



DEBIT WORKSHEET

Contact: Erica Wightman 435/979-1984
 www.panoramalandrcd.org

Property Owner: _____
 Property Address: _____
 City: _____ County: _____
 Owner Contact Info: _____

IMPACTED HABITAT VALUE

DEBIT

Factor	Criteria	Value	Priority	NOTES
HABITAT QUALITY				
Species Richness	species richness = 10, 3 grass, 3 forb	0	L	
	species richness >10, 3 grass, 3 forb	1	M	
	species richness >20, 6 grass, 6 forb	2	H	
Average shrub canopy cover	average shrub canopy cover >20%	0	L	
	average shrub canopy cover 11-20%	1	M	
	average shrub canopy cover 0-10%	2	H	
% Ground Cover	% Ground cover 0-20	0	L	
	% Ground cover 20-60	1	M	
	% Ground cover 60-100	2	H	
Moisture rich vegetation	None	0	L	
	300-1000m	1	M	
	<300m	2	H	
LANDSCAPE CONTEXT				
Landscape Location	>2 km dispersal distances to other colony	0	L	
	1 -2 km dispersal distances to other colony	1.5	M	
	≤ 1 km dispersal distance to other colony	4	H	
	4 sides barred to dispersal (w/in 2 km)	0	L	
	3 sides barred to dispersal (w/in 2 km)	1.5	M	
	0-2 sides barred to dispersal (w/in 2 km)	4	H	
POPULATION				
Persistence	unknown or occupied <6 of 10 years	0	L	
	occupied 6-10 years	1	M	
	occupied consistently for 10 years (or more)	2	H	
Number of Prairie Dogs - Population size	1 - 10 UPD	0	L	
	11 - 40 UPD	1	M	
	> 40 UPD	2	H	
NOTES	Total Value			
SURVEY DATE:	Maximum Value = 20			
	Total Value / 20			
Weather Conditions:	RESULTING VALUE: LOW/MED/HIGH			
	Low Value = <0.5			
	Medium Value = 0.5 - 0.74			
Other:	High Value = >0.75			

See Flow Chart for CREDIT Qty Required for Clearance.



CREDIT WORKSHEET

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Date: _____
 Property Owner: _____
 Property Address: _____
 City: _____ County: _____
 Owner Contact Info: _____

CONSERVED HABITAT VALUE

CREDIT

Factor	Criteria	Value	Priority	NOTES
HABITAT QUALITY				
Species Richness	species richness = 10, 3 grass, 3 forb	0	L	
	species richness >10, 3 grass, 3 forb	1	M	
	species richness >20, 6 grass, 6 forb	2	H	
Average Shrub Canopy Cover	average shrub canopy cover >20%	0	L	
	average shrub canopy cover 11-20%	1	M	
	average shrub canopy cover 0-10%	2	H	
% Ground cover	% Ground cover 0-20	0	L	
	% Ground cover 20-60	1	M	
	% Ground cover 60-100	2	H	
Moisture rich vegetation	None	0	L	
	300-1000m	1	M	
	<300m	2	H	
LANDSCAPE CONTEXT				
Landscape Location	>2 km dispersal distances to other colony	0	L	
	1 -2 km dispersal distances to other colony	1.5	M	
	≤ 1 km dispersal distance to other colony	4	H	
Barriers to dispersal	4 sides barred to dispersal (w/in 2 km)	0	L	
	3 sides barred to dispersal (w/in 2 km)	1.5	M	
	0-2 sides barred to dispersal (w/in 2 km)	4	H	
POPULATION				
Persistence	unknown or < 6 of 10 years	0	L	
	occupied 6-10 years	1	M	
	occupied consistently for 10 years (or more)	2	H	
Number of Prairie Dogs - Population size	21-30	0	L	
	31-60	1	M	
	>60	2	H	
SURVEY DATE:	Total Value			
	Maximum Value = 20			
Weather Conditions:	Total Value / 20			

Other:

Low Value = <0.5 (not eligible to enroll) Medium Value = 0.5 - 0.74 High Value = >0.75

RESULTING VALUE: LOW/MED/HIGH
 Minimum requirement of 40 acres and
 20 counted UPD to enroll.

Utah Prairie Dog Habitat Credits Exchange Program – RC&D

Appendix 1: Explanation of Impacted/Conserved Habitat Value Worksheet Factors

This worksheet describes the factors used to evaluate impacted (debit) or conserved (credit) habitat on the Habitat Value Worksheets. These factors are: plant species richness, average shrub canopy cover, percent ground cover, access to moisture rich vegetation, and barriers to dispersal. All factors must be assessed on the land to determine project related impacts or be enrolled into the program. If some factors are variable throughout the property, they must be averaged across the whole property.

Plant Species Richness: Most lands will contain a minimum of 10 plant species so additional credits will be given for more lands with higher plant species richness according to the formula on the Worksheet.

The importance of Plant Species Richness was determined by reviewing the results of several research studies concerning the needs for Utah Prairie Dog survival for several years. While Utah prairie dogs inhabit areas with lower species richness, such as alfalfa or crested wheatgrass fields, research has determined that higher species richness promotes the longevity of the colonies.

Average Shrub Canopy Cover: Research has determined that visual obstacles can hinder the establishment of Utah prairie dog colonies. The presence of shrubs on prairie dog colonies, as measured by average shrub canopy cover, can reduce the ability of the species to persist in an area at a desirable population size. Credits will be allocated for enrolled properties that contain relatively low shrub cover.

Percent Ground Cover: The amount of food available to Utah prairie dogs may be measured by the percent ground cover, usually forbs and grasses. Therefore, as the percentage of ground cover increases, enrolled properties will receive additional credits accordingly.

Access to Moisture Rich Vegetation: Both research and local experience has determined that Utah prairie dog colonies are more hardy in areas that have, or are near to moisture rich vegetation. This vegetation can be native, such as plants associated with wetlands, sinks, and springs or non-native, such as plants associated with irrigated agriculture. Enrolled properties that contain or are near to these vegetation types will receive credits.

Barriers to Dispersal: Barriers to dispersal reduce or eliminate the probability of dispersal success. Barriers near Utah prairie dog colonies can reduce the options for dispersal direction. Barriers can be natural, such as large rivers, gullies or cliffs. Barriers may also be man-made, such as highways, residential neighborhoods, shopping centers, or other areas lacking potential burrow sites or hiding places. Enrolled properties that are otherwise acceptable may be situated in areas that have barriers to dispersal within the 2 kilometer dispersal distance. Enrolled properties that have barriers restricting prairie dog dispersal on more than 2 sides will have lower relative value than properties with no barriers.



UTAH PRAIRIE DOG CREDIT AND DEBIT VALUATION FLOW CHART

CREDIT VALUATION FOR PERMANENT CONSERVATION BANKS (flow chart A & B)¹

STEP 1

Determine Value Multiplier for Conservation Bank Colony:

High Value Colony = 4x
Medium Value Colony = 3x

STEP 2

Calculation: #Acres Enrolled * Value Multiplier (from Step 1) = Total # Credits of Conservation Bank Colony

CREDIT VALUATION FOR TEMPORARY CONSERVATION BANKS (flow chart C)¹

STEP 1

SCENARIO 1: Conservation Bank Easement 10-15 year commitment

Determine Value Multiplier for Conservation Bank Colony:

High Value Colony = 2x
Medium Value Colony = 1x

SCENARIO 2: Conservation Bank Easement 16+ year commitment

Determine Value Multiplier for Conservation Bank Colony:

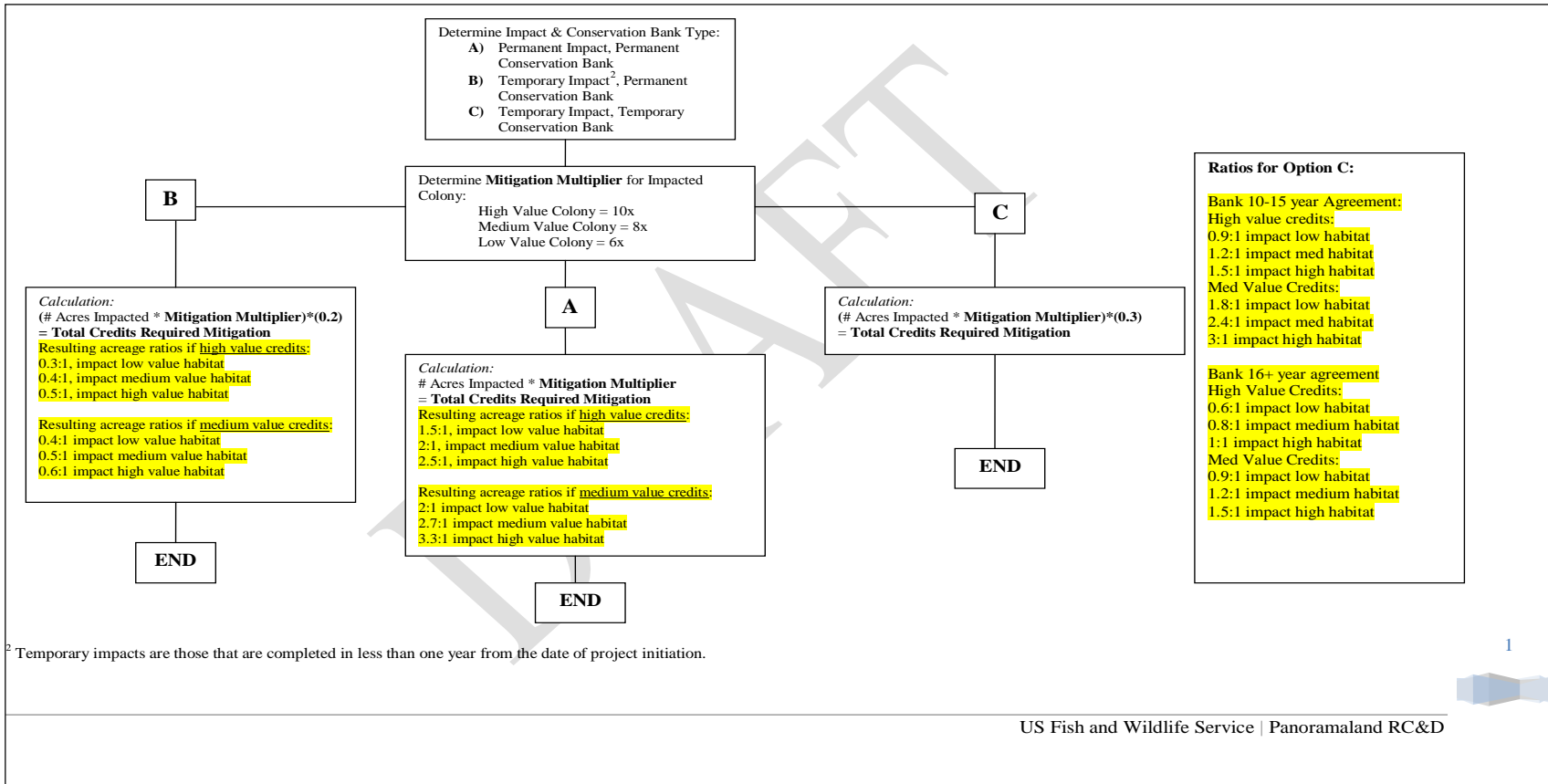
High Value Colony = 3x
Medium Value Colony = 2x

STEP 2

Calculation: #Acres Enrolled * Value Multiplier (from Step 1) = Total # Credits of Conservation Bank Colony

¹ Low Value colonies can not be used to develop conservation banks.

This worksheet was prepared by USFWS Utah ES Field Office for use by this program; it describes the steps used to determine the "value multiplier" for conservation banks / conserved (credit) habitat; part 2 provides steps to determine the mitigation multiplier for impacted (debit) habitat. These multipliers are then used to determine the credits accrued at the conservation bank and debits required for mitigation offset. All factors must be assessed on the land to determine project related impacts or be enrolled into the program.



This worksheet was prepared by USFWS Utah ES Field Office for use by this program; it describes the steps used to determine the "value multiplier" for conservation banks / conserved (credit) habitat; part 2 provides steps to determine the mitigation multiplier for impacted (debit) habitat. These multipliers are then used to determine the credits accrued at the conservation bank and debits required for mitigation offset. All factors must be assessed on the land to determine project related impacts or be enrolled into the program.





Utah Prairie Dog Habitat Credits Exchange PROGRAM 2012

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Current as of 2.28.2012

All Banks Enrolled for Mitigation as of 2012 are PERMANENT Banks, mitigation will follow (B) from Appendix2 Flow Chart.

TEMPORARY IMPACTS: Temporary CREDIT RATIOS

(B) Mitigation Multiplier for Impacted Colony: Temp Impact/Permanent Bank Credits

Impacted Habitat Quality: Low, Medium or High Value.

	CREDIT Wksht		
	Low 6x(.2)	Med 8x(.2)	High 10x(.2)
ACRES	1.2	1.6	2
0.25	0.3	0.4	0.5
0.5	0.6	0.8	1
0.75	0.9	1.2	1.5
1	1.2	1.6	2
34	40.8	54.4	68

Input Any Acreage in Field A11, CREDIT Values Adjust

per credit \$ 800.00 (input cost per credit here)			
	Habitat Quality		
	Low 6x	Med 8x	High 10x
cost of purchase based on		\$ 800.00	
\$ 240	\$ 320	\$ 400	
\$ 480	\$ 640	\$ 800	
\$ 720	\$ 960	\$ 1,200	
\$ 960	\$ 1,280	\$ 1,600	
\$ 32,640	\$ 43,520	\$ 54,400	

Cost of CREDIT Acreage to Acres in Row A8-11, CREDIT Values Adjust

EX. \$55,000 for Mitigation (Anywhere from 34 Acres of HIGH to 57 of LOW quality habitat impacts) $\$55,000 / \$800 = 68.75$ 68.75 Credits for \$55k $\$55k / \800	CR	temp
	68.75	57.29 low acres
		42.97 med acres
		34.38 high acres
	\$ 55,000	

CREDIT Costs are subject to variability in the market and may fluctuate subject to acquisition and program administration costs.

Utah Prairie Dog Habitat Credits Exchange PROGRAM 2012

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PERMANENT IMPACTS: PERMANENT CREDIT RATIOS

All Banks Enrolled for Mitigation as of 2012 are PERMANENT Banks, mitigation will follow (A) from Appendix2 Flow Chart.

Impact Mitigation Ratios

(A) Mitigation Multiplier for Impacted Colony: Perm Impact/Permanent Bank Credits

Impacted Habitat Quality: Low, Medium or High Value.

ACRES	CREDIT Wksht			cost of purchase based on \$ 800.00 (input here)		
	Low 6x	Med 8x	High 10x	Habitat Quality		
				Low 6x	Med 8x	High 10x
0.25	1.5	2	2.5	\$ 1,200	\$ 1,600	\$ 2,000
0.5	3	4	5	\$ 2,400	\$ 3,200	\$ 4,000
0.75	4.5	6	7.5	\$ 3,600	\$ 4,800	\$ 6,000
1	6	8	10	\$ 4,800	\$ 6,400	\$ 8,000
6.88	41.28	55.04	68.8	\$ 33,024	\$ 44,032	\$ 55,040

example scenario from below

EX. \$55,000 for Mitigation (Anywhere from 6.88 Acres of HIGH to 11.46 of LOW quality habitat impacts)	CR	temp
\$55,000/\$800 = 68.75	68.75	11.46 low acres
68.75 Credits for \$55k		8.59 med acres
\$55k/\$800		6.88 high acres
How Many ACRES will 68.75 Credits Clear	\$ 55,000	

CREDIT Costs are subject to variability in the market and may fluctuate subject to acquisition and program administration costs.