.) 484	3	X	X		X				
Windbreak/Shelterbreak Establishment (ft.) 380	4,270	X	X		X				
Windbreak/Shelterbreak Renovation (ft.) 650	12,810	X	X		X				
New Treatment Acreage	**1,281**								
RMS									
Critical Area Planting (ac.) 342	45	X	X		X				
Dike (ft.) 356	17,080	X	X		X				
Diversion (ft.) 362	11,102	X	X						
Heavy Use Area Protection (ac.) 561	141	X	X						
Mulching (ac.) 484	10	X	X		X				
Sediment Basin (no.) 350	4	X	X						
Waste Storage Facility (no.) 313	26	X	X						
Waste Utilization (ac.) 633	2,562	X							
Well Decommissioning (no.) 351	3	X	X	X	X				
Windbreak/Shelterbreak Establishment (ft.) 380	12,810	X	X		X				
Windbreak/Shelterbreak Renovation (ft.) 650	55,510	X	X		X				
New Treatment Acreage	**2,562**								

DOCUMENTATION SECTION

Rapid Assessment Tool Data

Resource Concerns:

Conservation Practice	Code	Units	Installation Cost	Life	O&M Factor	Total Annual Cost	Water Quality – Excessive Nutrients and Organics in Groundwater	Water Quality – Excessive Nutrients and Organics in Surface Water	Water Quality – Excessive Suspended Sediment and Turbidity in Surface Water	Air Quality – Objectionable Odors
Critical Area Planting (ac.) 342	342	Ac	$100.00	10	0.05	$18.19	1	3	1	0
Dike (ft.) 356	356	Ft	$2.50	20	0.05	$0.33	0	0	0	0
Diversion (ft.) 362	362	Ft	$7.00	10	0.02	$1.06	0	0	2	0
Heavy Use Area Protection (ac.) 561	561	Ac	$70.00	10	0.05	$12.73	1	5	2	1
Mulching (ac.) 484	484	Ac	$1,100.00	5	0.00	$256.71	1	4	2	0
Sediment Basin (no.) 350	350	No	$2,500.00	20	0.03	$282.03	4	4	0	0
Waste Storage Facility (no.) 313	313	No	$120,000.00	15	0.02	$14,255.96	3	4	0	-2
Waste Utilization (ac.) 633	633	Ac	$5.00	1	0.00	$5.00	2	3	0	4
Well Decommissioning (no.) 351	351	No	$500.00	20	0.00	$41.41	5	0	0	0
Windbreak/Shelterbreak Establishment (ft.) 380	380	Ft	$1.25	15	0.01	$0.14	2	1	2	2
Windbreak/Shelterbreak Renovation (ft.) 650	650	Ft	$2.70	15	0.00	$0.27	2	2	1	2

Enter Watershed Variables Below

Watershed Name	Upper James	Watershed Code	10160003		Help
Landuse Type	CRP - Wildlife Land	Landuse Acres	196,600	Interest Rate	6%
Typical Unit Size (ac)	20	Percent TA of FA	20%	Cost-Share Rate	50%

Estimated Time Frame = 5 years

Participation Rate (Based on Watershed Profile): 9% — COMPARE — 10% Calculated Participation Rate (Based on Projected Future Conditions)

Next

Current Conditions			Projected Change			Projected Future Condition				
System	Percent	Acres	System	Percent	Acres	System	Percent	Acres		
								Total	Static	Treated
Baseline	80%	157,280	Baseline	90%	141,552	Baseline	72%	141,552	141,552	0
			Progressive	5%	7,864					
			RMS	5%	7,864					
			Must Total 100%	100%						

Current Conditions			Projected Change			Projected Future Condition				
System	Percent	Acres	System	Percent	Acres	System	Percent	Acres		
								Total	Static	Treated
Progressive	15%	29,490	Progressive	90%	26,541	Progressive	18%	34,405	26,541	7,864
			RMS	10%	2,949					
			Must Total 100%	100%						

Current Conditions			Projected Change			Projected Future Condition				
System	Percent	Acres	System	Percent	Acres	System	Percent	Acres		
								Total	Static	Treated
RMS	5%	9,830	RMS	100%	9,830	RMS	11%	20,643	9,830	10,813
Grand Totals	100%	196,600					100%	196,600	177,923	18,677

DOCUMENTATION SECTION

Use an "x" to place conservation practices in each treatment level. Click the "Next" Button to move forward. Help		Conservation Treatment Levels		
Practices from CPPE Tool Output	**Code**	**Base**	**Prog**	**RMS**
Conservation Cover (ac.) 327	327	x	x	x
Early Successional Habitat Development/Management (ac.) 647	647			x
Filter Strip (ac.) 393	393			x
Mulching (ac.) 484	484	x	x	x
Pest Management (ac.) 595	595		x	x
Restoration and Management of Declining Habitats (ac.) 643	643			x
Riparian Forest Buffer (ac.) 391	391			x
Riparian Herbaceous Cover (ac.) 390	390			x
Upland Wildlife Habitat Management (ac.) 645	645	x	x	x
Access Control (ac.) 472	472	x	x	x
Wetland Enhancement (ac.) 659	659			x
Wetland Restoration (ac.) 657	657			x
Wetland Wildlife Habitat Management (ac.) 644	644		x	x
Windbreak/Shelterbreak Establishment (ft.) 380	380	x	x	x

DOCUMENTATION SECTION

Back

PRACTICE FACTOR SHEET

Only shaded practices are in this analysis.

Modify the formula for each Base, Prog, RMS to enter feet, no. or acres for each practice factor.

Please enter appropriate factor for each level of treatment (Baseline, Progressive, & RMS)

Next

Code	BASE		PROG		RMS		SHORT NOTE *TU = Typical Unit Size*	Practice Name Help
327	x	50.0%	x	75.0%	x	90.0%	PERCENT of TU	Conservation Cover (ac.) 327
380	x	200	x	225	x	250	FEET per TU	Windbreak/Shelterbreak Establishment (ft.) 380
390		0.0%		0.0%	x	3.3%	PERCENT of TU	Riparian Herbaceous Cover (ac.) 390
391		0.0%		0.0%	x	0.6%	PERCENT of TU	Riparian Forest Buffer (ac.) 391
393		0.0%		0.0%	x	10.0%	PERCENT of TU	Filter Strip (ac.) 393
472	x	30.0%	x	50.0%	x	75.0%	PERCENT of TU	Access Control (ac.) 472
484	x	1.0%	x	1.3%	x	1.5%	PERCENT of TU	Mulching (ac.) 484
595		0.0%	x	10.0%	x	40.0%	PERCENT of TU	Pest Management (ac.) 595
643		0.0%		0.0%	x	0.6%	PERCENT of TU	Restoration and Management of Declining Habitats (ac.) 643
644		0.0%	x	5.0%	x	20.0%	PERCENT of TU	Wetland Wildlife Habitat Management (ac.) 644
645	x	5.0%	x	10.0%	x	50.0%	PERCENT of TU	Upland Wildlife Habitat Management (ac.) 645
647		0.0%		0.0%	x	50.0%	PERCENT of TU	Early Successional Habitat Development/Management (ac.) 647
657		0.0%		0.0%	x	42.0%	PERCENT of TU	Wetland Restoration (ac.) 657
659		0.0%		0.0%	x	2.5%	PERCENT of TU	Wetland Enhancement (ac.) 659
658		0.0%		0.0%		0.0%	PERCENT of TU	Wetland Creation (ac.) 658
422		0		0		3	FEET per TU	Hedgerow Planting (ft.) 422
614		0		0		0	NUMBER per TU	Watering Facility (no.) 614
511		0.0%		30.0%		100.0%	PERCENT of TU	Forage Harvest Management (ac.) 511
512		100.0%		100.0%		100.0%	PERCENT of TU	Pasture & Hayland Planting (ac.) 512
590		0.0%		0.0%		1.0%	PERCENT of TU	Nutrient Management (ac.) 590
430		0		15		40	FEET per TU	Irrigation Water Conveyance, Pipeline (ft.) 430
442		0.0%		0.0%		0.1%	PERCENT of TU	Irrigation System, Sprinkler (ac.) 442
449		0.0%		0.0%		10.0%	PERCENT of TU	Irrigation Water Management (ac.) 449
388		300		300		300	FEET per TU	Irrigation Field Ditch (ft.) 388
443		0.0%		0.0%		5.0%	PERCENT of TU	Irrigation System, Surface and Subsurface (ac.) 443
606		0		0		0	FEET per TU	Subsurface Drain (ft.) 606
378		1		0		0	NUMBER per TU	Pond (no.) 378
382		1,000		2,500		7,500	FEET per TU	Fence (ft.) 382
516		0		5,000		10,000	FEET per TU	Pipeline (ft.) 516
528		25.0%		50.0%		100.0%	PERCENT of TU	Prescribed Grazing (ac.) 528

WATERSHED NAME & CODE	UPPER JAMES - 10160003				LANDUSE ACRES	196,600		
LANDUSE TYPE	CRP - WILDLIFE LAND				TYPICAL UNIT SIZE ACRES	20		
ASSESSMENT INFORMATION					CALCULATED PARTICIPATION	10%		
	Benchmark Conditions	Future Conditions			RESOURCE CONCERNS			
Conservation Systems by Treatment Level	Total Units	Existing Unchanged Units	New Treatment Units	Total Units	Plant Condition – Noxious and Invasive Plants	Fish and Wildlife – Inadequate Cover/Shelter	Fish and Wildlife – Habitat Fragmentation	Fish and Wildlife – T & E Fish/Wildlife Species: Listed or Proposed under ESA
Baseline				**System Rating ->**	**4**	**5**	**4**	**3**
Access Control (ac.) 472	47,184	42,466	0	42,466	4	3	3	0
Conservation Cover (ac.) 327	78,640	70,776	0	70,776	5	5	5	0
Mulching (ac.) 484	1,573	1,416	0	1,416	3	0	0	0
Upland Wildlife Habitat Management (ac.) 645	7,864	7,078	0	7,078	0	5	5	5
Windbreak/Shelterbreak Establishment (ft.) 380	1,572,800	1,415,520	0	1,415,520	0	3	0	0
Total Acreage at Baseline	**157,280**	**141,552**	**0**	**1**				
Progressive				**System Rating ->**	**5**	**5**	**5**	**4**
Access Control (ac.) 472	14,745	15,630	1,573	17,203	4	3	3	0
Conservation Cover (ac.) 327	22,118	23,838	1,966	25,804	5	5	5	0
Mulching (ac.) 484	383	424	24	447	3	0	0	0
Pest Management (ac.) 595	2,949	2,654	786	3,441	5	0	0	0
Upland Wildlife Habitat Management (ac.) 645	2,949	3,047	393	3,441	0	5	5	5
Wetland Wildlife Habitat Management (ac.) 644	1,475	1,327	393	1,720	1	5	5	5
Windbreak/Shelterbreak Establishment (ft.) 380	331,763	377,226	9,830	387,056	0	3	0	0
Total Acreage at Progressive Level	**29,490**	**26,541**	**7,864**	**34,405**				
RMS				**System Rating ->**	**4**	**5**	**5**	**5**
Access Control (ac.) 472	7,373	11,206	4,276	15,482	4	3	3	0
Conservation Cover (ac.) 327	8,847	14,991	3,588	18,579	5	5	5	0
Early Successional Habitat Development/Management (ac.) 647	4,915	4,915	5,407	10,322	-2	2	0	0
Filter Strip (ac.) 393	983	983	1,081	2,064	0	2	1	2
Mulching (ac.) 484	147	264	45	310	3	0	0	0
Pest Management (ac.) 595	3,932	4,227	4,030	8,257	5	0	0	0
Restoration and Management of Declining Habitats (ac.) 643	59	59	65	124	4	2	3	4
Riparian Forest Buffer (ac.) 391	59	59	65	124	4	3	3	2
Riparian Herbaceous Cover (ac.) 390	319	319	351	671	0	0	3	2
Upland Wildlife Habitat Management (ac.) 645	4,915	5,603	4,718	10,322	0	5	5	5
Wetland Enhancement (ac.) 659	246	246	270	516	-1	3	4	4
Wetland Restoration (ac.) 657	4,129	4,129	4,541	8,670	-1	4	4	4
Wetland Wildlife Habitat Management (ac.) 644	1,966	2,113	2,015	4,129	1	5	5	5
Windbreak/Shelterbreak Establishment (ft.) 380	122,875	234,691	23,346	258,038	0	3	0	0
Total Acreage at RMS Level	**9,830**	**9,830**	**10,813**	**20,643**				

WATERSHED NAME & CODE	UPPER JAMES - 10160003	LANDUSE ACRES	196,600
LANDUSE TYPE	CRP - WILDLIFE LAND	TYPICAL UNIT SIZE ACRES	20
CONSERVATION COST TABLE		CALCULATED PARTICIPATION	10%

	FUTURE	FEDERAL				PRIVATE		
Conservation Systems by Treatment Level	New Treatment Units	Installation Cost 50%	Management Cost - 3 yrs 100%	Technical Assistance 20%	Total Present Value Cost	Installation Cost 50%	Annual O & M + Mgt Costs 100%	Total Present Value Cost
Progressive								
Access Control (ac.) 472	1,573	$9,437	$0	$1,887	$11,324	$9,437	$566	$11,822
Conservation Cover (ac.) 327	1,966	$73,725	$0	$14,745	$88,470	$73,725	$4,424	$92,358
Mulching (ac.) 484	24	$12,976	$0	$2,595	$15,571	$12,976	$0	$12,976
Pest Management (ac.) 595	786	$0	$0	$786	$786	$0	$3,932	$6,053
Upland Wildlife Habitat Management (ac.) 645	393	$0	$0	$393	$393	$0	$1,966	$3,026
Wetland Wildlife Habitat Management (ac.) 644	393	$0	$0	$393	$393	$0	$1,966	$3,026
Windbreak/Shelterbreak Establishment (ft.) 380	9,830	$6,144	$0	$1,229	$7,373	$6,144	$123	$6,661
Subtotal	**7,864**	**$102,281**	**$0**	**$22,029**	**$124,310**	**$102,281**	**$12,977**	**$135,923**
RMS								
Access Control (ac.) 472	4,276	$25,656	$0	$5,131	$30,788	$25,656	$1,539	$32,141
Conservation Cover (ac.) 327	3,588	$134,548	$0	$26,910	$161,458	$134,548	$8,073	$168,554
Early Successional Habitat Development/Management (ac.) 647	5,407	$40,549	$0	$8,110	$48,659	$40,549	$0	$40,549
Filter Strip (ac.) 393	1,081	$54,065	$0	$10,813	$64,878	$54,065	$2,163	$63,175
Mulching (ac.) 484	45	$24,870	$0	$4,974	$29,844	$24,870	$0	$24,870
Pest Management (ac.) 595	4,030	$0	$0	$4,030	$4,030	$0	$20,152	$31,020
Restoration and Management of Declining Habitats (ac.) 643	65	$2,109	$0	$422	$2,530	$2,109	$211	$2,997
Riparian Forest Buffer (ac.) 391	65	$28	$0	$6	$33	$28	$2	$35
Riparian Herbaceous Cover (ac.) 390	351	$18	$0	$4	$21	$18	$0	$19
Upland Wildlife Habitat Management (ac.) 645	4,718	$0	$0	$4,718	$4,718	$0	$23,592	$36,316
Wetland Enhancement (ac.) 659	270	$67,581	$0	$13,516	$81,098	$67,581	$1,352	$73,275
Wetland Restoration (ac.) 657	4,541	$227,073	$0	$45,415	$272,488	$227,073	$4,541	$246,203
Wetland Wildlife Habitat Management (ac.) 644	2,015	$0	$0	$2,015	$2,015	$0	$10,076	$15,510
Windbreak/Shelterbreak Establishment (ft.) 380	23,346	$14,591	$0	$2,918	$17,510	$14,591	$292	$15,821
Subtotal	**10,813**	**$591,087**	**$0**	**$128,981**	**$720,069**	**$591,087**	**$71,992**	**$750,484**
Grand Total	**18,677**	**$693,369**	**$0**	**$151,010**	**$844,379**	**$693,369**	**$84,968**	**$886,407**

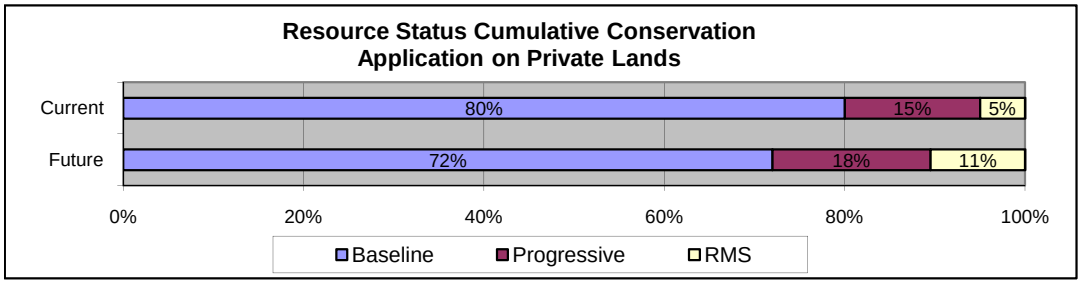


Chart Refers To	
Landuse Type	CRP - WILDLIFE LAND
Calculated Participation Rate	10%

Average PV Costs per Ac		
System	Federal	Private
Prog	$15.81	$17.28
RMS	$66.59	$69.41

WATERSHED NAME & CODE	UPPER JAMES - 10160003					LANDUSE ACRES			196,600
LANDUSE TYPE	CRP - WILDLIFE LAND					TYPICAL UNIT SIZE ACRES			20
POSSIBLE SOURCES OF FUNDING						CALCULATED PARTICIPATION			10%
	FUTURE	FARM BILL				OTHERS			
Conservation Systems by Treatment Level	New Treatment Units	CTA	EQIP	WRP	WHIP	Fed	State	Local	NOTES/COMMENTS
Progressive									
Access Control (ac.) 472	1,573	X							
Conservation Cover (ac.) 327	1,966	X							
Mulching (ac.) 484	24	X	X		X				
Pest Management (ac.) 595	786	X	X	X	X				
Upland Wildlife Habitat Management (ac.) 645	393	X	X		X				
Wetland Wildlife Habitat Management (ac.) 644	393	X	X		X				
Windbreak/Shelterbreak Establishment (ft.) 380	9,830	X	X		X				
New Treatment Acreage	**7,864**								
RMS									
Access Control (ac.) 472	4,276	X							
Conservation Cover (ac.) 327	3,588	X							
Early Successional Habitat Development/Management (ac.) 647	5,407	X	X	X	X				
Filter Strip (ac.) 393	1,081	X	X		X				
Mulching (ac.) 484	45	X	X		X				
Pest Management (ac.) 595	4,030	X	X	X	X				
Restoration and Management of Declining Habitats (ac.) 643	65	X	X		X				
Riparian Forest Buffer (ac.) 391	65	X	X		X				
Riparian Herbaceous Cover (ac.) 390	351	X	X		X				
Upland Wildlife Habitat Management (ac.) 645	4,718	X	X		X				
Wetland Enhancement (ac.) 659	270	X	X		X				
Wetland Restoration (ac.) 657	4,541	X	X		X				
Wetland Wildlife Habitat Management (ac.) 644	2,015	X	X		X				
Windbreak/Shelterbreak Establishment (ft.) 380	23,346	X	X		X				
New Treatment Acreage	**10,813**								

DOCUMENTATION SECTION

Rapid Assessment Tool Data

Resource Concerns:

Conservation Practice	Code	Units	Installation Cost	Life	O&M Factor	Total Annual Cost	Plant Condition – Noxious and Invasive Plants	Fish and Wildlife – Inadequate Cover/Shelter	Fish and Wildlife – Habitat Fragmentation	Fish and Wildlife – T & E Fish/Wildlife Species: Listed or Proposed under ESA
Conservation Cover (ac.) 327	327	Ac	$75.00	10	0.03	$12.14	5	5	5	0
Early Successional Habitat Development/Management (ac.) 647	647	Ac	$15.00	15	0.00	$1.48	-2	2	0	0
Filter Strip (ac.) 393	393	Ac	$100.00	10	0.02	$15.19	0	2	1	2
Mulching (ac.) 484	484	Ac	$1,100.00	5	0.00	$256.71	3	0	0	0
Pest Management (ac.) 595	595	Ac	$5.00	1	0.00	$5.00	5	0	0	0
Restoration and Management of Declining Habitats (ac.) 643	643	Ac	$65.00	15	0.05	$9.67	4	2	3	4
Riparian Forest Buffer (ac.) 391	391	Ac	$0.85	15	0.03	$77.28	4	3	3	2
Riparian Herbaceous Cover (ac.) 390	390	Ac	$0.10	10	0.01	$17.73	0	0	3	2
Upland Wildlife Habitat Management (ac.) 645	645	Ac	$5.00	1	0.00	$5.00	0	5	5	5
Access Control (ac.) 472	472	Ac	$12.00	10	0.03	$1.94	4	3	3	0
Wetland Enhancement (ac.) 659	659	Ac	$500.00	15	0.01	$54.40	-1	3	4	4
Wetland Restoration (ac.) 657	657	Ac	$100.00	15	0.01	$10.88	-1	4	4	4
Wetland Wildlife Habitat Management (ac.) 644	644	Ac	$5.00	1	0.00	$5.00	1	5	5	5
Windbreak/Shelterbreak Establishment (ft.) 380	380	Ft	$1.25	15	0.01	$0.14	0	3	0	0