TRANSECT NUMBER - 11

VEG SPECIES CODE	HIT NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
AGROP			1																																																
ACGR						1	1	1	1	1																							1	1	1	1	1	1											
ORHY															1																										1										
QUGA																1	1																																		
BERE																			1					1																					1	1	1					
CHVIV																											1																								
AF																																									1										1
BG	1	1																																																	
LR					1	1						1	1	1	1				1	1	1		1	1	1	1					1	1	1	1	1					1	1			1			1	1	1		

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
ACGR	0	0	0	0	0	0	45	45
QUGA	0	0	0	0	19	0	0	19
CHVIV	0	0	2	0	0	0	0	2

TRANSECT NUMBER - 12

VEG SPECIES CODE	HIT NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
PG			1	1	1																																														
SYOC						1	1						1	1	1		1			1	1										1	1										1								
BRTET												1																																							
GRSQ																						1														1															
POSA																							1																												
ACGR																											1	1	1						1	1	1					1	1	1	1		1					
BERE																																	1																		
AF																																													1						
BG									1																																										
LR	1	1						1		1	1				1		1	1					1	1	1					1	1		1							1	1		1					1				1

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
SYOC	2	22	14	0	0	0	0	39
AMUTU	0	0	0	0	0	0	5	5
SALIX	0	0	0	0	0	7	0	7
ACGR	0	0	0	0	0	3	24	27

TRANSECT NUMBER - 13

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
PG				1	1	1							1		1				1				1																			1				1				
AF							1					1																																			1	1			
SALIX								1						1						1																															
PF																		1										1	1	1	1																				
ACGR																			1		1													1																	
POPA																						1	1										1											1	1					
POAN																															1	1																			
BG	1	1																																																	
LR				1						1	1	1				1	1		1					1			1					1	1			1	1	1						1			1	1	

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
SYOC	0	0	0	5	0	0	0	5
SALIX	0	0	0	0	13	0	0	13
ACGR	0	0	0	0	0	0	4	4
POAN	0	0	0	3	0	0	1	4
POSA	0	0	0	0	0	0	2	2

TRANSECT NUMBER - 14

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
SYOC		1	1	1																																											1				
ACGR					1	1	1	1	1																												1	1	1											
PG														1			1	1																													1	1			
CEMOM																										1																									
BERE																												1																							
OLGA																					1	1	1	1	1	1	1	1	1																						
LR	1									1	1	1	1			1	1			1	1	1	1	1	1		1															1	1	1	1	1	1			1	1	

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
SYOC	0	0	0	11	0	0	0	11

ACGR	0	0	0	0	12	19	6	37
CEMDM	0	0	0	0	2	0	0	2
QUGA	0	0	0	0	0	15	0	15
RIBES	0	0	0	0	2	0	0	2

TRANSECT NUMBER - 15

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACGR	1	1	1			1	1		1		1					1	1													1			1	1	1	1	1												
PF					1																																													
PG													1	1																													1				1				
ABLA																				1	1	1	1	1																											
JUDS																														1																					
POPA																															1																				
GRSO																																												1				1			
LR				1				1		1				1	1			1						1	1	1	1	1						1	1	1	1	1	1			1	1	1				1		

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
ACGR	0	0	0	0	7	0	13	20

UTAH DIVISION OF OIL, GAS AND MINING

COVER AND SHRUB HEIGHT AND DENSITY DATA SHEET

PRICE RIVER COAL COMPANY
HELPER, UTAH

58

DRY CANYON-MIXED BRUSH
REFERENCE SITE
OCTOBER 1981

TRANSECT NUMBER -1

VEG SPECIES CODE	HIT NUMB 1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
QUGA	1	1	1	1	1	1	1	1	1																																									
PF										1																																								
ORHY											1																																							
PG																	1																																	
AF																											1																							
SYOC																		1													1						1													
ARTRT																			1																														1	
AGINI																				1																	1													
JUOS																					1		1									1	1	1																
AGSP3																								1																										1	
LR												1	1	1	1		1	1	1				1		1														1											

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
QUGA	0	0	0	7	12	0	17	36
SYOC	0	0	5	0	0	0	0	5
ARTRT	0	3	2	0	0	0	0	5

TRANSECT NUMBER - 2

VEG SPECIES CODE	HIT NUMB 1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
JUOS	1																																																		
QUGA		1	1		1																1										1	1		1	1	1	1	1	1	1	1	1								
SYOC				1																			1	1																											
ARTRT						1				1										1																															
AGROP														1	1	1	1	1																																	
ANTEN																			1																														1	1	
AMUTU																																																			
BG									1																																										
LR							1	1	1			1	1						1	1	1	1																													

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
RIBES	0	0	1	0	0	0	0	1
SYOC	0	2	5	0	0	0	0	8
ARTRT	0	1	4	1	0	0	0	6
OUGA	0	0	0	1	0	7	5	13
AMUTU	0	0	0	0	0	1	0	1

TRANSECT NUMBER - 3

VEG SPECIES CODE	HIT NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
OUGA	1	1											1					1	1			1		1			1	1	1	1	1	1	1	1	1														
AGROP								1	1					1																										1				1						
ARTRT												1								1					1																						1	1		
DRHY																	1									1																									
AGSP3																																												1						
BG			1							1	1																																							
LR				1	1	1	1								1	1						1		1													1	1	1		1	1	1				1			1

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
OUGA	0	0	1	0	7	0	30	38
ARTRT	0	0	5	2	2	0	0	9
SYOC	0	0	1	0	0	0	0	1
AMUTU	0	0	0	0	1	0	0	1

TRANSECT NUMBER - 4

VEG SPECIES CODE	HIT NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
OUGA										1	1	1	1	1	1	1	1	1	1	1	1	1	1														1	1	1	1	1				1	1	1	1			
AGROP																									1									1			1														
LR	1	1	1	1	1	1	1	1	1	1														1		1	1							1	1		1	1	1				1	1	1					

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
QUGA	0	0	0	0	0	6	17	23
ARTRT	0	0	3	3	1	0	0	7
SYOC	0	2	5	0	0	0	0	7

60

TRANSECT NUMBER - 5

HIT NUMBF

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
QUGA			1	1	1	1	1	1			1	1	1	1	1	1																													1	1	1	1	1	1	1	1	1	1
AGROP																	1			1	1		1	1			1							1																	
OPPO																						1																														
ARTRT																																						1														
AGSP3																														1																						
LR	1	1								1	1								1	1						1	1			1	1		1	1		1	1		1	1	1										

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
QUGA	0	0	0	0	3	39	15	57
ARTRT	0	0	3	0	0	0	0	3

TRANSECT NUMBER - 6

HIT NUMBF

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
QUGA	1	1	1		1	1	1	1	1	1	1	1															1	1		1													1	1	1	1	1	1	1	1	1	
JUDS																									1																											
RIBES				1																																																
ARTRT																								1											1	1	1															
AGROP																															1																					
BG															1																			1																		
LR													1	1		1	1	1	1	1	1	1	1					1	1		1						1	1	1	1											

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES HEIGHT CLASSES

CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
QUGA	0	0	1	3	5	4	12	25
RI	0	0	0	1	1	0	0	2
JUDS	0	0	0	1	0	0	0	1
ARTRT	0	2	8	0	0	0	0	10
SYOC	0	0	1	0	0	0	0	1

TRANSECT NUMBER - 7

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
QUGA	1	1	1	1				1	1	1	1	1	1	1	1	1	1	1																																
ARTRT																									1							1						1	1	1		1				1			1	1
AGROP																																											1			1			1			
LR					1	1	1														1	1	1		1	1	1	1		1		1	1	1	1	1			1		1		1	1	1					

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
QUGA	0	0	0	10	0	0	16	26
ARTRT	1	0	6	3	0	0	0	10
SYOC	0	0	1	0	0	0	0	1

TRANSECT NUMBER - 8

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
QUGA							1	1	1	1	1	1	1	1	1	1	1	1	1	1			1	1	1																									
ARTRT		1																																																	
ABLA						1																																													
SYOC																																					1														
ACGR																												1																							
PSMEM																			1		1	1																													
AGROP																																	1																		
PIED																																																			1
BG	1																						1	1	1	1	1						1			1			1											
LR			1	1	1											1			1									1	1	1	1			1		1	1			1	1									

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES	HEIGHT CLASSES

SHRUB SPECIES — HEIGHT CLASSES

CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
JUOS	0	0	1	0	0	0	0	1
CELEL	0	0	1	0	0	0	1	2
OUGA	0	0	0	0	4	0	1	5

TRANSECT NUMBER - 9

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
AGROP	1	1				1	1			1			1	1					1												1				1	1	1	1					1			1	1	1	1		
PIED				1																	1	1	1																												
JUOS																										1	1																									
BG																													1	1																						
LR					1	1			1	1		1	1			1	1	1	1						1			1			1	1	1	1					1	1	1	1	1		1	1					1

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES — HEIGHT CLASSES

CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
ARTRT	7	4	0	0	0	0	0	11

TRANSECT NUMBER - 10

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
PIED	1															1	1											1										1	1	1												1
AGROP		1	1	1	1						1	1	1		1									1	1	1			1					1	1	1			1		1					1					
POA							1																																													
JUOS								1	1	1	1																																								
ORHY																																											1								
CELEL																																																			1
BG															1																		1													1					
LR																		1	1	1	1	1					1			1	1	1	1									1			1		1	1			

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES — HEIGHT CLASSES

CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

JUOS	0	0	0	0	2	2	1	5
PIED	0	1	0	0	0	1	3	5
CELEL	0	0	0	1	2	1	0	4

64

TRANSECT NUMBER - 11

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
JUOS	1	1																																															1			
AGROP				1		1	1					1	1				1	1						1	1						1				1								1			1		1		1
CELEL																1				1	1	1	1	1																											
PIED																																					1	1	1	1				1	1	1					
POA																																									1											
BG									1					1																1	1												1									
LR			1		1			1		1	1				1				1										1	1	1	1			1															1		

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
	HEIGHT CLASSES							
JUOS	0	0	0	0	0	3	0	3
CELEL	0	0	0	0	2	4	1	7
PIED	0	1	0	0	1	1	3	6

TRANSECT NUMBER - 12

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
OPHY		1																																																		
AGROP			1	1	1		1	1			1							1	1					1		1	1			1		1										1	1	1				1		
JUOS												1	1	1	1	1	1											1	1							1	1	1	1	1										
POA																							1		1																				1						
CELEL																																1			1	1															
BG	1								1	1																																									
LR						1														1	1	1										1										1				1	1		1	1

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
	HEIGHT CLASSES							

JUOS	0	0	0	0	0	0	2	2
CELEL	0	0	0	0	5	5	1	11

TRANSECT NUMBER - 13

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
AGROP	1	1	1	1	1									1									1				1	1				1									1				1	1	1	1	1	1
DRHY									1				1																																						
POA															1	1				1																															
CELEL																														1																					
BG						1		1		1	1	1					1	1			1		1		1											1			1		1			1		1				
LR							1													1					1				1	1		1		1	1	1		1	1		1				1					

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
QUGA	0	0	0	5	5	1	0	11
CELEL	0	0	1	0	0	1	0	2

TRANSECT NUMBER - 14

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
AGROP	1	1							1											1	1			1	1																		1						1		
CELEL						1	1	1		1												1	1	1								1	1																		
JUOS											1	1				1																																			
PIED														1	1																		1	1	1	1															
AGINI																															1														1		1			
BG																									1	1													1		1							1	1		1
LR				1	1	1										1	1											1	1								1		1		1	1							1		

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
CELEL	0	0	0	1	2	2	1	6
JUOS	0	0	0	0	0	0	1	1

PIED	0	0	0	0	0	0	3	3

66

TRANSECT NUMBER - 15

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
AGROP	1			1				1	1	1			1						1			1						1	1	1	1		1	1								1	1			1	1				
AGINI							1																									1																			
PIED											1	1								1	1																															
JUDS																																				1	1	1	1									1	1	1	1
CELEL																																								1											
BG		1	1		1																	1	1	1	1									1	1									1	1						
LR						1								1	1	1	1																															1				

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
CELEL	0	0	0	0	0	2	0	2
PIED	0	0	0	0	0	0	3	3
JUDS	0	0	0	0	0	1	1	2

COVER AND SHRUB HEIGHT AND DENSITY DATA SHEET

PRICE RIVER COAL COMPANY
HELPER, UTAH

CASTLE GATE RIPARIAN
REFERENCE SITE
JULY 1981

TRANSECT NUMBER - 1

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
ASTER	1																																																	
BRTET		1				1																																												
ORHY			1																																															
SAKA											1																																							
SMRAA															1			1								1								1																
CLLI2																					1																1													
OUGA																											1	1	1	1			1															1	1		1
GLLE																																																		1
BG								1	1		1									1		1	1													1		1	1				1	1						
LR					1		1			1			1	1		1	1		1			1							1	1			1		1											1	1	1		

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

NO SHRUB SPECIES ENCOUNTERED ON TRANSECT

TRANSECT NUMBER - 2

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
SAKA			1	1				1						1																																				
BRTET					1								1									1	1								1																			
COAR2						1	1																																											1
CLLI2																1				1			1																												
IVAX																		1																																	
POAN																											1	1																							
COSTS																																									1	1	1	1						
AMUTU																																													1					
BG		1							1	1	1	1				1	1											1	1			1	1			1		1	1										
LR	1														1					1					1	1								1		1								1	1	1		1	

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES

CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
	HEIGHT CLASSES							
VIBUR	0	0	0	0	0	2	0	2
AMUTU	0	0	0	0	0	1	0	1

TRANSECT NUMBER - 3

VEG SPECIES — HIT NUMBER

CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
SOLID																																																		
CLLI2	1					1									1	1	1																																	
SALIX																																																		
GLLE		1				1																																												
AMUTU																																																		
RDSA			1																																															
APANP				1			1																																											
QUGA																																																		
POAN											1				1	1				1																											1	1		1
RHRA																																									1			1	1	1				
PDA												1																																					1	
RHTRT																																										1								
IVAX																																																		1
BRTET																									1			1																						
BG														1																																				
LR								1	1				1								1	1	1	1	1			1	1					1	1	1														

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES

CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
	HEIGHT CLASSES							
RDSA	0	0	1	0	0	0	0	1
AMUTU	0	0	0	0	1	0	0	1
QUGA	0	0	0	0	0	1	0	1
ACGR	0	0	0	3	0	0	0	3

TRANSECT NUMBER - 4

VEG SPECIES — HIT NUMBER

CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
CLLI2		1																																																	
IVAX																																																		
SOLID	1					1																																												

[illegible]																																				1														
POAN			1	1	1					1	1	1		1	1	1	1	1																																
AGROP																																											1							
PG									1																																									
CHEND																																															1			
ASTER													1																																					
RHTRT																			1	1	1	1	1																											
QUGA																								1	1	1																								
BRTET																												1			1		1									1			1					
BG																											1		1	1				1			1	1		1	1					1		1	1	1
LR						1		1																											1				1					1						

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
ROSA	0	1	0	0	0	0	0	1
SALIX	0	0	0	0	1	0	0	1
RHTRT	0	0	0	1	0	1	0	2
QUGA	0	0	0	3	0	0	2	5

TRANSECT NUMBER - 5

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
GRSO						1								1																																				
IVAX								1																																										
BRTET												1	1				1								1			1							1	1					1		1							
ORHY																1																																		
COAR2																													1	1		1		1			1		1			1				1				1
STCO3																																												1			1		1	
CHEND																																																1		
BG		1	1	1	1				1	1	1				1			1	1		1	1	1	1			1				1		1												1					
LR	1						1													1						1												1		1										

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
CHNAK	0	1	0	0	0	0	0	1

TRANSECT NUMBER - 6

70

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
STCO3	1				1		1			1	1																																							
AF																																										1								
BRTET						1								1																						1	1													
AGROP													1					1	1			1				1																								
SMRAA																				1																														
CLLI2																													1		1	1												1	1					
ASTER																														1																				
POAN																												1	1	1	1						1	1												
SAKA																																	1	1	1				1										
BG						1		1	1												1	1		1											1	1														
LR		1	1										1	1	1	1			1		1																										1	1		

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
ROSA	2	9	0	0	0	0	0	11

TRANSECT NUMBER - 7

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
CLLI2				1	1	1									1	1																																1		
BRTET							1		1	1	1																					1		1	1			1		1										
QUGA																	1	1	1																													1	1	1
AGROP																				1																							1							
STCO3																								1																										
LAOC																											1																							
SIAL																																				1														
BG	1	1	1					1				1				1						1	1		1				1					1								1	1							
LR											1		1													1		1		1		1						1		1				1	1		1			

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
ROSA	3	16	0	0	0	0	0	19
QUGA	0	0	0	0	0	7	2	9

TRANSECT NUMBER - 8

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
SAKA			1		1												1		1																															
LAOC				1																																														
BRTET																				1																															
COAR2																						1	1		1		1				1	1	1				1		1			1	1						1	1
BG			1				1	1	1	1	1	1	1	1			1				1			1		1		1	1	1			1	1	1		1		1	1					1	1	1		
LR	1					1									1				1																								1				1			

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

NO SHRUB SPECIES ENCOUNTERED ON TRANSECT

TRANSECT NUMBER - 9

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
ORHY		1																																																	
APANP																																	1						1											
BRTET			1	1		1					1			1	1																																				
AF							1	1									1																																		
SIAL																1		1		1																															
ASTER																						1												1	1														1		
CLLI2																									1																				1						
POAN																			1	1	1		1	1													1			1	1	1	1	1							
GLLE																										1			1																						
BG												1						1						1	1																		1	1	1	1		1			
LR	1				1				1												1	1		1									1												1						

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
ROSA	0	1	3	2	0	0	0	6

TRANSECT NUMBER - 10

VEG SPECIES CODE	HIT NUMBER 1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
RHTRT	1	1	1																																														1	1	1
RICEC																																	1	1																
POAN				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1													1													
CLLI2																								1				1																	1					
SNRAA																															1	1																		
ACGR																																	1								1									
QUGA																																1								1		1								
BG																													1						1	1	1	1												
LR																							1		1	1	1							1														1	1		

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
RHTRT	0	0	0	0	0	5	0	5
QUGA	0	0	0	4	3	0	0	7
ACGR	0	0	0	0	0	1	0	1
RICEC	0	0	0	0	1	0	0	1

TRANSECT NUMBER - 11

VEG SPECIES CODE	HIT NUMBER 1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
POAN	1	1	1	1	1					1	1																																							
CLLI2							1																												1	1														
ULPA																						1	1																												
ASTER																																					1	1	1		1		1	1							
ROSA																																															1	1	1	1	1
BG							1	1	1			1	1	1	1	1		1			1	1				1	1	1		1																					
LR																				1		1				1				1	1	1	1	1						1		1			1					

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
SALIX	0	0	0	0	0	1	0	1
ROSA	0	2	5	4	0	0	0	11

TRANSECT NUMBER - 12

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
RHTRT			1	1	1	1	1	1	1																																										
BRTET																																					1	1	1	1			1			1	1				
CHNAN											1		1																																						
CLLI2												1		1																																					
HOJUJ																																																			
AGROP																																											1								
ROSA																																												1							
QUGA																					1	1	1		1																										
SALIX																										1																										
APANP																													1	1	1																					
OXLI																																1																				
BG		1																									1																									
LR			1									1					1	1	1						1			1							1	1	1					1						1	1	1	1	1

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
RHTRT	0	0	0	0	5	2	0	7
CHNAN	0	1	1	1	6	0	0	9
ROSA	0	0	4	5	2	0	0	11
QUGA	0	0	0	0	1	1	0	2
SALIX	0	0	0	0	2	1	0	3

TRANSECT NUMBER - 13

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
MEAL	1		1	1	1		1		1		1		1		1		1				1				1		1																								
BRTET																												1																					1			
KOSC																																												1							
RUCR																																													1						
AGROP																																														1					
RHTRT																																																1			
ACGLG																																																	1		
BG						1									1		1						1				1	1	1	1	1		1	1	1	1	1	1	1	1	1		1		1			1			
LR		1						1		1		1		1		1		1		1											1																				

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES HEIGHT CLASSES

CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
RHTRT	0	0	0	0	0	1	0	1
ACGLG	0	0	0	0	0	1	0	1

TRANSECT NUMBER - 14

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
BRTET	1				1		1			1	1	1			1		1					1														1			1										
PF																																																		
MEAL				1													1																																		
SAKA																																																		
ASTRA						1																																		1										
QUGA																																																		
HOJUJ								1																																				1	1					
ROSA																																																		
AF																1																																1			
CHNAN																		1	1																																
APANP																					1																														
SALIX																												1	1		1	1	1	1															1	1	
BG									1																1	1																									
LR		1	1											1						1			1		1		1	1				1						1						1	1			1	1	1		1	

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES

HEIGHT CLASSES

CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
CHNAN	0	0	3	3	0	0	0	6
SALIX	0	0	0	0	0	4	0	4
QUGA	0	0	0	0	0	1	0	1
ROSA	1	1	6	3	1	0	0	12

TRANSECT NUMBER - 15

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
BRTET	1		1	1		1		1	1	1																1																								
RHTRT																																																		
AF		1																																																1	
SALIX											1							1	1	1	1														1	1		1	1											
ASTER													1																																						
ORHY																						1																													

CLLI2
CHN
BG
LR

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
SALIX	0	0	0	0	3	6	0	9
ROSA	0	0	1	2	1	0	0	4
QUGA	0	0	0	0	0	2	0	2
CHNAN	0	0	0	1	2	0	0	3

TRANSECT NUMBER - 16

VEG SPECIES — HIT NUMBER

CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	5									

SHRUB DATA ONLY COLLECTED ON THIS TRANSECT

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
ROSA	1	2	5	0	0	0	0	8

TRANSECT NUMBER - 17

VEG SPECIES — HIT NUMBER

CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	5									

SHRUB DATA ONLY COLLECTED ON THIS TRANSECT

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

SALIX	0	0	0	0	1	0	0	1

76

TRANSECT NUMBER - 18

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50

SHRUB DATA ONLY COLLECTED ON THIS TRANSECT

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
ROSA	0	1	2	0	0	0	0	3

TRANSECT NUMBER - 19

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50

SHRUB DATA ONLY COLLECTED ON THIS TRANSECT

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
ROSA	1	0	3	0	0	0	0	4
SYOC	0	1	1	0	0	0	0	2
ANUTU	0	0	0	0	0	1	0	1
COSTS	0	0	2	2	0	1	0	5

TRANSECT NUMBER - 20

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50

SHRUB DATA ONLY COLLECTED ON THIS TRANSECT

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
ROSA	0	3	3	0	0	0	0	6
ACGR	0	0	1	0	0	0	0	1

TRANSECT NUMBER - 21

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50

SHRUB DATA ONLY COLLECTED ON THIS TRANSECT

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
QUGA	0	0	0	1	0	0	0	1
SALIX	0	0	0	0	0	3	0	3
ROSA	0	6	15	3	0	0	0	24
RHTRT	0	0	0	3	2	0	0	5

TRANSECT NUMBER - 22

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50

SHRUB DATA ONLY COLLECTED ON THIS TRANSECT

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
CHNAN	0	0	0	0	3	0	0	3

RHTRT	2	0	1	0	0	2	0	5
ROSA	0	3	5	3	3	0	0	14
QUGA	0	0	0	0	0	4	0	4
SALIX	0	0	0	0	0	3	0	3

TRANSECT NUMBER - 23

VEG SPECIES CODE — HIT NUMBER

1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5

SHRUB DATA ONLY COLLECTED ON THIS TRANSECT

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
CHNAN	0	0	0	0	0	1	0	1
CHVIV	0	0	0	1	0	0	0	1
ROSA	0	0	0	1	0	0	0	1
AMUTU	0	0	0	1	4	0	0	5

TRANSECT NUMBER - 24

VEG SPECIES CODE — HIT NUMBER

1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5

SHRUB DATA ONLY COLLECTED ON THIS TRANSECT

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
CHVIV	0	1	1	0	0	0	0	2
ROSA	0	0	2	5	0	0	0	7
RHTRT	0	0	1	3	4	1	0	9
QUGA	0	0	0	3	7	0	0	10
AMUTU	0	0	0	0	0	2	0	2

TRANSECT NUMBER - 25

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50

SHRUB DATA ONLY COLLECTED ON THIS TRANSECT

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
QUGA	2	1	2	3	0	3	0	11
RHTRT	0	0	0	2	0	0	0	2
CHVIV	0	1	2	0	0	0	0	3

TRANSECT NUMBER - 26

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50

SHRUB DATA ONLY COLLECTED ON THIS TRANSECT

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
SALIX	0	0	0	0	2	2	0	4
ROSA	0	0	3	3	1	0	0	7
RHTRT	0	0	0	2	2	0	0	4
QUGA	0	0	0	0	0	2	0	2

TRANSECT NUMBER - 27

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50

SHRUB DATA ONLY COLLECTED ON THIS TRANSECT

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
QUGA	0	0	0	0	0	6	0	6
RHTRT	0	0	0	0	0	1	0	1
RICEC	0	0	0	2	0	0	0	2
ACGR	0	0	0	2	0	1	0	3
SYOC	0	1	0	0	0	0	0	1
AMUTU	0	0	0	0	0	1	0	1

TRANSECT NUMBER - 28

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50

SHRUB DATA ONLY COLLECTED ON THIS TRANSECT

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
QUGA	0	0	7	0	2	2	0	11
RDSA	12	4	7	0	0	0	0	23

PRI[illegible]IVER COAL COMPANY
HEL[illegible] UTAH

BARN CANYON PINYON-JUNIPER
AFFECTED AREA
OCT/1981

TRANSECT NUMBER - 1

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
ARLUL	1																																																	
SYOC											1																																							
PG												1																																							
AGROP													1	1		1	1	1	1	1	1	1	1				1	1	1		1			1		1	1							1						
AGINI																														1									1		1			1				1			
PIED																																	1																		
OUGA																																				1															
ARTRT																																											1			1		1		
BG																										1																									
LR		1	1	1	1	1	1	1	1	1						1											1	1							1					1	1	1			1						1

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
RIBES	0	0	0	0	2	0	0	2
JUOS	0	0	0	0	1	0	0	1
ACGR	0	0	0	1	1	1	0	3
ARTRI	0	1	12	9	0	0	0	22
SYOC	0	6	0	0	0	0	0	6
PIED	0	0	0	0	0	0	1	1
OUGA	0	0	0	0	6	0	0	6

TRANSECT NUMBER - 2

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
AGINI			1																																																
AGROP				1																		1				1			1		1			1	1	1	1		1		1	1		1			1	1	1
ABCO					1	1	1	1																																											
RIBES									1																																										
AGSM															1																																				
JUOS																1	1		1											1																					
ACGR																		1																																	
PG																							1																												
BG											1	1														1		1		1				1								1									

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
LR	1	1								1			1	1						1			1				1						1					1					1		1	1	1			

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SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
ARTRT	0	1	4	9	1	0	0	15
SYOC	0	3	2	0	0	0	0	5
ABCD	0	0	0	0	0	0	1	1
RIBES	0	0	0	1	0	0	0	1
CENOM	0	0	0	3	1	0	0	4
PIED	0	0	0	0	0	0	1	1
JUOS	0	0	0	0	0	0	2	2
ACGR	0	0	0	0	0	0	4	4

TRANSECT NUMBER - 3

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
PIED		1	1	1	1									1																																	1			
AGROP																						1	1			1		1	1				1			1			1	1	1			1					1	
JUOS													1							1							1																		1	1				
AGINI																1																																		
BG	1							1									1	1	1																								1							
LR						1	1		1	1	1	1			1						1			1	1					1	1	1		1	1		1	1				1						1		1

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
PIED	0	2	0	1	1	0	1	5
CELEL	0	0	0	0	1	1	0	2

TRANSECT NUMBER - 4

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
AGROP	1				1		1			1	1		1	1																	1			1				1	1			1				1				1
CELEL																1					1	1	1										1																	
JUOS																	1												1	1																	1			

PIED

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
	HEIGHT CLASSES							
CELEL	0	0	0	0	2	0	3	5

TRANSECT NUMBER - 5

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
JUOS			1												1	1																																				
AGROP				1		1					1		1						1	1											1						1					1			1	1				
OUGA								1	1																																										
PIED																					1	1	1												1	1															
CELEL																												1											1	1				1			1			
BG						1											1																									1								
LR	1	1						1				1		1		1				1			1			1	1	1	1	1		1	1		1			1	1	1			1						1		1

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
	HEIGHT CLASSES							
JUOS	0	0	0	0	1	0	0	1
OUGA	0	0	0	5	3	0	0	8
CELEL	0	0	0	0	1	0	3	4

TRANSECT NUMBER - 6

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
PIED			1			1														1	1																														
AGROP				1								1	1			1							1			1			1	1					1		1							1	1					
CELEL															1		1																										1	1	1	1				
JUOS																														1	1																			
BG																								1					1												1	1						1		1	1
LR	1			1		1	1	1	1	1				1				1	1						1		1	1					1		1	1	1			1										

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
CELEL	0	0	11	0	0	1	2	14

TRANSECT NUMBER - 7

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
AGROP			1																		1																1							1	1					1	1	1
JUDS						1										1						1	1		1	1	1																								
QUGA								1																																							1					
PIED									1	1	1		1	1																																					
CELEL																								1																												
PSMEM																																	1	1		1										1					
BG																														1								1													1
LR	1	1		1	1		1						1				1	1	1								1		1	1	1	1	1	1								1	1		1				1		

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
QUGA	5	5	0	2	0	0	1	13
CELEL	0	0	0	0	0	0	1	1

TRANSECT NUMBER - 8

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
AGROP	1		1			1	1	1	1	1			1			1			1			1	1			1	1	1			1								1	1			1	1		1	1				
PIED											1																																								1
QUGA																																																	1	1	1
BG					1								1			1										1											1	1			1										
LR		1		1										1			1	1		1	1			1					1	1		1	1	1	1								1			1					

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
ARTRT	0	0	0	1	0	0	0	9
QUGA	0	0	0	0	9	0	11	20
ACGR	0	0	0	1	18	0	2	21
SYOC	0	5	1	0	0	0	0	6

TRANSECT NUMBER - 9

HIT NUMBER

VEG SPECIES / CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
SYOC	1														1																																			
QUGA		1	1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	1	1					1	1																	
AGROP																																								1	1	1	1		1		1	1			
BG																																																	1		
LR																1	1													1	1	1	1			1	1	1	1			1		1				1	1

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
SYOC	0	0	0	0	1	0	0	1
QUGA	0	0	0	16	8	1	14	39
RIBES	0	0	0	1	0	0	0	1
ARTRT	0	0	0	1	0	0	0	1

TRANSECT NUMBER - 10

HIT NUMBER

VEG SPECIES / CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
QUGA					1	1				1	1	1	1	1	1	1	1	1	1	1	1							1	1	1		1	1	1																	
AGROP							1																																												
OPPO																									1																										
STIPA																																							1												
AGSP3																															1	1	1	1								1		1						
BG																							1		1								1																		
LP	1	1	1				1	1																	1									1	1	1	1		1				1	1	1	1		1		

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES — HEIGHT CLASSES

CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
OUGA	0	0	0	6	11	5	1	23
ATCA	0	0	0	1	0	0	0	1
ARTRT	0	0	3	0	0	0	0	3

TRANSECT NUMBER - 11

HIT NUMBER

VEG SPECIES / CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
AGROP	1	1		1							1								1														1								1	1				1	1			1	1	
ARTRT					1			1		1		1	1								1						1																		1						
OUGA																																							1								1				1	
RIBES																							1																													
AGSP3																																											1	1	1						1	
BG	1					1																																														
LR								1					1	1	1	1	1		1				1	1	1		1	1		1	1	1	1			1															

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES — HEIGHT CLASSES

CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
ARTRT	0	0	4	9	0	0	0	13
OUGA	0	0	0	0	2	0	2	4
RIBES	0	0	0	1	0	0	0	1
SYOC	0	0	1	0	0	0	0	1

TRANSECT NUMBER - 12

HIT NUMBER

VEG SPECIES / CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
OUGA	1																	1	1	1	1	1	1																1	1	1				1	1	1	1	1	1	
AGROP		1		1	1												1									1	1											1													
AGSP3			1						1					1											1																											
BRTET												1																																							
AGINI																1																																			
ARTRT																													1									1													
ATCA																																1																			
PG																																					1														
ANUTU																																																			1
LR																																																			

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
QUGA	0	0	6	1	11	7	3	28
ARTRT	0	0	3	0	0	0	0	3
ATCA	0	0	1	0	0	0	0	1
SYOC	0	1	1	0	0	0	0	2
AMUTU	0	0	0	0	0	1	0	1

TRANSECT NUMBER - 13

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
QUGA																1	1	1										1	1		1	1							1	1					1	1	1				
PG	1																			1																															
ARTRT						1	1					1																			1										1	1								1
AGROP									1				1														1					1	1					1						1				1		
SYOC																								1																										
AGSP3																														1																				
LR		1	1	1	1			1		1	1			1	1						1	1		1	1											1	1							1	1				1	1	

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
ARTRT	1	0	13	2	0	0	0	16
QUGA	0	0	6	5	5	0	5	21
SYOC	0	0	0	5	1	0	0	6
AMUTU	0	0	0	0	1	0	0	1

TRANSECT NUMBER - 14

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
QUGA										1	1	1	1												1	1	1	1	1		1																				1
AGSP3			1			1																																													
AGROP				1																											1						1	1											
ARTRT														1	1							1														1			1			1								

ACGR																	1	1	1	1	1																													
ORHY																															1	1																		
PG																																	1	1			1													
PF																																			1			1												
AF																																							1						1					
AGINI																																											1							
LR	1	1			1		1	1	1							1						1								1						1						1		1						

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
ARTRT	0	0	8	2	0	0	0	10
OUGA	0	0	1	5	0	0	7	13
ACGR	0	0	0	0	0	0	6	6
JUDS	0	0	0	0	0	1	0	1
PSMEM	0	0	0	0	1	0	0	1

(HEIGHT CLASSES)

TRANSECT NUMBER - 15

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
OUGA	1						1	1	1				1				1	1	1	1	1	1	1	1	1	1	1		1																	1	1	1	1	1
ORHY					1							1				1																																		
ARTRT										1					1																			1	1	1														
AGSP3																														1	1																			
OPPO																																	1																	
BG														1																																				
LR		1	1	1		1					1																					1					1	1	1	1	1	1	1	1	1					

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
ARTRT	0	0	2	3	2	0	0	7
OUGA	0	0	2	0	20	0	12	34

(HEIGHT CLASSES)

COVER AND SHRUB HEIGHT AND DENSITY DATA SHEET

PRICE RIVER COAL COMPANY
HELPER, UTAH

CRANDALL PINYON-JUNIPER
REFERENCE SITE
OCTOBER 1981

TRANSECT NUMBER - 1

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
OUGA	1																																																	
AGINI			1	1	1	1							1	1									1																											
CELEL									1	1	1	1									1	1													1	1	1	1												
AGROP																											1			1		1											1	1			1	1	1	
PIED																												1	1																						
BG																																							1											
LR		1						1	1						1	1	1	1	1	1				1	1	1				1		1					1	1	1	1			1	1	1				

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
OUGA	0	0	4	0	0	0	0	4
CELEL	0	0	0	0	0	0	6	6

TRANSECT NUMBER - 2

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
AGROP													1					1	1	1	1	1	1	1																										
AGINI		1													1																																			
ORHY						1																																												
CELEL							1	1	1	1		1															1									1	1	1	1										
JUOS																												1	1	1																				
PIED																																							1	1	1									
AF																																																		1
BG			1									1																															1							
LR		1		1	1									1	1		1								1	1				1	1	1	1									1		1	1	1	1	1	1	

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

CELEL	0	0	0	10	0	0	4	14		

TRANSECT NUMBER - 3

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
AGINI	1												1																																					
AGROP		1													1																					1	1					1					1			
PIED						1	1	1	1	1	1	1																																						
CELEL																	1	1	1																															
JUOS																											1	1	1	1	1											1	1	1	1						
BG			1																	1	1		1	1		1	1														1									
LR				1	1											1						1			1			1						1	1			1	1		1	1						1	1	1

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
CELEL	0	0	0	0	0	0	8	8

TRANSECT NUMBER - 4

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
AGROP	1				1					1	1									1		1	1	1	1		1									1					1									
AGINI									1																																							1			
CHVIV															1																																				
OUGA																												1	1	1				1	1																
AGSM																															1																				
PHLOX																														1																					
PIED																																								1		1	1	1	1	1	1	1		
BG						1						1										1	1		1																										
LR			1	1	1			1	1					1		1	1	1	1	1		1															1			1		1									

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
OUGA	0	0	9	0	0	0	0	9

TRANSECT NUMBER - 5

VEG SPECIES CODE	HIT NUMBER 1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
AGROP	1	1				1		1	1						1		1				1					1	1				1		1																							
BRHY							1																																																	
AGSM																1								1																																	
AGINI																			1	1																																					
CELEL																										1																											1	1	1		
JUOS																																1					1	1	1	1																	
BG																						1						1		1				1	1	1							1														
LR			1	1	1						1	1	1	1	1										1					1	1								1							1				1			1			1	1

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
CELEL	0	1	0	0	0	0	0	1
PIED	0	0	0	11	0	0	0	11

TRANSECT NUMBER - 6

VEG SPECIES CODE	HIT NUMBER 1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
CELEL	1																																																							
AGROP		1	1					1					1																																											
QUGA															1	1	1	1	1	1																																					
JUOS																					1	1	1	1	1	1	1	1	1																												
PIED																															1	1	1	1	1	1	1	1																			
BG														1																1																	1	1	1	1						
LR			1	1	1	1		1	1	1	1												1	1		1	1										1	1	1																	1

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
QUGA	0	0	0	0	6	2	2	10

TRANSECT NUMBER - 7

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
JUDS								1	1	1	1	1													1	1	1														1	1	1							
AGROP														1															1				1			1	1		1	1										
CELEL															1			1																																
PSMEM																																														1	1	1	1	1	1
BG	1				1																										1																				
LR		1	1	1		1	1								1	1		1	1	1	1	1				1	1			1		1			1	1	1				1	1	1							

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
CELEL	0	0	7	0	0	4	0	11

TRANSECT NUMBER - 8

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
QUGA			1	1	1			1				1				1	1	1	1							1	1	1	1	1	1	1																		
AGROP										1				1		1																																		
PSMEM																																										1	1	1	1	1	1	1	1	1
BG							1				1			1									1																		1									1
LR	1	1				1				1										1	1		1	1	1	1	1							1	1	1	1	1												

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
QUGA	0	0	0	13	10	0	11	34

TRANSECT NUMBER - 9

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
AGIN					1																																													
CELEL								1	1	1																																								
AGROP													1	1	1	1																											1	1	1							
PIED																											1	1	1	1	1	1	1	1	1	1											1	1	1		
BG												1								1				1				1										1	1				1	1				1			
LR		1	1	1		1	1	1									1	1	1		1	1		1	1															1	1						1			1

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
CHNAN	0	0	6	1	0	0	0	7
CELEL	0	1	0	0	0	0	3	4
CHVIV	0	1	0	0	0	0	0	1

TRANSECT NUMBER - 1C

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
AGROP					1																																													
CELEL											1	1	1																																					
JUOS									1	1																																								
AGINI															1	1					1	1																												
PIED																							1	1	1	1	1														1	1	1	1	1	1	1	1		
ORHY																														1																				
BG	1	1	1			1	1																																										1	
LR					1									1	1	1	1										1	1	1	1		1	1	1	1	1	1									1	1		1

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
CELEL	0	0	0	0	0	0	3	3
CHVIV	0	6	0	0	0	0	0	6

TRANSECT NUMBER - 11

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
AGROP					1			1			1	1															1	1	1	1			1	1	1		1	1	1	1										
AGINI		1	1		1																																													
POA																							1	1																										
JUCS																																													1	1	1	1	1	
BG			1																																															
LR						1			1	1		1	1			1	1	1	1	1	1	1	1	1									1	1				1					1	1	1	1	1	1		

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
	HEIGHT CLASSES							
CHVIV	0	11	0	0	0	0	0	11
CELEL	0	1	0	0	0	0	0	1

TRANSECT NUMBER - 12

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
	HIT NUMBER																																																	
DRHY													1	1																																				
CELEL																1	1	1																	1	1	1												1	1	1
AGROP																			1	1	1																				1			1						
QUGA																								1	1		1	1	1																				
JUOS																										1																			1	1	1	1	1	
BG								1		1																													1	1										
LR	1	1	1	1	1	1	1		1		1	1									1	1							1	1	1	1	1										1	1						

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
	HEIGHT CLASSES							
CELEL	0	0	0	0	0	0	4	4
QUGA	0	0	0	0	5	4	3	9

TRANSECT NUMBER - 13

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
	HIT NUMBER																																																	

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
CELEL	0	0	0	0	0	0	3	3
QUGA	0	0	1	3	6	0	0	10

```
AGROP                   1 1       1                               1         1                                 1 1 1 1
CELEL                       1 1 1       1 1 1                       1 1 1
JUDS                                          1 1 1                                 1 1 1 1
BG                                  1                   1 1               1
LR                1 1 1               1             1 1     1 1 1             1 1 1         1 1 1 1 1 1 1 1 1
---------------------------------------------------------------------------------------------------------------------
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SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
CELEL	0	5	5	0	C	0	3	13

TRANSECT NUMBER - 14

```
                                         HIT NUMBER
VEG SPECIES                         1 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 3 3 3 3 3 3 3 3 3 3 4 4 4 4 4 4 4 4 4 4 5
CODE              1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0
---------------------------------------------------------------------------------------------------------------------
AGROP                   1 1             1 1 1
AGINI                                               1 1 1
PIED                                                                1 1 1 1 1 1 1 1 1 1 1                   1 1 1 1 1
BG                    1       1 1             1                                                 1   1
LR                1 1       1     1 1 1         1 1       1 1 1 1 1                       1 1 1   1   1 1 1
---------------------------------------------------------------------------------------------------------------------
```

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
CELEL	0	10	0	0	0	3	2	15

TRANSECT NUMBER - 15

```
                                         HIT NUMBER
VEG SPECIES                         1 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 3 3 3 3 3 3 3 3 3 3 4 4 4 4 4 4 4 4 4 4 5
CODE              1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0
---------------------------------------------------------------------------------------------------------------------
ORHY                              1                     1               1
AGROP                         1 1                         1   1                     1
JUDS                                        1 1 1 1 1
AGINI                                                                 1                                   1 1 1
QUGA                                                                                  1 1 1 1 1 1 1
POA                                                                                                             1 1 1
BG                    1 1                           1     1
LR                1 1     1 1       1 1 1 1                     1 1 1         1 1 1                 1 1 1
```

COVER AND SHRUB HEIGHT AND DENSITY DATA SHEET

PRICE RIVER COAL COMPANY
HELPER, UTAH

CRANDALL RIPARIAN
REFERENCE SITE
JULY 1981

TRANSECT NUMBER - 1

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
PIPO					1																																													
POA									1																1	1	1					1	1																	
PG										1																					1																			
PF											1																																							
STCO3																		1																																
BG								1				1	1				1				1	1										1	1	1			1	1	1										
LR	1	1	1		1	1	1							1	1	1		1	1	1			1				1	1							1	1				1	1	1	1	1	1	1	1	1	1

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

SHRUB DATA NOT COLLECTED ON TRANSECT

TRANSECT NUMBER - 2

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
PIPO								1	1	1	1	1	1	1	1																																			
CELEL																									1																									
POAN																														1																				
HODU5																																	1																	
ASTER																																		1																
POA																																						1	1	1	1			1						
STCO3																																													1	1					
BG	1						1																		1			1				1			1	1	1	1					1	1	1						
LR		1	1	1	1	1										1	1	1	1	1	1	1	1			1		1	1		1																		1	1	

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

SHRUB DATA NOT COLLECTED ON TRANSECT

TRANSECT NUMBER - 3

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
PG	1																																																	
POA		1	1			1	1	1	1						1																																			
SYOC					1									1																																				
POAN																					1	1	1																							1					
ARLUL																											1																								
BG													1	1	1			1	1	1	1										1				1	1	1		1	1	1					1	1	1	1
LR				1						1	1	1								1				1	1	1	1	1	1		1	1	1				1					1	1							

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

SHRUB DATA NOT COLLECTED ON TRANSECT

TRANSECT NUMBER - 4

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
AGROP																																																1			
SYOC		1																													1																			
POA						1		1					1				1										1														1					1				
PSMEM															1																																				
STIPA																	1			1																															
CYOF																							1									1	1				1				1					1	1		1		
ASTER																																			1																
CIRSI																																						1													
POAN																																							1												
ACLA5																																												1							
BG	1				1			1		1	1																																					1			
LR			1		1							1	1			1			1		1	1	1		1	1		1			1		1	1					1										1	1	

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

SHRUB DATA NOT COLLECTED ON TRANSECT

TRANSECT NUMBER - 5

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
POA	1																																																	
BRTET									1					1					1	1			1			1									1														
CYOF																	1										1					1																		
ASTER																					1	1						1																						
SIAL																									1																									
SALIX																																													1					
BG			1	1	1	1		1		1	1	1	1																	1								1	1			1	1	1					
LR		1					1									1	1		1						1				1	1	1	1			1	1	1	1	1		1		1				1	1	

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

SHRUB DATA NOT COLLECTED ON TRANSECT

TRANSECT NUMBER - 6

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
POAN						1	1	1	1	1								1	1	1																														
ACGR											1																																							
BRTET																																			1	1	1	1	1		1	1	1	1		1				
POA																																	1																		
DESCU																																							1											
SYOC																	1																																	
PF																		1																																
ASTER																					1																													
CYOF																											1															1								
CHNAN																														1																				
BG	1			1	1																				1	1	1		1				1											1	1	1	1				
LR		1	1									1	1	1	1							1	1					1	1		1																				

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES	HEIGHT CLASSES

CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

SHRUB DATA NOT COLLECTED ON TRANSECT

TRANSECT NUMBER - 7

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
CYFR																																																		
AGAL	1																																																	
POAN																																																		
BRTET								1	1	1		1		1				1	1	1	1	1	1	1	1																									
ASTER											1																																							
CYOF																1																		1			1												
SIAL																											1																							
AGROP																													1																					
JUNCU																															1																			
POA																																1	1			1				1		1							
BG		1			1												1											1						1					1											
LR			1	1		1	1							1		1														1												1		1						

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

SHRUB DATA NOT COLLECTED ON TRANSECT

TRANSECT NUMBER - 8

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
BRTET	1		1								1					1	1	1								1		1	1																					
CYOF		1					1		1	1		1			1							1			1								1										1	1		1		1	
ASTER						1																									1																			
POA																					1			1																										
POAN																																1		1	1	1	1			1	1	1	1	1					
JUOS																																																	1	
BG													1																																					
LR					1	1			1						1		1				1		1			1					1							1	1								1		

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

SHRUB DATA NOT COLLECTED ON TRANSECT

TRANSECT NUMBER - 9

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
POAN																																																		
POA	1						1				1				1																																			
CIRSI		1																																																
CYOF						1										1						1				1	1																							
SYOC								1													1																													
ACGR											1																																							
STIPA														1																																				
JUDS																	1										1																							
ASTER																		1															1																	
BG																															1	1	1									1	1							
LR			1	1	1				1			1					1					1	1							1	1	1	1				1	1	1	1	1					1				

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

SHRUB DATA NOT COLLECTED ON TRANSECT

TRANSECT NUMBER - 10

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
CYOF	1																																																	
BRTET						1																																												
ROSA								1																																										
POAN									1	1	1	1													1	1																								
PIPO																			1	1	1	1	1	1			1																							
ANTEN																																															1			
POA																														1						1	1		1		1								
BG						1									1								1			1	1	1	1		1		1																	
LR		1	1	1			1						1			1	1	1												1	1	1	1		1	1				1		1					1	1		

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
SHRUB DATA NOT COLLECTED ON TRANSECT								

TRANSECT NUMBER - 11

VEG SPECIES CODE	HIT NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ASTER		1																																																	
QUGA				1																																															
STIPA					1																																														
PIPO																																																			
POAN																																																			
JUOS																																																			
BG						1					1																																								
LR	1		1				1	1	1		1	1	1	1	1																																				

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
SHRUB DATA NOT COLLECTED ON TRANSECT								

TRANSECT NUMBER - 12

VEG SPECIES CODE	HIT NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
SYOC			1																																																
POA				1																																															
RICEC										1																																									
JUOS																																																			
POAN																																																			
ACGR																																																			
PSMEM																																																			
BG	1						1				1					1																																			
LR																																																			

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

SHRUB DATA NOT COLLECTED ON TRANSECT

TRANSECT NUMBER - 13

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
PG																																																		1	
CYOF					1								1																																					
POAN						1	1	1	1	1																					1																				
JUOS											1																																								
POA																									1																										
PSMEM																										1		1																							
AGROP																														1																					
ASTER																																	1																		
BG																					1		1						1						1										1	1						
LR		1	1	1	1								1			1	1	1	1	1		1		1	1	1						1			1		1		1	1	1	1				1	1					

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

SHRUB DATA NOT COLLECTED ON TRANSECT

TRANSECT NUMBER - 14

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
POAN	1	1									1	1						1	1	1	1	1																													
PSMEM																																		1	1	1	1											1	1	1
POA																											1																1	1								
CYOF																														1																					
ACGR																																													1	1					
BG			1	1	1							1				1							1		1					1				1											1						
LR						1	1	1	1				1	1		1					1		1			1	1		1							1										1	1	1			

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES — HEIGHT CLASSES

CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

SHRUB DATA NOT COLLECTED ON TRANSECT

TRANSECT NUMBER - 15

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
POAN		1		1		1	1	1	1																																		1	1	1	1	1	1	1	1		
POA											1	1																																								
PIPD															1	1	1	1	1	1	1																														
ACGR																								1																												
ASTER																																		1	1																	
BG		1																					1														1	1										1	1	1		
LR				1		1							1	1							1				1	1	1	1	1	1	1	1	1	1			1			1											

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES — HEIGHT CLASSES

CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

SHRUB DATA NOT COLLECTED ON TRANSECT

TRANSECT NUMBER - 16

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
PSMEM																																															1	1		1	1	1
BRTET	1	1	1																											1																						
POAN							1												1																																	
RUIDS											1																																								
ROSA													1																																						
ASTER														1		1		1																	1			1													
SYOC																								1	1																		1								
POA																																				1	1		1												
CYOF																																												1							
BG					1	1			1								1											1	1		1	1																			
LR							1		1		1		1			1					1	1	1			1	1	1						1	1					1	1	1									1	

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

SHRUB DATA NOT COLLECTED ON TRANSECT

TRANSECT NUMBER - 17

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
OUGA	1	1	1	1	1																																													
POA										1		1		1																																				
SYOC						1																																												
HODU5							1																																											
POAV																1																																		
ARLUL																	1																																	
POAN																											1	1		1	1	1	1														1	1	1	1	1	1
BG														1		1						1	1		1	1			1									1						1							
LR								1	1		1								1	1	1			1									1	1	1	1		1	1	1	1			1						

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

SHRUB DATA NOT COLLECTED ON TRANSECT

TRANSECT NUMBER - 16

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
SYOC																																																		
POAN	1		1											1	1	1																	1	1	1	1		1						1	1	1	1	1	1	1
RICEC		1																																																
ASTER																																									1									
ARLUL											1																	1																						
ANTEN																	1																																	
CYOF																		1																																
PIPO																			1																															
PSMEM																								1																										
JUOS																									1																									
BG				1	1	1	1	1			1	1	1									1	1																											
LR									1											1						1	1	1		1	1					1		1		1		1	1	1						

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
RUIDS	0	0	3	1	0	0	0	4
COSTS	0	0	0	0	1	0	0	1
BEOCD	0	0	0	0	0	1	0	1
JUCOS	0	1	0	1	0	0	0	2
AMUTU	0	5	1	0	0	0	0	6

TRANSECT NUMBER - 19

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
POAN	1	1	1	1	1			1	1	1	1																																							
ACGLG																																													1	1	1	1				
CYOF												1																																						1	
PF													1																																				1			
ROSA															1	1																																				
ASTER																													1				1																			
POA																																		1																		
PENST																																						1														
PSMEM																																					1	1	1	1	1											
BG														1			1	1	1	1	1		1	1	1	1																										
LR						1	1															1					1		1	1			1	1	1													1	1	1		

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
OUGA	0	19	2	0	2	12	2	37
ROSA	0	8	11	7	1	0	0	27
SYOC	12	45	53	30	3	0	0	143
BERE	15	3	0	0	0	0	0	18
RICEC	0	3	8	13	7	0	0	31

TRANSECT NUMBER - 20

HIT NUMBER

VEG SPECIES CODE 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
QUGA	1																																																	
ACGLG		1																																																
POAN							1	1																																	1	1								
PSMEN									1	1	1	1	1	1																																				
POA																	1																																		
AGRDP																		1																																
CYOF																																			1															
ASTER																																											1	1						
BG					1																	1					1		1							1								1				1		1
LR				1	1									1			1	1	1	1		1	1	1	1		1	1				1	1			1	1	1		1	1				1	1	1		1		1

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
CELEL	0	4	3	4	1	0	0	12
HODUS	0	0	2	12	12	0	0	26
CHNAN	0	15	3	0	0	0	0	18
ARTRT	0	1	1	0	0	0	0	2

TRANSECT NUMBER - 21

VEG SPECIES CODE	HIT NUMBER 1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
BRTET	1		1	1		1	1																																											1
POA									1																					1																					
POAN												1	1	1										1								1	1	1	1	1	1	1	1	1										
ASTER																																												1						
CYOF																																																	1	
BG																	1	1							1																1	1	1							1
LR		1			1			1		1	1								1	1	1	1	1	1			1	1											1	1	1			1		1	1	1			

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

SHRUB DATA NOT COLLECTED ON TRANSECT

TRANSECT NUMBER - 22

VEG SPECIES	HIT NUMBER 1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0

CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
ASTER			1						1																																										
POA			1				1				1			1																																				
CYOF								1	1		1		1	1		1					1			1							1			1																
BRTET															1										1	1	1	1			1								1			1	1	1	1			1			
ACLA5																													1																					
BG																				1													1	1	1										1	1	1	1	1	
LR				1												1	1	1	1				1							1				1			1	1					1								

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	HEIGHT CLASSES 51-100CM	1-2M	2-4M	OVER 4M	TOTAL

SHRUB DATA NOT COLLECTED ON TRANSECT

TRANSECT NUMBER - 23

VEG SPECIES CODE	HIT NUMBER 1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
POA			1								1																														1		1						1		
CYOF							1								1																																				
ASTER										1																			1	1																					
SDLID													1	1																																					
SYOC																						1																													
PSMEM																																															1	1	1		
BG	1	1		1	1					1			1				1	1	1	1					1								1	1			1													
LR								1	1												1	1	1	1	1		1	1	1	1		1	1	1	1								1	1	1	1			1	

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	HEIGHT CLASSES 51-100CM	1-2M	2-4M	OVER 4M	TOTAL

SHRUB DATA NOT COLLECTED ON TRANSECT

TRANSECT NUMBER - 24

VEG SPECIES CODE	HIT NUMBER 1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
POAT	1							1	1																																		1								

SYUC 1 1
ASTER 1
PIPO 1 1 1 1 1 1 1 1 1 1
POAN 1 1 1 1 1 1 1 1
CYOF 1 1 1
SOLID 1
BG 1 1 1 1 1 1 1 1 1 1 1
LR 1 1 1 1 1 1 1 1 1 1

110

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

SHRUB DATA NOT COLLECTED ON TRANSECT

COVER AND SHRUB HEIGHT AND DENSITY DATA SHEET

PRICE RIVER COAL COMPANY
HELPER, UTAH

BARN CANYON-CONIFER
AFFECTED AREA
OCTOBER 1981

TRANSECT NUMBER - 1

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
PSMEM		1				1			1																																										
CELEL			1																																																
JUOS						1	1																																												
PIED									1																																										
AGROP											1			1	1			1												1						1															
OUGA												1								1	1	1	1	1					1					1				1	1	1	1	1	1	1	1	1	1				
ABLA																									1			1																							
SYOC																															1															1	1			1	
BG																					1																														
LR				1	1											1								1			1			1			1											1			1	1		1

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES

CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
	HEIGHT CLASSES							
CELEL	0	0	0	0	1	0	0	1
SYOC	0	0	9	2	0	0	0	11
OUGA	0	0	0	1	8	7	7	23

TRANSECT NUMBER - 2

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
ORHY		1																																																	
SYOC			1												1			1																																	
PIPO				1																																															
JUOS					1																																						1	1	1							
AGROP						1															1		1															1	1	1							1	1	1		
ABLA										1										1		1																													
OUGA												1	1																																	1					
PSMEM																													1	1	1	1	1	1																	
AF																																				1															
LR					1				1	1	1		1				1	1					1	1	1	1	1	1					1	1	1				1	1					1						

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
SYOC	0	4	8	0	0	0	0	12
QUGA	0	0	0	1	2	0	1	4
ABLA	0	0	0	1	3	0	0	4
ABCO	0	0	0	0	1	0	0	1

TRANSECT NUMBER - 3

VEG SPECIES CODE	HIT NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
AGROP	1	1																			1		1																		1					1				
ABLA				1	1																																														
JUOS						1				1	1			1	1																								1												
PSMEM							1	1	1	1								1	1						1			1	1	1	1	1										1	1	1	1			1		1	1	1
QUGA																				1	1																															
LR													1				1						1			1	1						1	1	1	1	1	1		1							1			1	

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
QUGA	0	0	0	2	0	1	3	6
CELEL	0	0	1	0	0	0	1	2
PSMEM	0	0	0	0	1	0	0	1

TRANSECT NUMBER - 4

VEG SPECIES CODE	HIT NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
AGROP			1	1												1				1	1	1	1							1		1				1						1									
CELEL					1								1	1	1			1																																	
PSMEM						1	1	1	1																																										
JUOS										1															1	1	1	1				1														1	1				
PIED																													1																						
QUGA																								1														1	1												
ABLA																																					1				1	1	1								
BG	1	1																		1	1																										1	1				
CR											1			1										1			1	1																					1	1	1	

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
CELEL	0	0	0	0	1	0	3	4
QUGA	0	0	0	0	3	0	1	4

TRANSECT NUMBER - 5

VEG SPECIES CODE	HIT NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
AGROP	1														1	1	1		1																			1					1	1							
QUGA			1	1	1	1	1					1	1					1		1	1		1	1	1	1		1	1							1									1	1	1			
JUOS								1																			1																					1	1			
SEMU2													1	1																																						
POA																						1																														
PSMEM																																																1				
LR		1							1	1																			1	1	1	1	1	1			1	1	1										1	1	

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
QUGA	0	0	7	1	23	6	3	40

TRANSECT NUMBER - 6

VEG SPECIES CODE	HIT NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ORHY	1			1																																															
PG						1				1																																									
JUOS							1												1	1												1																				
AGROP								1					1	1																															1	1						
PSMEM									1						1	1	1																	1	1																
PIED											1																											1	1												1	
QUGA																				1	1	1		1	1			1	1	1					1	1	1														
AF																									1																										
BG																																											1								
LR		1	1								1						1			1						1	1													1	1				1	1	1	1	1		

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
QUGA	0	0	0	25	6	0	0	31

TRANSECT NUMBER - 7

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
PSMEM	1	1	1											1	1	1	1	1	1																					1	1	1								
ORHY					1																																														
QUGA									1												1			1														1				1	1		1						
PG											1	1										1																													
AGROP																							1		1																										
JUOS																												1	1	1			1	1	1									1							
CELEL																															1	1																			
PIED																																																			1
BG																		1												1								1												
LR					1	1	1	1		1										1					1		1															1	1	1	1					

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
QUGA	0	0	0	10	18	0	2	30
CELEL	0	0	1	0	0	0	1	2

TRANSECT NUMBER - 8

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
JUOS	1	1	1	1						1	1	1																																						
PSMEM						1	1	1																																										
ABLA													1																													1	1	1	1	1	1			
ORHY																	1																																	
AGROP																						1	1		1	1																								
SEMU2																								1																										
CELEL																		1	1																															
SYOC																					1																													

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
BERE																															1							1	1							1		1		
BG																1	1		1																															
LR					1								1	1				1		1	1								1			1	1	1	1	1	1										1		1	1

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
CEMON	0	0	0	1	0	0	0	1
RIBES	0	0	0	1	0	0	0	1
CELEL	0	0	0	1	0	0	0	1
ABLA	0	0	0	1	1	0	0	2
SYOC	0	0	2	0	0	0	0	2
JUOS	0	0	0	0	1	0	0	1

TRANSECT NUMBER - 9

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
AGROP	1	1	1																	1																														
PG							1																																											
ABLA									1	1	1	1	1	1	1	1	1	1					1	1																							1	1	1	1
OUGA																													1														1	1	1					
JUOS																														1			1	1	1							1								
PSMEM																																				1	1	1	1	1										
BG																												1																						
LR				1	1	1		1											1		1	1			1	1	1				1	1									1					1				

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
OUGA	0	0	2	0	6	0	0	8

TRANSECT NUMBER - 10

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ABCO			1	1																																														
AGROP					1															1	1			1	1	1					1	1	1	1	1	1							1	1				1		

Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
JUDS						1		1	1	1	1																																							
PSMEM														1	1																																			
CELEL																													1																				1	1
PIED																																					1	1												
QUGA																																													1	1	1			
BG																			1																															
LR	1	1					1					1	1			1	1	1				1	1				1	1		1									1	1	1	1								

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
RIBES	0	0	0	1	0	0	0	1
CELEL	0	0	0	1	1	0	0	2
QUGA	10	0	0	2	0	0	1	13

TRANSECT NUMBER - 11

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
PIED	1	1	1	1	1	1													1																															
JUDS							1	1	1	1	1	1															1											1												
AGROP													1			1	1																						1	1	1						1			
CEMOM														1																		1	1		1															
MOSS																		1																																
AGINI																					1	1																												
ANTEN																																																	1	
CELEL																							1	1	1	1																								
ACGR																												1	1																					
RIBES																														1	1																			
PF																																												1	1	1		1		
BG																																				1														
LR															1					1														1			1					1	1							1

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
CEMOM	0	0	0	7	1	0	0	8
CELEL	0	0	0	0	0	0	1	1
ACGR	0	0	0	0	1	0	0	1
RIBES	0	0	0	1	0	0	0	1

TRANSECT NUMBER - 12

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
CELEL	1																																																	
AGROP						1				1	1											1		1											1	1	1					1	1			1				
ABLA							1	1	1											1	1																													
ORHY												1																																						
PG																1																1	1																	
MOSS																	1	1											1	1																				
JUDS																			1																															
AFI																							1																											
PIED																										1	1							1				1	1	1										
PSMEM																																															1	1	1	1
LR		1	1	1	1								1	1	1										1			1			1										1			1	1					

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
CELEL	0	0	0	0	1	0	1	2
JUDS	0	0	0	1	3	0	0	4
RIBES	8	2	0	0	0	0	0	10

TRANSECT NUMBER - 13

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
AGROF	1	1	1					1						1	1		1	1	1	1	1	1		1	1				1	1	1		1		1	1		1	1	1	1							1		1
ANTEN					1																																													
PIED									1	1	1	1	1																																					
JUDS																1																1										1	1	1	1	1				
KASA																																		1																
BG																										1																								
LR				1		1	1																1				1	1									1										1		1	

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
JUDS	0	0	0	1	0	0	0	1
QUGA	9	0	0	13	0	0	0	22

TRANSECT NUMBER - 14

VEG SPECIES CODE	HIT NUMBER 1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
ANTEN	1			1																																											
AGROP		1				1				1				1																	1	1				1	1	1	1			1	1	1			1	1	
ABCO					1																																										
JUOS							1	1	1		1						1	1	1	1	1	1	1																							1				1
MOSS													1			1									1	1				1																		
RIBES															1																																
CEMOM																			1	1	1																										
ABLA																																				1											
PSMEM																																															1
BG																							1																								
LR			1										1													1						1	1				1					1					

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
JUOS	0	0	0	1	0	0	0	1
RIBES	0	0	0	0	1	0	0	1
CEMOM	0	0	0	8	0	0	0	8
OUGA	0	0	0	0	3	0	0	3

TRANSECT NUMBER - 15

VEG SPECIES CODE	HIT NUMBER 1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
AGROP	1	1	1	1	1	1				1	1	1		1		1						1				1																			
AGINI								1																																					
PG									1																1																				
CEMOM										1						1				1																									
JUOS																					1						1	1	1					1											
RIBES																														1	1	1	1												
PSMEM																																		1	1	1	1	1			1	1	1	1	1	1	1	1
BG																		1										1																	
LR														1					1				1	1																	1	1					

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

CEMON	0	0	1	17	0	0	0	18
JUDS	0	0	0	0	3	0	0	3
RIBES	0	0	0	12	0	0	0	12
SYOC	0	0	10	0	0	0	0	10
JUGA	0	0	0	0	0	1	0	1

SHRUB HEIGHT AND DENSITY DATA SHEET

PRICE RIVER COAL COMPANY
HELPER, UTAH

CRANDALL CONIFER
REFERENCE SITE
JULY 1981

TRANSECT NUMBER-1

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
PSMEN			1	1	1	1	1			1	1																	1	1	1	1	1	1	1	1				1						1	1	1	1	1	1	1	1		
BERE																																																1		1					
JUOS												1																																								1				
CERAS														1																																										
PIPO																			1	1	1				1	1											1			1																
QUGA																																																								1
LR		1						1	1				1		1	1	1	1				1	1	1																			1					1	1							

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
BERE	31	11	0	0	0	0	0	42
SYOC	4	9	2	1	0	0	0	16
QUGA	3	12	10	0	0	0	0	25
RUIDS	0	0	1	0	0	0	0	1
ROSA	0	0	1	0	0	0	0	1

TRANSECT NUMBER - 2

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
PSMEN	1	1	1	1		1	1	1	1	1	1	1	1			1	1					1	1				1	1		1					1	1	1	1	1	1			1	1	1	1	1	1	1		1				1
PG																		1																																						
QUGA																			1																																					
BERE																					1																																		1	
JUOS																							1	1	1			1					1																							
BG																																1								1															
LR					1										1				1								1		1										1																	

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL

BERE	48	6	0	0	0	0	0	54
SYOC	0	3	0	0	0	0	0	3
OUGA	0	2	4	3	0	0	0	9
SYOC	0	5	1	0	0	0	0	6

TRANSECT NUMBER - 3

HIT NUMBER

VEG SPECIES	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	5
CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	
SYOC		1																			1			1																	
ACLA5																																		1							
PIPO			1	1	1																																				
ARLUL														1																											
CERAS										1																															
PSMEM											1					1	1	1					1		1	1	1					1	1	1	1	1	1	1	1	1	1	1	1
AGROP												1																													
BERE																				1																					
VIAMM																														1											
LR	1					1	1	1	1						1	1			1			1					1	1	1	1	1										1	

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES	HEIGHT CLASSES							
CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
SYOC	11	10	8	2	0	0	0	31
BERE	9	2	0	0	0	0	0	11
OUGA	0	2	0	0	0	0	0	2

TRANSECT NUMBER - 4

HIT NUMBER

VEG SPECIES	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	5
CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	
PSMEM	1	1	1	1	1									1	1	1	1	1	1	1	1	1	1	1	1																	
SYOC							1	1			1	1															1						1						1			
ACLA5																										1								1								
TAOF																												1													
PF																														1											
PIPO																																			1			1	1	1	1
POTEN																																									
BG																													1	1	1	1			1			1			
LG						1			1	1																	1	1											1	1	1

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
BERE	4	0	0	0	0	0	0	4
SYOC	5	9	21	3	0	0	0	38

TRANSECT NUMBER - 5

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
PIPO	1	1	1	1	1	1	1	1	1	1	1	1	1																																					
SYOC														1																																				
PSMEM																1			1		1	1	1				1		1	1	1	1	1	1	1	1	1	1	1			1	1							1
PG																	1									1																								
LR																1			1		1				1	1			1													1							1	1		

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
SYOC	0	7	7	5	0	0	0	19
BERE	75	4	0	0	0	0	0	79
QUGA	0	6	1	0	0	0	0	7
RHTRT	0	1	0	0	0	0	0	1

TRANSECT NUMBER - 6

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
POA																																																		1	
SYOC		1																																																
PSMEM			1	1	1	1	1		1	1		1	1			1	1			1									1		1																		
PIPO								1																								1	1	1	1	1	1	1											
JUOS														1																																				
ARLUL																					1	1																												
ASTER																								1																										
PG																									1				1																	1				
QUGA																																												1						
BG															1				1							1																					1	1		

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
LR	1										1							1					1				1	1											1	1	1		1	1	1					1

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
	HEIGHT CLASSES							
SYDC	0	12	3	1	0	0	0	16
QUGA	0	15	12	0	0	0	0	27
BERE	23	1	0	0	0	0	0	24

TRANSECT NUMBER - 7

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
QUGA																																						1												
ASTER	1																																																	
FRVI			1																																															
PG						1																																												
RUIDS							1																																											
PIPO								1	1										1	1																									1	1		1		1
SYDC										1					1		1				1				1						1																1		1	
POA																																										1	1							
PSMEM											1	1	1					1																																
BROMU																																1																		
PG																						1																												
BG																											1																							
LR		1		1	1									1		1							1	1		1		1	1	1			1	1	1	1	1		1	1	1			1						

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
	HEIGHT CLASSES							
BERE	15	0	0	0	0	0	0	15
SYDC	0	15	12	1	0	0	0	28
RUIDS	0	0	2	0	0	0	0	2
QUGA	0	7	2	0	0	0	0	9

TRANSECT NUMBER - 8

HIT NUMBER

VEG SPECIES CODE [illegible]

ABCO																																							1	1	1	1								
PIPO										1	1	1	1	1	1																																			
ANTEN						1																																												
PG									1																																								
PSMEN																											1				1	1			1	1	1	1					1	1	1	1	1	1		1
FRVI																1																																	
BROMU																							1																										
VIAMM																										1																							
BERE																														1																			
BG																				1	1	1																											
LR		1	1	1	1		1	1									1	1	1					1	1			1	1				1	1															1	

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
BERE	41	7	0	0	0	0	0	48
SYOC	3	12	7	2	0	0	0	24

(HEIGHT CLASSES)

TRANSECT NUMBER - 9

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
PSMEN	1	1	1	1	1	1	1	1	1		1		1												1	1	1	1	1	1	1	1	1			1	1				1	1	1	1	1	1	1		1	1
PIPO														1	1	1	1	1	1														1	1															
PG																				1																													
SYOC																							1																										
BG																								1																									
LR										1		1									1	1																1	1	1								1		

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
SYOC	7	14	2	0	0	0	0	23
BERE	43	0	0	0	0	0	0	43
QUGA	0	1	0	0	0	0	0	1
ROSA	0	1	0	0	0	0	0	1

(HEIGHT CLASSES)

TRANSECT NUMBER - 10

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
PSMEM																																																							
PG																																																							
JUDS																																																							
SYOC																																																							
PIPO																																																							
BG																																																							
LR																																																							

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
QUGA	0	14	3	0	0	0	0	17
SYOC	0	17	6	0	0	0	0	23
ROSA	0	1	0	0	0	0	0	1
BERE	20	0	0	0	0	0	0	20
AMUTU	0	1	0	0	0	0	0	1

TRANSECT NUMBER - 11

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
PSMEM																																																							
SYOC			1					1			1				1						1	1								1			1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
PIPO							1																																																
QUGA									1																																														
PG																	1								1						1																									
ARLUL																							1		1																															
PIPO																																																							
BG																							1		1				1																												
LR	1	1		1	1	1					1		1	1	1		1				1							1																												

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
QUGA	1	14	1	4	1	0	0	21
SYOC	2	9	2	1	0	0	0	14
BERE	20	0	0	0	0	0	0	20
AMUTU	1	4	0	0	0	0	0	5

TRANSECT NUMBER - 14

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
PSMEM	1	1	1	1							1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ACGR					1																																													
SYOC									1												1																													
BG							1																																											
LR						1		1		1																						1																		

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
SYOC	5	24	5	1	0	0	0	35
BERE	11	0	0	0	0	0	0	11
AMUTU	0	0	0	0	0	1	0	1

TRANSECT NUMBER - 15

HIT NUMBER

VEG SPECIES CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
PSMEM						1	1					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1		
SYOC		1						1																																										
PG					1																																													
ANTEN						1																																												
ACLAS											1																																							
PIPO																																																	1	1
BG			1						1																																									
LR	1									1																																1								

SHRUB HEIGHT AND DENSITY

SHRUB SPECIES CODE	HEIGHT CLASSES 0-10CM	11-30CM	31-50CM	51-100CM	1-2M	2-4M	OVER 4M	TOTAL
SYOC	3	11	2	0	0	0	0	16
BERE	67	0	0	0	0	0	0	67
OUGA	0	2	1	0	0	0	0	3

VEGETATION COVER, FREQUENCY, AND SPECIES DIVERSITY ESTIMATES

PRICE RIVER COAL COMPANY
HELPER, UTAH

SOWBELLY GRASS-SAGE
REFERENCE SITE
JULY 1981

TRANSECT 1

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	4	8.0	66.7
	PG	PERENNIAL GRASS	2	4.0	33.3
		SUBTOTAL	6	12.0	100.0
FORB	ASTRA	ASTRAGALUS SP.	3	6.0	100.0
		SUBTOTAL	3	6.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	7	14.0	100.0
		SUBTOTAL	7	14.0	100.0
		TOTAL	16	32.0	
BARE GROUND			7	14.0	
LITTER-ROCK			27	54.0	
VEGETATION, LITTER-ROCK			43	86.0	

TRANSECT 2

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	6	12.0	100.0
		SUBTOTAL	6	12.0	100.0
FORB	ASTRA	ASTRAGALUS SP.	6	12.0	100.0
		SUBTOTAL	6	12.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	10	20.0	100.0
		SUBTOTAL	10	20.0	100.0
TREE	QUGA	QUERCUS GAMBELII	3	6.0	100.0

		SUBTOTAL	3	6.0	100.0
		TOTAL	25	50.0	
BARE GROUND			2	4.0	
LITTER-ROCK			23	46.0	
VEGETATION, LITTER-ROCK			48	96.0	

TRANSECT 3

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	10	20.0	83.3
	PG	PERENNIAL GRASS	2	4.0	16.7
		SUBTOTAL	12	24.0	100.0
FORB	ASTRA	ASTRAGALUS SP.	4	8.0	100.0
		SUBTOTAL	4	8.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	2	4.0	100.0
		SUBTOTAL	2	4.0	100.0
		TOTAL	18	36.0	
BARE GROUND			8	16.0	
LITTER-ROCK			24	48.0	
VEGETATION, LITTER-ROCK			42	84.0	

TRANSECT 4

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	4	8.0	100.0
		SUBTOTAL	4	8.0	100.0
FORB	ASTRA	ASTRAGALUS SP.	6	12.0	100.0
		SUBTOTAL	6	12.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	5	10.0	100.0
		SUBTOTAL	5	10.0	100.0

TOTAL	15	30.0	
BARE GROUND	8	16.0	
LITTER-ROCK	27	54.0	
VEGETATION, LITTER-ROCK	42	84.0	

TRANSECT 5

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	13	26.0	92.9
	PG	PERENNIAL GRASS	1	2.0	7.1
		SUBTOTAL	14	28.0	100.0
FORB	ASTRA	ASTRAGALUS SP.	4	8.0	80.0
	ERIOG	ERIOGONUM SP.	1	2.0	20.0
		SUBTOTAL	5	10.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	3	6.0	100.0
		SUBTOTAL	3	6.0	100.0
		TOTAL	22	44.0	
BARE GROUND			2	4.0	
LITTER-ROCK			26	52.0	
VEGETATION, LITTER-ROCK			48	96.0	

TRANSECT 6

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	4	8.0	100.0
		SUBTOTAL	4	8.0	100.0
FORB	ASTRA	ASTRAGALUS SP.	7	14.0	87.5
	STPI2	STANLEYA PINNATA	1	2.0	12.5
		SUBTOTAL	8	16.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	6	12.0	100.0
		SUBTOTAL	6	12.0	100.0

TOTAL	18	36.0	
BARE GROUND	8	16.0	
LITTER-ROCK	24	48.0	
VEGETATION, LITTER-ROCK	42	84.0	

TRANSECT 7

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	6	12.0	100.0
		SUBTOTAL	6	12.0	100.0
FORB	ASTRA	ASTRAGALUS SP.	2	4.0	66.7
	PF	PERENNIAL FORB	1	2.0	33.3
		SUBTOTAL	3	6.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	10	20.0	100.0
		SUBTOTAL	10	20.0	100.0
TREE	QUGA	QUERCUS GAMBELII	2	4.0	100.0
		SUBTOTAL	2	4.0	100.0
		TOTAL	21	42.0	
BARE GROUND			11	22.0	
LITTER-ROCK			18	36.0	
VEGETATION, LITTER-ROCK			39	78.0	

TRANSECT 8

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	9	18.0	100.0
		SUBTOTAL	9	18.0	100.0
FORB	ASTRA	ASTRAGALUS SP.	4	8.0	100.0
		SUBTOTAL	4	8.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	5	10.0	100.0
		SUBTOTAL	5	10.0	100.0

			TOTAL	18	36.0
BARE GROUND				18	36.0
LITTER-ROCK				14	28.0
VEGETATION, LITTER-ROCK				32	64.0

TRANSECT 9

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	8	16.0	100.0
		SUBTOTAL	8	16.0	100.0
SUB-SHRUB	ARFR	ARTEMISIA FRIGIDA	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	4	8.0	100.0
		SUBTOTAL	4	8.0	100.0
TREE	PIED	PINUS EDULIS	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SUCCULENT	YUCCA	YUCCA SP.	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
		TOTAL	15	30.0	
BARE GROUND			7	14.0	
LITTER-ROCK			28	56.0	
VEGETATION, LITTER-ROCK			43	86.0	

TRANSECT 10

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	14	28.0	100.0
		SUBTOTAL	14	28.0	100.0
FORB	ASTRA	ASTRAGALUS SP.	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	4	8.0	100.0

		SUBTOTAL	4	8.0	100.0
TREE	PIED	PINUS EDULIS	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SUCCULENT	YUCCA	YUCCA SP.	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
		TOTAL	21	42.0	
BARE GROUND			11	22.0	
LITTER-ROCK			18	36.0	
VEGETATION, LITTER-ROCK			39	78.0	

TRANSECT 11

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	8	16.0	61.5
	PG	PERENNIAL GRASS	5	10.0	38.5
		SUBTOTAL	13	26.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	5	10.0	100.0
		SUBTOTAL	5	10.0	100.0
		TOTAL	18	36.0	
BARE GROUND			7	14.0	
LITTER-ROCK			25	50.0	
VEGETATION, LITTER-ROCK			43	86.0	

TRANSECT 12

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	17	34.0	100.0
		SUBTOTAL	17	34.0	100.0
FORB	ASTRA	ASTRAGALUS SP.	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0

SHRUB	ARTRT	ARTEMISIA TRIDENTATA		6	12.0	100.0
			SUBTOTAL	6	12.0	100.0
			TOTAL	24	48.0	
BARE GROUND				6	12.0	
LITTER-ROCK				20	40.0	
VEGETATION, LITTER-ROCK				44	88.0	

TRANSECT 13

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME		# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.		15	30.0	100.0
			SUBTOTAL	15	30.0	100.0
FORB	ASTRA	ASTRAGALUS SP.		2	4.0	100.0
			SUBTOTAL	2	4.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA		2	4.0	100.0
			SUBTOTAL	2	4.0	100.0
TREE	QUGA	QUERCUS GAMBELII		5	10.0	100.0
			SUBTOTAL	5	10.0	100.0
			TOTAL	24	48.0	
BARE GROUND				5	10.0	
LITTER-ROCK				21	42.0	
VEGETATION, LITTER-ROCK				45	90.0	

TRANSECT 14

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME		# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.		12	24.0	100.0
			SUBTOTAL	12	24.0	100.0
FORB	ASTRA	ASTRAGALUS SP.		1	2.0	100.0
			SUBTOTAL	1	2.0	100.0

SHRUB	ARTRT	ARTEMISIA TRIDENTATA	10	20.0	100.0
		SUBTOTAL	10	20.0	100.0
		TOTAL	23	46.0	
BARE GROUND			7	14.0	
LITTER-ROCK			20	40.0	
VEGETATION, LITTER-ROCK			43	86.0	

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TRANSECT 15

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	8	16.0	100.0
		SUBTOTAL	8	16.0	100.0
FORB	ASTRA	ASTRAGALUS SP.	3	6.0	100.0
		SUBTOTAL	3	6.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	3	6.0	100.0
		SUBTOTAL	3	6.0	100.0
		TOTAL	14	28.0	
BARE GROUND			17	34.0	
LITTER-ROCK			19	38.0	
VEGETATION, LITTER-ROCK			33	66.0	

SUMMARY - ALL COVER TRANSECTS

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	N	# OF HITS	PERCENT COVER ALL CLASSES MEAN	S.D.	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	15	138	18.4	8.4	93.2
	PG	PERENNIAL GRASS	15	10	1.3	2.8	6.8
		SUBTOTAL	15	148	19.7	8.5	100.0

FORB	ASTRA	ASTRAGALUS SP.		15	44	5.9	4.4	93.6
	ERIOG	ERIOGONUM SP.		15	1	.1	.5	2.1
	PF	PERENNIAL FORB		15	1	.1	.5	2.1
	STPI2	STANLEYA PINNATA		15	1	.1	.5	2.1
			SUBTOTAL	15	47	6.3	4.8	100.0
0								
SUB-SHRUB	ARFR	ARTEMISIA FRIGIDA		15	1	.1	.5	100.0
			SUBTOTAL	15	1	.1	.5	100.0
0								
SHRUB	ARTRT	ARTEMISIA TRIDENTATA		15	82	10.9	5.5	100.0
			SUBTOTAL	15	82	10.9	5.5	100.0
0								
TREE	PIED	PINUS EDULIS		15	2	.3	.7	16.7
	QUGA	QUERCUS GAMBELII		15	10	1.3	3.0	83.3
			SUBTOTAL	15	12	1.6	2.9	100.0
0								
SUCCULENT	YUCCA	YUCCA SP.		15	2	.3	.7	100.0
			SUBTOTAL	15	2	.3	.7	100.0
0								
			TOTAL	15	292	38.9	7.3	
BARE GROUND				15	124	16.5	9.1	
LITTER-ROCK				15	334	44.5	8.2	
VEGETATION, LITTER-ROCK				15	626	83.5	9.1	

VEGETATION SPECIES FREQUENCY

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	TOTAL NUMBER OF TRANSECTS	NUMBER OF TRANSECTS CONTAINING SPECIES	PERCENT FREQUENCY
GRASS	AGROP	AGROPYRON SP.	15	15	100.0
	PG	PERENNIAL GRASS	15	4	26.7
		SUBTOTAL	15	15	100.0
FORB	ASTRA	ASTRAGALUS SP.	15	13	86.7
	ERIOG	ERIOGONUM SP.	15	1	6.7
	PF	PERENNIAL FORB	15	1	6.7

	STPI2	STANLEYA PINNATA	15	1	6.7
		SUBTOTAL	15	13	86.7
SUB-SHRUB	ARFR	ARTEMISIA FRIGIDA	15	1	6.7
		SUBTOTAL	15	1	6.7
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	15	15	100.0
		SUBTOTAL	15	15	100.0
TREE	PIED	PINUS EDULIS	15	2	13.3
	QUGA	QUERCUS GAMBELII	15	3	20.0
		SUBTOTAL	15	5	33.3
SUCCULENT	YUCCA	YUCCA SP.	15	2	13.3
		SUBTOTAL	15	2	13.3
		TOTAL	15	15	100.0

DIVERSITY INDEX CALCULATIONS

SHANNON INDEX - 1.373
VARIANCE - .024
MAXIMUM INDEX - 2.398
EVENNESS - .573
NO OF SPECIES - 11

****

**** EVALUATION OF SAMPLING ADEQUACY ****

DESIRED CONFIDENCE LEVEL = 90.0 PERCENT

SAMPLE SIZE = 15

MEAN VEGETATION PERCENT COVER = 38.9
SAMPLE STANDARD DEVIATION = 7.3
MINIMUM SAMPLE SIZE TO PROVIDE DESIRED CONFIDENCE LEVEL = 11
Z STATISTIC = 1.46
CONFIDENCE LEVEL OBTAINED = 92.8 PERCENT

MEAN VEGETATION, LITTER-ROCK PERCENT COVER = 83.5
SAMPLE STANDARD DEVIATION = 9.1
MINIMUM SAMPLE SIZE TO PROVIDE DESIRED CONFIDENCE LEVEL = 4

Z STATISTIC = 2.52
CONFIDENCE LEVEL OBTAINED = 99.4 PERCENT

****

VEGETATION COVER, FREQUENCY, AND SPECIES DIVERSITY ESTIMATES

PRICE RIVER COAL COMPANY
HELPER, UTAH

WILLOW CREEK GRASS-SAGE
REFERENCE SITE
SEPTEMBER 1981

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TRANSECT 1

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGSM	AGROPYRON SMITHII	3	6.0	37.5
	BRTEC	BROMUS TECTORUM	3	6.0	37.5
	ORHY	ORYZOPSIS HYMENOIDES	2	4.0	25.0
		SUBTOTAL	8	16.0	100.0
FORB	PF	PERENNIAL FORB	1	2.0	50.0
	SAKA	SALSOLA KALI	1	2.0	50.0
		SUBTOTAL	2	4.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	9	18.0	81.8
	ATCA	ATRIPLEX CANESCENS	1	2.0	9.1
	CHVIV	CHRYSOTHAMNUS VISCIDIFLORUS	1	2.0	9.1
		SUBTOTAL	11	22.0	100.0
		TOTAL	21	42.0	
BARE GROUND			15	30.0	
LITTER-ROCK			14	28.0	
VEGETATION, LITTER-ROCK			35	70.0	

TRANSECT 2

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGSM	AGROPYRON SMITHII	1	2.0	20.0
	AGROP	AGROPYRON SP.	1	2.0	20.0
	BRTEC	BROMUS TECTORUM	1	2.0	20.0
	PG	PERENNIAL GRASS	2	4.0	40.0
		SUBTOTAL	5	10.0	100.0
FORB	SOLID	SOLIDAGO SP.	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0

SHRUB	ARTRT	ARTEMISIA TRIDENTATA	12	24.0	92.3
	ATCA	ATRIPLEX CANESCENS	1	2.0	7.7
		SUBTOTAL	13	26.0	100.0
		TOTAL	19	38.0	
BARE GROUND			11	22.0	
LITTER-ROCK			20	40.0	
VEGETATION, LITTER-ROCK			39	78.0	

TRANSECT 3

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	2	4.0	33.3
	ORHY	ORYZOPSIS HYMENOIDES	1	2.0	16.7
	PG	PERENNIAL GRASS	2	4.0	33.3
	STIPA	STIPA SP.	1	2.0	16.7
		SUBTOTAL	6	12.0	100.0
FORB	PF	PERENNIAL FORB	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	10	20.0	100.0
		SUBTOTAL	10	20.0	100.0
TREE	JUOS	JUNIPERUS OSTEOSPERMA	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
		TOTAL	18	36.0	
BARE GROUND			8	16.0	
LITTER-ROCK			24	48.0	
VEGETATION, LITTER-ROCK			42	84.0	

TRANSECT 4

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	BRTET	BROMUS TECTORUM	4	8.0	57.1
	PG	PERENNIAL GRASS	2	4.0	28.6
	STIPA	STIPA SP.	1	2.0	14.3

		SUBTOTAL	7	14.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	15	30.0	100.0
		SUBTOTAL	15	30.0	100.0
		TOTAL	22	44.0	
BARE GROUND			18	36.0	
LITTER-ROCK			10	20.0	
VEGETATION, LITTER-ROCK			32	64.0	

TRANSECT 5

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	1	2.0	25.0
	PG	PERENNIAL GRASS	3	6.0	75.0
		SUBTOTAL	4	8.0	100.0
FORB	ASTRA	ASTRAGALUS SP.	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	10	20.0	100.0
		SUBTOTAL	10	20.0	100.0
		TOTAL	15	30.0	
BARE GROUND			12	24.0	
LITTER-ROCK			23	46.0	
VEGETATION, LITTER-ROCK			38	76.0	

TRANSECT 6

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGSM	AGROPYRON SMITHII	1	2.0	14.3
	BOGR	BOUTELOUA GRACILIS	3	6.0	42.9
	BRTET	BROMUS TECTORUM	1	2.0	14.3
	PG	PERENNIAL GRASS	2	4.0	28.6
		SUBTOTAL	7	14.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	12	24.0	92.3

	ATCA	ATRIPLEX CANESCENS	1	2.0	7.7
		SUBTOTAL	13	26.0	100.0
		TOTAL	20	40.0	
BARE GROUND			14	28.0	
LITTER-ROCK			16	32.0	
VEGETATION, LITTER-ROCK			36	72.0	

TRANSECT 7

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGSM	AGROPYRON SMITHII	3	6.0	42.9
	ORHY	ORYZOPSIS HYMENOIDES	2	4.0	28.6
	PG	PERENNIAL GRASS	2	4.0	28.6
		SUBTOTAL	7	14.0	100.0
FORB	PF	PERENNIAL FORB	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	13	26.0	100.0
		SUBTOTAL	13	26.0	100.0
		TOTAL	21	42.0	
BARE GROUND			16	32.0	
LITTER-ROCK			13	26.0	
VEGETATION, LITTER-ROCK			34	68.0	

TRANSECT 8

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	BRTET	BROMUS TECTORUM	3	6.0	42.9
	PG	PERENNIAL GRASS	4	8.0	57.1
		SUBTOTAL	7	14.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	13	26.0	86.7
	ATCA	ATRIPLEX CANESCENS	2	4.0	13.3
		SUBTOTAL	15	30.0	100.0

		TOTAL	22	44.0	
BARE GROUND			13	26.0	
LITTER-ROCK			15	30.0	
VEGETATION, LITTER-ROCK			37	74.0	

TRANSECT 9

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGSM	AGROPYRON SMITHII	11	22.0	100.0
		SUBTOTAL	11	22.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	1	2.0	25.0
	ATCA	ATRIPLEX CANESCENS	2	4.0	50.0
	EPVI	EPHEDRA VIRIDUS	1	2.0	25.0
		SUBTOTAL	4	8.0	100.0
		TOTAL	15	30.0	
BARE GROUND			11	22.0	
LITTER-ROCK			24	48.0	
VEGETATION, LITTER-ROCK			39	78.0	

TRANSECT 10

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGSM	AGROPYRON SMITHII	4	8.0	40.0
	AGROP	AGROPYRON SP.	2	4.0	20.0
	BRTET	BROMUS TECTORUM	1	2.0	10.0
	PG	PERENNIAL GRASS	3	6.0	30.0
		SUBTOTAL	10	20.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	5	10.0	83.3
	CHNAN	CHRYSOTHAMNUS NAUSEOSUS	1	2.0	16.7
		SUBTOTAL	6	12.0	100.0
		TOTAL	16	32.0	
BARE GROUND			10	20.0	
LITTER-ROCK			24	48.0	

VEGETATION, LITTER-ROCK	40	80.0

TRANSECT 11

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGSM	AGROPYRON SMITHII	1	2.0	16.7
	BRTET	BROMUS TECTORUM	5	10.0	83.3
		SUBTOTAL	6	12.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	19	38.0	100.0
		SUBTOTAL	19	38.0	100.0
		TOTAL	25	50.0	
BARE GROUND			15	30.0	
LITTER-ROCK			10	20.0	
VEGETATION, LITTER-ROCK			35	70.0	

TRANSECT 12

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGSM	AGROPYRON SMITHII	3	6.0	42.9
	BOGR	BOUTELOUA GRACILIS	3	6.0	42.9
	BRTET	BROMUS TECTORUM	1	2.0	14.3
		SUBTOTAL	7	14.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	13	26.0	100.0
		SUBTOTAL	13	26.0	100.0
		TOTAL	20	40.0	
BARE GROUND			20	40.0	
LITTER-ROCK			10	20.0	
VEGETATION, LITTER-ROCK			30	60.0	

TRANSECT 13

	PERCENT COVER	PERCENT COVER

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LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGSM	AGROPYRON SMITHII	3	6.0	33.3
	AGROP	AGROPYRON SP.	1	2.0	11.1
	BRTET	BROMUS TECTORUM	1	2.0	11.1
	ORHY	ORYZOPSIS HYMENOIDES	1	2.0	11.1
	PG	PERENNIAL GRASS	3	6.0	33.3
		SUBTOTAL	9	18.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	13	26.0	100.0
		SUBTOTAL	13	26.0	100.0
		TOTAL	22	44.0	
BARE GROUND			9	18.0	
LITTER-ROCK			19	38.0	
VEGETATION, LITTER-ROCK			41	82.0	

TRANSECT 14

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGSM	AGROPYRON SMITHII	2	4.0	28.6
	AGROP	AGROPYRON SP.	1	2.0	14.3
	BRTET	BROMUS TECTORUM	2	4.0	28.6
	PG	PERENNIAL GRASS	2	4.0	28.6
		SUBTOTAL	7	14.0	100.0
FORB	PF	PERENNIAL FORB	1	2.0	50.0
	SOLID	SOLIDAGO SP.	1	2.0	50.0
		SUBTOTAL	2	4.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	12	24.0	100.0
		SUBTOTAL	12	24.0	100.0
		TOTAL	21	42.0	
BARE GROUND			14	28.0	
LITTER-ROCK			15	30.0	
VEGETATION, LITTER-ROCK			36	72.0	

TRANSECT 15

				PERCENT COVER	PERCENT COVER

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	ALL CLASSES	WITHIN LIFE FORM
GRASS	AGSM	AGROPYRON SMITHII	2	4.0	50.0
	AGROP	AGROPYRON SP.	1	2.0	25.0
	BRTET	BROMUS TECTORUM	1	2.0	25.0
		SUBTOTAL	4	8.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	15	30.0	93.8
	CHNAN	CHRYSOTHAMNUS NAUSEOSUS	1	2.0	6.3
		SUBTOTAL	16	32.0	100.0
		TOTAL	20	40.0	
BARE GROUND			16	32.0	
LITTER-ROCK			14	28.0	
VEGETATION, LITTER-ROCK			34	68.0	

SUMMARY - ALL COVER TRANSECTS

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	N	# OF HITS	PERCENT COVER ALL CLASSES MEAN	PERCENT COVER ALL CLASSES S.D.	PERCENT COVER WITHIN LIFE FORM
GRASS	AGSM	AGROPYRON SMITHII	15	34	4.5	5.5	32.4
	AGROP	AGROPYRON SP.	15	9	1.2	1.5	8.6
	BOGR	BOUTELOUA GRACILIS	15	6	.8	2.1	5.7
	BRTET	BROMUS TECTORUM	15	23	3.1	3.1	21.9
	ORHY	ORYZOPSIS HYMENOIDES	15	6	.8	1.5	5.7
	PG	PERENNIAL GRASS	15	25	3.3	2.7	23.8
	STIPA	STIPA SP.	15	2	.3	.7	1.9
0		SUBTOTAL	15	105	14.0	3.9	100.0
FORB	ASTRA	ASTRAGALUS SP.	15	1	.1	.5	12.5
	PF	PERENNIAL FORB	15	4	.5	.9	50.0
	SAKA	SALSOLA KALI	15	1	.1	.5	12.5
	SOLID	SOLIDAGO SP.	15	2	.3	.7	25.0
0		SUBTOTAL	15	8	1.1	1.5	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	15	172	22.9	8.5	94.0
	ATCA	ATRIPLEX CANESCENS	15	7	.9	1.5	3.8
	CHNAN	CHRYSOTHAMNUS NAUSEOSUS	15	2	.3	.7	1.1
	CHVIV	CHRYSOTHAMNUS VISCIDIFLORUS	15	1	.1	.5	.5
	EPVI	EPHEDRA VIRIDUS	15	1	.1	.5	.5

		SUBTOTAL	15	183	24.4	7.5	100.0
TREE	JUOS	JUNIPERUS OSTEOSPERMA	15	1	.1	.5	100.0
		SUBTOTAL	15	1	.1	.5	100.0
		TOTAL	15	297	39.6	5.6	
BARE GROUND			15	202	26.9	6.7	
LITTER-ROCK			15	251	33.5	10.5	
VEGETATION, LITTER-ROCK			15	548	73.1	6.7	

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VEGETATION SPECIES FREQUENCY

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	TOTAL NUMBER OF TRANSECTS	NUMBER OF TRANSECTS CONTAINING SPECIES	PERCENT FREQUENCY
GRASS	AGSM	AGROPYRON SMITHII	15	11	73.3
	AGROP	AGROPYRON SP.	15	7	46.7
	BOGR	BOUTELOUA GRACILIS	15	2	13.3
	BRTET	BROMUS TECTORUM	15	11	73.3
	ORHY	ORYZOPSIS HYMENOIDES	15	4	26.7
	PG	PERENNIAL GRASS	15	10	66.7
	STIPA	STIPA SP.	15	2	13.3
		SUBTOTAL	15	15	100.0
FORB	ASTRA	ASTRAGALUS SP.	15	1	6.7
	PF	PERENNIAL FORB	15	4	26.7
	SAKA	SALSOLA KALI	15	1	6.7
	SOLID	SOLIDAGO SP.	15	2	13.3
		SUBTOTAL	15	6	40.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	15	15	100.0
	ATCA	ATRIPLEX CANESCENS	15	5	33.3
	CHNAN	CHRYSOTHAMNUS NAUSEOSUS	15	2	13.3
	CHVIV	CHRYSOTHAMNUS VISCIDIFLORUS	15	1	6.7
	EPVI	EPHEDRA VIRIDUS	15	1	6.7
		SUBTOTAL	15	15	100.0
TREE	JUOS	JUNIPERUS OSTEOSPERMA	15	1	6.7
		SUBTOTAL	15	1	6.7

TOTAL	15	15	100.0

DIVERSITY INDEX CALCULATIONS

SHANNON INDEX - 1.578
VARIANCE - .047
MAXIMUM INDEX - 2.833
EVENNESS - .557
NO OF SPECIES - 17

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**** EVALUATION OF SAMPLING ADEQUACY ****

DESIRED CONFIDENCE LEVEL = 90.0 PERCENT

SAMPLE SIZE = 15
MEAN VEGETATION PERCENT COVER = 39.6
SAMPLE STANDARD DEVIATION = 5.6
MINIMUM SAMPLE SIZE TO PROVIDE DESIRED CONFIDENCE LEVEL = 7
Z STATISTIC = 1.93
CONFIDENCE LEVEL OBTAINED = 97.4 PERCENT

MEAN VEGETATION, LITTER-ROCK PERCENT COVER = 73.1
SAMPLE STANDARD DEVIATION = 6.7
MINIMUM SAMPLE SIZE TO PROVIDE DESIRED CONFIDENCE LEVEL = 3
Z STATISTIC = 2.98
CONFIDENCE LEVEL OBTAINED = 99.9 PERCENT

****

VEGETATION COVER, FREQUENCY, AND SPECIES DIVERSITY ESTIMATES

PRICE RIVER COAL COMPANY
HELPER, UTAH

BARN CANYON GRASS-SAGE
REFERENCE SITE
OCTOBER 1981

TRANSECT 1

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	15	30.0	68.2
	AGSP3	AGROPYRON SPICATUM	2	4.0	9.1
	BRIN	BROMUS INERMIS	1	2.0	4.5
	BRTET	BROMUS TECTORUM	4	8.0	18.2
		SUBTOTAL	22	44.0	100.0
FORB	ARLUL	ARTEMISIA LUDOVICIANA	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	1	2.0	33.3
	RIBES	RIBES SP.	2	4.0	66.7
		SUBTOTAL	3	6.0	100.0
		TOTAL	26	52.0	
BARE GROUND			3	6.0	
LITTER-ROCK			21	42.0	
VEGETATION, LITTER-ROCK			47	94.0	

TRANSECT 2

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	8	16.0	40.0
	AGROP	AGROPYRON SP.	6	12.0	30.0
	BRTET	BROMUS TECTORUM	6	12.0	30.0
		SUBTOTAL	20	40.0	100.0
FORB	ARLUL	ARTEMISIA LUDOVICIANA	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	6	12.0	75.0

	RIBES	RIBES SP.	2	4.0	12.5
		SUBTOTAL	8	16.0	100.0
		TOTAL	29	58.0	
BARE GROUND			0	.0	
LITTER-ROCK			21	42.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 3

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINT	AGROPYRON INTERMEDIUM	7	14.0	50.0
	BRTET	BROMUS TECTORUM	1	2.0	7.1
	PG	PERENNIAL GRASS	6	12.0	42.9
		SUBTOTAL	14	28.0	100.0
FORB	AF	ANNUAL FORB	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	7	14.0	100.0
		SUBTOTAL	7	14.0	100.0
		TOTAL	22	44.0	
BARE GROUND			3	6.0	
LITTER-ROCK			25	50.0	
VEGETATION, LITTER-ROCK			47	94.0	

TRANSECT 4

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINT	AGROPYRON INTERMEDIUM	4	8.0	18.2
	AGROP	AGROPYRON SP.	7	14.0	31.8
	AGSP3	AGROPYRON SPICATUM	5	10.0	22.7
	BRTET	BROMUS TECTORUM	5	10.0	22.7
	PG	PERENNIAL GRASS	1	2.0	4.5
		SUBTOTAL	22	44.0	100.0
FORB	ARLUL	ARTEMISIA LUDOVICIANA	1	2.0	100.0

		SUBTOTAL	1	2.0	100.0
SUB-SHRUB	XASA	XANTHOCEPHALUM SAROTHRAE	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	4	8.0	66.7
	ATCA	ATRIPLEX CANESCENS	2	4.0	33.3
		SUBTOTAL	6	12.0	100.0
		TOTAL	30	60.0	
BARE GROUND			0	.0	
LITTER-ROCK			20	40.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 5

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	9	18.0	42.9
	AGSP3	AGROPYRON SPICATUM	1	2.0	4.8
	BRIN	BROMUS INERMIS	1	2.0	4.8
	BRTET	BROMUS TECTORUM	10	20.0	47.6
		SUBTOTAL	21	42.0	100.0
FORB	ARLUL	ARTEMISIA LUDOVICIANA	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
		TOTAL	22	44.0	
BARE GROUND			0	.0	
LITTER-ROCK			28	56.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 6

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	4	8.0	17.4
	AGROP	AGROPYRON SP.	9	18.0	39.1
	BRIN	BROMUS INERMIS	2	4.0	8.7
	BRTET	BROMUS TECTORUM	8	16.0	34.8
		SUBTOTAL	23	46.0	100.0

FORB	ARLUL	ARTEMISIA LUDOVICIANA	4	8.0	100.0
		SUBTOTAL	4	8.0	100.0
SHRUB	ATCA	ATRIPLEX CANESCENS	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
		TOTAL	28	56.0	
BARE GROUND			0	.0	
LITTER-ROCK			22	44.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 7

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	5	10.0	23.8
	AGROP	AGROPYRON SP.	4	8.0	19.0
	AGSP3	AGROPYRON SPICATUM	5	10.0	23.8
	BRIN	BROMUS INERMIS	1	2.0	4.8
	BRTET	BROMUS TECTORUM	3	6.0	14.3
	STIPA	STIPA SP.	3	6.0	14.3
		SUBTOTAL	21	42.0	100.0
FORB	ARLUL	ARTEMISIA LUDOVICIANA	2	4.0	40.0
	PF	PERENNIAL FORB	3	6.0	60.0
		SUBTOTAL	5	10.0	100.0
SHRUB	AMUTU	AMELANCHIER UTAHENSIS	4	8.0	80.0
	ARTRT	ARTEMISIA TRIDENTATA	1	2.0	20.0
		SUBTOTAL	5	10.0	100.0
		TOTAL	31	62.0	
BARE GROUND			0	.0	
LITTER-ROCK			19	38.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 8

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM

GRASS	AGINI	AGROPYRON INTERMEDIUM	1	2.0	4.5
	AGROP	AGROPYRON SP.	10	20.0	45.5
	AGSP3	AGROPYRON SPICATUM	4	8.0	18.2
	BRIN	BROMUS INERMIS	1	2.0	4.5
	BRTET	BROMUS TECTORUM	6	12.0	27.3
		SUBTOTAL	22	44.0	100.0
FORB	PF	PERENNIAL FORB	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	ATCA	ATRIPLEX CANESCENS	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
		TOTAL	24	48.0	
BARE GROUND			0	.0	
LITTER-ROCK			26	52.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 9

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	2	4.0	8.7
	AGROP	AGROPYRON SP.	11	22.0	47.8
	AGSP3	AGROPYRON SPICATUM	3	6.0	13.0
	BRIN	BROMUS INERMIS	3	6.0	13.0
	BRTET	BROMUS TECTORUM	2	4.0	8.7
	STIPA	STIPA SP.	2	4.0	8.7
		SUBTOTAL	23	46.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	1	2.0	25.0
	ATCA	ATRIPLEX CANESCENS	3	6.0	75.0
		SUBTOTAL	4	8.0	100.0
SUCCULENT	OPPO	OPUNTIA POLYACANTHA	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
		TOTAL	28	56.0	
BARE GROUND			0	.0	
LITTER-ROCK			22	44.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 10

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	11	22.0	55.0
	AGSP3	AGROPYRON SPICATUM	4	8.0	20.0
	BRIN	BROMUS INERMIS	3	6.0	15.0
	STIPA	STIPA SP.	2	4.0	10.0
		SUBTOTAL	20	40.0	100.0
FORB	PF	PERENNIAL FORB	3	6.0	100.0
		SUBTOTAL	3	6.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	1	2.0	33.3
	ATCA	ATRIPLEX CANESCENS	2	4.0	66.7
		SUBTOTAL	3	6.0	100.0
		TOTAL	26	52.0	
BARE GROUND			0	.0	
LITTER-ROCK			24	48.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 11

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	5	10.0	29.4
	BRIN	BROMUS INERMIS	2	4.0	11.8
	BRTET	BROMUS TECTORUM	7	14.0	41.2
	STIPA	STIPA SP.	3	6.0	17.6
		SUBTOTAL	17	34.0	100.0
FORB	ARLUL	ARTEMISIA LUDOVICIANA	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	ATCA	ATRIPLEX CANESCENS	6	12.0	75.0
	RIBES	RIBES SP.	2	4.0	25.0
		SUBTOTAL	8	16.0	100.0
SUCCULENT	OPPO	OPUNTIA POLYACANTHA	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
		TOTAL	27	54.0	

BARE GROUND	1	2.0
LITTER-ROCK	22	44.0
VEGETATION, LITTER-ROCK	49	98.0

TRANSECT 12

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	1	2.0	5.0
	AGROP	AGROPYRON SP.	9	18.0	45.0
	AGSP3	AGROPYRON SPICATUM	2	4.0	10.0
	BRIN	BROMUS INERMIS	1	2.0	5.0
	BRTET	BROMUS TECTORUM	7	14.0	35.0
		SUBTOTAL	20	40.0	100.0
FORB	PF	PERENNIAL FORB	2	4.0	100.0
		SUBTOTAL	2	4.0	100.0
SHRUB	ATCA	ATRIPLEX CANESCENS	8	16.0	100.0
		SUBTOTAL	8	16.0	100.0
		TOTAL	30	60.0	
BARE GROUND			1	2.0	
LITTER-ROCK			19	38.0	
VEGETATION, LITTER-ROCK			49	98.0	

TRANSECT 13

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	2	4.0	8.0
	AGROP	AGROPYRON SP.	9	18.0	36.0
	AGSP3	AGROPYRON SPICATUM	3	6.0	12.0
	BRIN	BROMUS INERMIS	1	2.0	4.0
	BRTET	BROMUS TECTORUM	8	16.0	32.0
	STIPA	STIPA SP.	2	4.0	8.0
		SUBTOTAL	25	50.0	100.0
FORB	PF	PERENNIAL FORB	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
		TOTAL	26	52.0	

BARE GROUND	0	.0
LITTER-ROCK	24	48.0
VEGETATION, LITTER-ROCK	50	100.0

TRANSECT 14

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	2	4.0	13.3
	AGROP	AGROPYRON SP.	4	8.0	26.7
	BRIN	BROMUS INERMIS	2	4.0	13.3
	BRTET	BROMUS TECTORUM	7	14.0	46.7
		SUBTOTAL	15	30.0	100.0
FORB	PF	PERENNIAL FORB	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	CHNAN	CHRYSOTHAMNUS NAUSEOSUS	1	2.0	14.3
	RIBES	RIBES SP.	6	12.0	85.7
		SUBTOTAL	7	14.0	100.0
		TOTAL	23	46.0	

BARE GROUND	0	.0
LITTER-ROCK	27	54.0
VEGETATION, LITTER-ROCK	50	100.0

TRANSECT 15

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	4	8.0	23.5
	AGROP	AGROPYRON SP.	4	8.0	23.5
	AGSP3	AGROPYRON SPICATUM	1	2.0	5.9
	BRTET	BROMUS TECTORUM	8	16.0	47.1
		SUBTOTAL	17	34.0	100.0
FORB	PF	PERENNIAL FORB	2	4.0	100.0
		SUBTOTAL	2	4.0	100.0
SHRUB	ATCA	ATRIPLEX CANESCENS	2	4.0	25.0
	RIBES	RIBES SP.	6	12.0	75.0
		SUBTOTAL	8	16.0	100.0

TOTAL	27	54.0
BARE GROUND	0	.0
LITTER-ROCK	23	46.0
VEGETATION, LITTER-ROCK	50	100.0

SUMMARY - ALL COVER TRANSECTS

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	N	# OF HITS	PERCENT COVER ALL CLASSES MEAN	S.D.	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	15	55	7.3	8.0	18.2
	AGROP	AGROPYRON SP.	15	98	13.1	7.2	32.5
	AGSP3	AGROPYRON SPICATUM	15	30	4.0	3.8	9.9
	BRIN	BROMUS INERMIS	15	18	2.4	2.0	6.0
	BRTET	BROMUS TECTORUM	15	82	10.9	5.8	27.2
	PG	PERENNIAL GRASS	15	7	.9	3.1	2.3
	STIPA	STIPA SP.	15	12	1.6	2.4	4.0
		SUBTOTAL	15	302	40.3	6.2	100.0
0							
FORB	AF	ANNUAL FORB	15	1	.1	.5	4.0
	ARLUL	ARTEMISIA LUDOVICIANA	15	11	1.5	2.2	44.0
	PF	PERENNIAL FORB	15	13	1.7	2.3	52.0
		SUBTOTAL	15	25	3.3	2.7	100.0
0							
SUB-SHRUB	XASA	XANTHOCEPHALUM SAROTHRAE	15	1	.1	.5	100.0
		SUBTOTAL	15	1	.1	.5	100.0
0							
SHRUB	AMUTU	AMELANCHIER UTAHENSIS	15	4	.5	2.1	5.8
	ARTRT	ARTEMISIA TRIDENTATA	15	21	2.8	4.6	30.4
	ATCA	ATRIPLEX CANESCENS	15	25	3.3	4.8	36.2
	CHNAN	CHRYSOTHAMNUS NAUSEOSUS	15	1	.1	.5	1.4
	RIBES	RIBES SP.	15	18	2.4	4.2	26.1
		SUBTOTAL	15	69	9.2	6.2	100.0
0							
SUCCULENT	OPPO	OPUNTIA POLYACANTHA	15	2	.3	.7	100.0
		SUBTOTAL	15	2	.3	.7	100.0
0							

TOTAL	15	399	53.2	5.7
BARE GROUND	15	8	1.1	2.1
LITTER-ROCK	15	343	45.7	5.5
VEGETATION, LITTER-ROCK	15	742	98.9	2.1

VEGETATION SPECIES FREQUENCY

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	TOTAL NUMBER OF TRANSECTS	NUMBER OF TRANSECTS CONTAINING SPECIES	PERCENT FREQUENCY
GRASS	AGINI	AGROPYRON INTERMEDIUM	15	12	80.0
	AGROP	AGROPYRON SP.	15	13	86.7
	AGSP3	AGROPYRON SPICATUM	15	10	66.7
	BRIN	BROMUS INERMIS	15	11	73.3
	BRTET	BROMUS TECTORUM	15	14	93.3
	PG	PERENNIAL GRASS	15	2	13.3
	STIPA	STIPA SP.	15	5	33.3
		SUBTOTAL	15	15	100.0
FORB	AF	ANNUAL FORB	15	1	6.7
	APLUL	ARTEMISIA LUDOVICIANA	15	7	46.7
	PF	PERENNIAL FORB	15	7	46.7
		SUBTOTAL	15	14	93.3
SUB-SHRUB	XASA	XANTHOCEPHALUM SAROTHRAE	15	1	6.7
		SUBTOTAL	15	1	6.7
SHRUB	AMUTU	AMELANCHIER UTAHENSIS	15	1	6.7
	ARTRT	ARTEMISIA TRIDENTATA	15	7	46.7
	ATCA	ATRIPLEX CANESCENS	15	8	53.3
	CHNAN	CHRYSOTHAMNUS NAUSEOSUS	15	1	6.7
	RIBES	RIBES SP.	15	5	33.3
		SUBTOTAL	15	13	86.7
SUCCULENT	OPPO	OPUNTIA POLYACANTHA	15	2	13.3
		SUBTOTAL	15	2	13.3
		TOTAL	15	15	100.0

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DIVERSITY INDEX CALCULATIONS
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SHANNON INDEX - 2.250
VARIANCE      -  .015
MAXIMUM INDEX - 2.833
EVENNESS      -  .794
NO OF SPECIES -    17

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**** EVALUATION OF SAMPLING ADEQUACY ****
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DESIRED CONFIDENCE LEVEL = 90.0 PERCENT

SAMPLE SIZE =  15

MEAN VEGETATION PERCENT COVER =      53.2
SAMPLE STANDARD DEVIATION =        5.7
MINIMUM SAMPLE SIZE TO PROVIDE DESIRED CONFIDENCE LEVEL =   4
Z STATISTIC = 2.54
CONFIDENCE LEVEL OBTAINED = 99.5 PERCENT


MEAN VEGETATION, LITTER-ROCK PERCENT COVER =       98.9
SAMPLE STANDARD DEVIATION =        2.1
MINIMUM SAMPLE SIZE TO PROVIDE DESIRED CONFIDENCE LEVEL =   0
Z STATISTIC = *12.78
CONFIDENCE LEVEL OBTAINED = 100.0 PERCENT

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VEGETATION COVER, FREQUENCY, AND SPECIES DIVERSITY ESTIMATES

PRICE RIVER COAL COMPANY
HELPER, UTAH

BARN CANYON GRASS-SAGE
AFFECTED AREA
OCTOBER 1981

TRANSECT 1

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	14	28.0	93.3
	PG	PERENNIAL GRASS	1	2.0	6.7
		SUBTOTAL	15	30.0	100.0
FORB	AF	ANNUAL FORB	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	AMUTU	AMELANCHIER UTAHENSIS	2	4.0	28.6
	ARTRT	ARTEMISIA TRIDENTATA	5	10.0	71.4
		SUBTOTAL	7	14.0	100.0
		TOTAL	23	46.0	
BARE GROUND			8	16.0	
LITTER-ROCK			19	38.0	
VEGETATION, LITTER-ROCK			42	84.0	

TRANSECT 2

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	11	22.0	100.0
		SUBTOTAL	11	22.0	100.0
SHRUB	AMUTU	AMELANCHIER UTAHENSIS	3	6.0	21.4
	ARTRT	ARTEMISIA TRIDENTATA	11	22.0	78.6
		SUBTOTAL	14	28.0	100.0
		TOTAL	25	50.0	

BARE GROUND	6	12.0
LITTER-ROCK	19	38.0
VEGETATION, LITTER-ROCK	44	88.0

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TRANSECT 3

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	11	22.0	100.0
		SUBTOTAL	11	22.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	13	26.0	92.9
	EPHED	EPHEDRA SP.	1	2.0	7.1
		SUBTOTAL	14	28.0	100.0
		TOTAL	25	50.0	

BARE GROUND	6	12.0
LITTER-ROCK	19	38.0
VEGETATION, LITTER-ROCK	44	88.0

TRANSECT 4

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	7	14.0	100.0
		SUBTOTAL	7	14.0	100.0
FORB	CHAL	CHENOPODIUM ALBUM	3	6.0	20.0
	SAKA	SALSOLA KALI	12	24.0	80.0
		SUBTOTAL	15	30.0	100.0
SHRUB	AMUTU	AMELANCHIER UTAHENSIS	1	2.0	25.0
	ARTRT	ARTEMISIA TRIDENTATA	2	4.0	50.0
	ATCA	ATRIPLEX CANESCENS	1	2.0	25.0
		SUBTOTAL	4	8.0	100.0
		TOTAL	26	52.0	

BARE GROUND	8	16.0
LITTER-ROCK	16	32.0
VEGETATION, LITTER-ROCK	42	84.0

TRANSECT 5

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	7	14.0	100.0
		SUBTOTAL	7	14.0	100.0
FORB	SAKA	SALSOLA KALI	22	44.0	100.0
		SUBTOTAL	22	44.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	1	2.0	50.0
	ATCA	ATRIPLEX CANESCENS	1	2.0	50.0
		SUBTOTAL	2	4.0	100.0
		TOTAL	31	62.0	
BARE GROUND			12	24.0	
LITTER-ROCK			7	14.0	
VEGETATION, LITTER-ROCK			38	76.0	

TRANSECT 6

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	27	54.0	100.0
		SUBTOTAL	27	54.0	100.0
SHRUB	ATCA	ATRIPLEX CANESCENS	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
BRYOPHYTE	MOSS	BRYOPHYTE	3	6.0	100.0
		SUBTOTAL	3	6.0	100.0
		TOTAL	31	62.0	
BARE GROUND			4	8.0	
LITTER-ROCK			15	30.0	
VEGETATION, LITTER-ROCK			46	92.0	

TRANSECT 7

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	24	48.0	100.0
		SUBTOTAL	24	48.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	9	18.0	90.0
	CEMON	CERCOCARPUS MONTANUS	1	2.0	10.0
		SUBTOTAL	10	20.0	100.0
		TOTAL	34	68.0	
BARE GROUND			3	6.0	
LITTER-ROCK			13	26.0	
VEGETATION, LITTER-ROCK			47	94.0	

TRANSECT 8

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	16	32.0	100.0
		SUBTOTAL	16	32.0	100.0
FORB	ANTEN	ANTENNARIA SP.	2	4.0	100.0
		SUBTOTAL	2	4.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	6	12.0	85.7
	RIBES	RIBES SP.	1	2.0	14.3
		SUBTOTAL	7	14.0	100.0
		TOTAL	25	50.0	
BARE GROUND			5	10.0	
LITTER-ROCK			20	40.0	
VEGETATION, LITTER-ROCK			45	90.0	

TRANSECT 9

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM

GRASS	AGINI	AGROPYRON INTERMEDIUM	7	14.0	38.9
	AGROP	AGROPYRON SP.	11	22.0	61.1
		SUBTOTAL	18	36.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	7	14.0	100.0
		SUBTOTAL	7	14.0	100.0
BRYOPHYTE	MOSS	BRYOPHYTE	3	6.0	100.0
		SUBTOTAL	3	6.0	100.0
		TOTAL	28	56.0	
BARE GROUND			8	16.0	
LITTER-ROCK			14	28.0	
VEGETATION, LITTER-ROCK			42	84.0	

TRANSECT 10

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	15	30.0	75.0
	AGROP	AGROPYRON SP.	5	10.0	25.0
		SUBTOTAL	20	40.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	7	14.0	77.8
	BERE	BERBERIS REPENS	2	4.0	22.2
		SUBTOTAL	9	18.0	100.0
		TOTAL	29	58.0	
BARE GROUND			8	16.0	
LITTER-ROCK			13	26.0	
VEGETATION, LITTER-ROCK			42	84.0	

TRANSECT 11

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	17	34.0	94.4
	AGROP	AGROPYRON SP.	1	2.0	5.6
		SUBTOTAL	18	36.0	100.0

SHRUB	ARTRT	ARTEMISIA TRIDENTATA	1	2.0	20.0
	ATCA	ATRIPLEX CANESCENS	4	8.0	80.0
		SUBTOTAL	5	10.0	100.0
		TOTAL	23	46.0	
BARE GROUND			6	12.0	
LITTER-ROCK			21	42.0	
VEGETATION, LITTER-ROCK			44	88.0	

TRANSECT 12

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	5	10.0	22.7
	AGROP	AGROPYRON SP.	10	20.0	45.5
	BRTET	BROMUS TECTORUM	7	14.0	31.8
		SUBTOTAL	22	44.0	100.0
SHRUB	ATCA	ATRIPLEX CANESCENS	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
BRYOPHYTE	MOSS	BRYOPHYTE	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
		TOTAL	24	48.0	
BARE GROUND			4	8.0	
LITTER-ROCK			22	44.0	
VEGETATION, LITTER-ROCK			46	92.0	

TRANSECT 13

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	6	12.0	37.5
	AGROP	AGROPYRON SP.	2	4.0	12.5
	BRTET	BROMUS TECTORUM	8	16.0	50.0
		SUBTOTAL	16	32.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	3	6.0	37.5
	ATCA	ATRIPLEX CANESCENS	4	8.0	50.0

	RIBES	RIBES SP.	1	2.0	12.5
		SUBTOTAL	8	16.0	100.0
TREE	ACGR	ACER GRANDIDENTATUM	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
		TOTAL	25	50.0	
BARE GROUND			0	.0	
LITTER-ROCK			25	50.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 14

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	2	4.0	6.9
	AGROP	AGROPYRON SP.	5	10.0	17.2
	BRTEC	BROMUS TECTORUM	18	36.0	62.1
	PG	PERENNIAL GRASS	4	8.0	13.8
		SUBTOTAL	29	58.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
		TOTAL	30	60.0	
BARE GROUND			0	.0	
LITTER-ROCK			20	40.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 15

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	9	18.0	40.9
	AGROP	AGROPYRON SP.	3	6.0	13.6
	PG	PERENNIAL GRASS	10	20.0	45.5
		SUBTOTAL	22	44.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	3	6.0	50.0
	ATCA	ATRIPLEX CANESCENS	3	6.0	50.0

		SUBTOTAL	6	12.0	100.0
BRYOPHYTE	MOSS	BRYOPHYTE	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
		TOTAL	29	58.0	
BARE GROUND			2	4.0	
LITTER-ROCK			19	38.0	
VEGETATION, LITTER-ROCK			48	96.0	

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SUMMARY - ALL COVER TRANSECTS

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	N	# OF HITS	PERCENT COVER ALL CLASSES MEAN	PERCENT COVER ALL CLASSES S.D.	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	15	178	23.7	14.1	67.7
	AGROP	AGROPYRON SP.	15	37	4.9	7.4	14.1
	BRTET	BROMUS TECTORUM	15	33	4.4	10.2	12.5
	PG	PERENNIAL GRASS	15	15	2.0	5.4	5.7
		SUBTOTAL	15	263	35.1	13.4	100.0
0							
FORB	AF	ANNUAL FORB	15	1	.1	.5	2.5
	ANTEN	ANTENNARIA SP.	15	2	.3	1.0	5.0
	CHAL	CHENOPODIUM ALBUM	15	3	.4	1.5	7.5
	SAKA	SALSOLA KALI	15	34	4.5	12.5	85.0
		SUBTOTAL	15	40	5.3	13.2	100.0
0							
SHRUB	AMUTU	AMELANCHIER UTAHENSIS	15	6	.8	1.8	6.3
	ARTRT	ARTEMISIA TRIDENTATA	15	69	9.2	6.2	71.9
	ATCA	ATRIPLEX CANESCENS	15	15	2.0	2.9	15.6
	BERE	BERBERIS REPENS	15	2	.3	1.0	2.1
	CEMOM	CERCOCARPUS MONTANUS	15	1	.1	.5	1.0
	EPHED	EPHEDRA SP.	15	1	.1	.5	1.0
	RIBES	RIBES SP.	15	2	.3	.7	2.1
		SUBTOTAL	15	96	12.8	8.5	100.0
0							
TREE	ACGR	ACER GRANDIDENTATUM	15	1	.1	.5	100.0
		SUBTOTAL	15	1	.1	.5	100.0
0							
BRYOPHYTE	MOSS	BRYOPHYTE	15	8	1.1	2.1	100.0

SUBTOTAL	15	8	1.1	2.1	100.0
TOTAL	15	408	54.4	6.7	
BARE GROUND	15	80	10.7	6.6	
LITTER-ROCK	15	262	34.9	9.0	
VEGETATION, LITTER-ROCK	15	670	89.3	6.6	

VEGETATION SPECIES FREQUENCY

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	TOTAL NUMBER OF TRANSECTS	NUMBER OF TRANSECTS CONTAINING SPECIES	PERCENT FREQUENCY
GRASS	AGINI	AGROPYRON INTERMEDIUM	15	15	100.0
	AGROP	AGROPYRON SP.	15	7	46.7
	BRTET	BROMUS TECTORUM	15	3	20.0
	PG	PERENNIAL GRASS	15	3	20.0
		SUBTOTAL	15	15	100.0
FORB	AF	ANNUAL FORB	15	1	6.7
	ANTEN	ANTENNARIA SP.	15	1	6.7
	CHAL	CHENOPODIUM ALBUM	15	1	6.7
	SAKA	SALSOLA KALI	15	2	13.3
		SUBTOTAL	15	4	26.7
SHRUB	AMUTU	AMELANCHIER UTAHENSIS	15	3	20.0
	ARTRT	ARTEMISIA TRIDENTATA	15	13	86.7
	ATCA	ATRIPLEX CANESCENS	15	7	46.7
	BERE	BERBERIS REPENS	15	1	6.7
	CEMOM	CERCOCARPUS MONTANUS	15	1	6.7
	EPHED	EPHEDRA SP.	15	1	6.7
	RIBES	RIBES SP.	15	2	13.3
		SUBTOTAL	15	15	100.0
TREE	ACGR	ACER GRANDIDENTATUM	15	1	6.7
		SUBTOTAL	15	1	6.7
BRYOPHYTE	MOSS	BRYOPHYTE	15	4	26.7
		SUBTOTAL	15	4	26.7

TOTAL	15	15	100.0

DIVERSITY INDEX CALCULATIONS

SHANNON INDEX - 1.846
VARIANCE - .024
MAXIMUM INDEX - 2.833
EVENNESS - .652
NO OF SPECIES - 17

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**** EVALUATION OF SAMPLING ADEQUACY ****

DESIRED CONFIDENCE LEVEL = 90.0 PERCENT

SAMPLE SIZE = 15

MEAN VEGETATION PERCENT COVER = 54.4
SAMPLE STANDARD DEVIATION = 6.7
MINIMUM SAMPLE SIZE TO PROVIDE DESIRED CONFIDENCE LEVEL = 5
Z STATISTIC = 2.23
CONFIDENCE LEVEL OBTAINED = 98.7 PERCENT

MEAN VEGETATION, LITTER-ROCK PERCENT COVER = 89.3
SAMPLE STANDARD DEVIATION = 6.6
MINIMUM SAMPLE SIZE TO PROVIDE DESIRED CONFIDENCE LEVEL = 2
Z STATISTIC = 3.72
CONFIDENCE LEVEL OBTAINED = 100.0 PERCENT

****

VEGETATION COVER, FREQUENCY, AND SPECIES DIVERSITY ESTIMATES

PRICE RIVER COAL COMPANY
HELPER, UTAH

SOWBELLY MIXED BRUSH
REFERENCE SITE
JULY 1981

TRANSECT 1

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	6	12.0	75.0
	STCO3	STIPA COMATA	2	4.0	25.0
		SUBTOTAL	8	16.0	100.0
FORB	ARLUL	ARTEMISIA LUDOVICIANA	1	2.0	20.0
	ASTRA	ASTRAGALUS SP.	1	2.0	20.0
	PF	PERENNIAL FORB	3	6.0	60.0
		SUBTOTAL	5	10.0	100.0
SHRUB	SYOC	SYMPHORICARPOS OCCIDENTALIS	2	4.0	100.0
		SUBTOTAL	2	4.0	100.0
TREE	QUGA	QUERCUS GAMBELII	11	22.0	100.0
		SUBTOTAL	11	22.0	100.0
		TOTAL	26	52.0	
BARE GROUND			12	24.0	
LITTER-ROCK			12	24.0	
VEGETATION, LITTER-ROCK			38	76.0	

TRANSECT 2

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	1	2.0	33.3
	PG	PERENNIAL GRASS	2	4.0	66.7
		SUBTOTAL	3	6.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	2	4.0	50.0
	SYOC	SYMPHORICARPOS OCCIDENTALIS	2	4.0	50.0

		SUBTOTAL	4	8.0	100.0
TREE	ACGR	ACER GRANDIDENTATUM	3	6.0	30.0
	QUGA	QUERCUS GAMBELII	7	14.0	70.0
		SUBTOTAL	10	20.0	100.0
		TOTAL	17	34.0	
BARE GROUND			3	6.0	
LITTER-ROCK			30	60.0	
VEGETATION, LITTER-ROCK			47	94.0	

TRANSECT 3

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	PG	PERENNIAL GRASS	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
FORB	ASTRA	ASTRAGALUS SP.	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	4	8.0	100.0
		SUBTOTAL	4	8.0	100.0
TREE	QUGA	QUERCUS GAMBELII	6	16.0	100.0
		SUBTOTAL	8	16.0	100.0
		TOTAL	14	28.0	
BARE GROUND			6	12.0	
LITTER-ROCK			30	60.0	
VEGETATION, LITTER-ROCK			44	88.0	

TRANSECT 4

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	3	6.0	100.0
		SUBTOTAL	3	6.0	100.0
FORB	KOSC	KOCHIA SCOPARIA	1	2.0	50.0

	LUPIN	LUPINUS SP.	1	2.0	50.0
		SUBTOTAL	2	4.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	2	4.0	50.0
	BERE	BERBERIS REPENS	1	2.0	25.0
	SYOC	SYMPHORICARPOS OCCIDENTALIS	1	2.0	25.0
		SUBTOTAL	4	8.0	100.0
TREE	ACGR	ACER GRANDIDENTATUM	3	6.0	27.3
	QUGA	QUERCUS GAMBELII	8	16.0	72.7
		SUBTOTAL	11	22.0	100.0
		TOTAL	20	40.0	
BARE GROUND			10	20.0	
LITTER-ROCK			20	40.0	
VEGETATION, LITTER-ROCK			40	80.0	

TRANSECT 5

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	2	4.0	100.0
		SUBTOTAL	2	4.0	100.0
FORB	ASTRA	ASTRAGALUS SP.	1	2.0	50.0
	LUPIN	LUPINUS SP.	1	2.0	50.0
		SUBTOTAL	2	4.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	5	10.0	100.0
		SUBTOTAL	5	10.0	100.0
TREE	JUOS	JUNIPERUS OSTEOSPERMA	2	4.0	13.3
	QUGA	QUERCUS GAMBELII	13	26.0	86.7
		SUBTOTAL	15	30.0	100.0
		TOTAL	24	48.0	
BARE GROUND			8	16.0	
LITTER-ROCK			18	36.0	
VEGETATION, LITTER-ROCK			42	84.0	

TRANSECT 6

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LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	2	4.0	100.0
		SUBTOTAL	2	4.0	100.0
FORB	ARLUL	ARTEMISIA LUDOVICIANA	1	2.0	50.0
	ERIOG	ERIOGONUM SP.	1	2.0	50.0
		SUBTOTAL	2	4.0	100.0
SHRUB	AMUTU	AMELANCHIER UTAHENSIS	1	2.0	14.3
	ARTRT	ARTEMISIA TRIDENTATA	3	6.0	42.9
	SYOC	SYMPHORICARPOS OCCIDENTALIS	3	6.0	42.9
		SUBTOTAL	7	14.0	100.0
TREE	PIED	PINUS EDULIS	1	2.0	14.3
	PIPO	PINUS PONDEROSA	2	4.0	28.6
	QUGA	QUERCUS GAMBELII	4	8.0	57.1
		SUBTOTAL	7	14.0	100.0
		TOTAL	18	36.0	
BARE GROUND			9	18.0	
LITTER-ROCK			23	46.0	
VEGETATION, LITTER-ROCK			41	82.0	

TRANSECT 7

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	4	8.0	57.1
	AGTR	AGROPYRON TRACHYCAULUM	2	4.0	28.6
	PG	PERENNIAL GRASS	1	2.0	14.3
		SUBTOTAL	7	14.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	3	6.0	75.0
	SYOC	SYMPHORICARPOS OCCIDENTALIS	1	2.0	25.0
		SUBTOTAL	4	8.0	100.0
TREE	JUOS	JUNIPERUS OSTEOSPERMA	5	10.0	31.3
	PIED	PINUS EDULIS	2	4.0	12.5
	QUGA	QUERCUS GAMBELII	9	18.0	56.3
		SUBTOTAL	16	32.0	100.0
		TOTAL	27	54.0	

BARE GROUND	7	14.0
LITTER-ROCK	16	32.0
VEGETATION, LITTER-ROCK	43	86.0

TRANSECT 8

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	5	10.0	100.0
		SUBTOTAL	5	10.0	100.0
FORB	ASTRA	ASTRAGALUS SP.	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	3	6.0	100.0
		SUBTOTAL	3	6.0	100.0
TREE	QUGA	QUERCUS GAMBELII	20	40.0	100.0
		SUBTOTAL	20	40.0	100.0
		TOTAL	29	58.0	

BARE GROUND	7	14.0
LITTER-ROCK	14	28.0
VEGETATION, LITTER-ROCK	43	86.0

TRANSECT 9

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	10	20.0	100.0
		SUBTOTAL	10	20.0	100.0
FORB	ARLUL	ARTEMISIA LUDOVICIANA	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	SYOC	SYMPHORICARPOS OCCIDENTALIS	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
TREE	JUOS	JUNIPERUS OSTEOSPERMA	3	6.0	20.0
	QUGA	QUERCUS GAMBELII	12	24.0	80.0

		SUBTOTAL	15	30.0	100.0
		TOTAL	27	54.0	
BARE GROUND			9	18.0	
LITTER-ROCK			14	28.0	
VEGETATION, LITTER-ROCK			41	82.0	

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TRANSECT 10

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	5	10.0	100.0
		SUBTOTAL	5	10.0	100.0
FORB	ARLUL	ARTEMISIA LUDOVICIANA	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	2	4.0	100.0
		SUBTOTAL	2	4.0	100.0
TREE	JUOS	JUNIPERUS OSTEOSPERMA	5	10.0	31.3
	QUGA	QUERCUS GAMBELII	11	22.0	68.8
		SUBTOTAL	16	32.0	100.0
		TOTAL	24	48.0	
BARE GROUND			3	6.0	
LITTER-ROCK			23	46.0	
VEGETATION, LITTER-ROCK			47	94.0	

TRANSECT 11

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	BRTET	BROMUS TECTORUM	3	6.0	100.0
		SUBTOTAL	3	6.0	100.0
FORB	ACMIM	ACHILLEA MILLEFOLIUM	1	2.0	33.3
	PENST	PENSTEMON SP.	2	4.0	66.7
		SUBTOTAL	3	6.0	100.0

SHRUB	AMUTU	AMELANCHIER UTAHENSIS	1	2.0	16.7
	ARTRT	ARTEMISIA TRIDENTATA	1	2.0	16.7
	ROSA	ROSA SP.	2	4.0	33.3
	SYOC	SYMPHORICARPOS OCCIDENTALIS	2	4.0	33.3
		SUBTOTAL	6	12.0	100.0
TREE	QUGA	QUERCUS GAMBELII	16	32.0	100.0
		SUBTOTAL	16	32.0	100.0
		TOTAL	28	56.0	
BARE GROUND			4	8.0	
LITTER-ROCK			18	36.0	
VEGETATION, LITTER-ROCK			46	92.0	

TRANSECT 12

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	1	2.0	33.3
	SYOC	SYMPHORICARPOS OCCIDENTALIS	2	4.0	66.7
		SUBTOTAL	3	6.0	100.0
TREE	QUGA	QUERCUS GAMBELII	26	52.0	100.0
		SUBTOTAL	26	52.0	100.0
		TOTAL	30	60.0	
BARE GROUND			3	6.0	
LITTER-ROCK			17	34.0	
VEGETATION, LITTER-ROCK			47	94.0	

TRANSECT 13

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	3	6.0	60.0
	PG	PERENNIAL GRASS	1	2.0	20.0
	STCO3	STIPA COMATA	1	2.0	20.0

		SUBTOTAL	5	10.0	100.0
FORB	ARLUL	ARTEMISIA LUDOVICIANA	2	4.0	33.3
	KOSC	KOCHIA SCOPARIA	1	2.0	16.7
	LUPIN	LUPINUS SP.	1	2.0	16.7
	PENST	PENSTEMON SP.	2	4.0	33.3
		SUBTOTAL	6	12.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	5	10.0	100.0
		SUBTOTAL	5	10.0	100.0
TREE	QUGA	QUERCUS GAMBELII	4	8.0	100.0
		SUBTOTAL	4	8.0	100.0
		TOTAL	20	40.0	
BARE GROUND			11	22.0	
LITTER-ROCK			19	38.0	
VEGETATION, LITTER-ROCK			39	78.0	

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TRANSECT 14

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	3	6.0	100.0
		SUBTOTAL	3	6.0	100.0
TREE	JUOS	JUNIPERUS OSTEOSPERMA	3	6.0	13.6
	QUGA	QUERCUS GAMBELII	19	38.0	86.4
		SUBTOTAL	22	44.0	100.0
		TOTAL	26	52.0	
BARE GROUND			8	16.0	
LITTER-ROCK			16	32.0	
VEGETATION, LITTER-ROCK			42	84.0	

TRANSECT 15

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM

GRASS	AGROP	AGROPYRON SP.	4	8.0	100.0
		SUBTOTAL	4	8.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	7	14.0	100.0
		SUBTOTAL	7	14.0	100.0
TREE	JUOS	JUNIPERUS OSTEOSPERMA	4	8.0	23.5
	QUGA	QUERCUS GAMBELII	13	26.0	76.5
		SUBTOTAL	17	34.0	100.0
		TOTAL	28	56.0	
BARE GROUND			5	10.0	
LITTER-ROCK			17	34.0	
VEGETATION, LITTER-ROCK			45	90.0	

SUMMARY - ALL COVER TRANSECTS

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	N	# OF HITS	PERCENT COVER ALL CLASSES MEAN	S.D.	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	15	23	3.1	4.1	38.3
	AGROP	AGROPYRON SP.	15	24	3.2	5.7	40.0
	AGTR	AGROPYRON TRACHYCAULUM	15	2	.3	1.0	3.3
	BRTET	BROMUS TECTORUM	15	3	.4	1.5	5.0
	PG	PERENNIAL GRASS	15	5	.7	1.2	8.3
	STCO3	STIPA CONATA	15	3	.4	1.1	5.0
		SUBTOTAL	15	60	8.0	5.4	100.0
0							
FORB	ACMIN	ACHILLEA MILLEFOLIUM	15	1	.1	.5	4.2
	ARLUL	ARTEMISIA LUDOVICIANA	15	6	.8	1.3	25.0
	ASTRA	ASTRAGALUS SP.	15	4	.5	.9	16.7
	ERIOG	ERIOGONUM SP.	15	1	.1	.5	4.2
	KOSC	KOCHIA SCOPARIA	15	2	.3	.7	8.3
	LUPIN	LUPINUS SP.	15	3	.4	.8	12.5
	PENST	PENSTEMON SP.	15	4	.5	1.4	16.7
	PF	PERENNIAL FORB	15	3	.4	1.5	12.5
		SUBTOTAL	15	24	3.2	3.7	100.0
0							
SHRUB	AMUTU	AMELANCHIER UTAHENSIS	15	2	.3	.7	3.3
	ARTRT	ARTEMISIA TRIDENTATA	15	41	5.5	3.9	68.3

	BERE	BERBERIS REPENS	15	1	.1	.5	1.7
	ROSA	ROSA SP.	15	2	.3	1.0	3.3
	SYOC	SYMPHORICARPOS OCCIDENTALIS	15	14	1.9	2.1	23.3
		SUBTOTAL	15	60	8.0	3.5	100.0
TREE	ACGR	ACER GRANDIDENTATUM	15	6	.8	2.1	2.8
	JUOS	JUNIPERUS OSTEOSPERMA	15	22	2.9	4.0	10.3
	PIED	PINUS EDULIS	15	3	.4	1.1	1.4
	PIPO	PINUS PONDEROSA	15	2	.3	1.0	.9
	QUGA	QUERCUS GAMBELII	15	181	24.1	12.2	84.6
		SUBTOTAL	15	214	28.5	11.8	100.0
		TOTAL	15	358	47.7	9.8	
BARE GROUND			15	105	14.0	5.9	
LITTER-ROCK			15	287	38.3	10.7	
VEGETATION, LITTER-ROCK			15	645	86.0	5.9	

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VEGETATION SPECIES FREQUENCY

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	TOTAL NUMBER OF TRANSECTS	NUMBER OF TRANSECTS CONTAINING SPECIES	PERCENT FREQUENCY
GRASS	AGINI	AGROPYRON INTERMEDIUM	15	7	46.7
	AGROP	AGROPYRON SP.	15	6	40.0
	AGTR	AGROPYRON TRACHYCAULUM	15	1	6.7
	BRTET	BROMUS TECTORUM	15	1	6.7
	PG	PERENNIAL GRASS	15	4	26.7
	STCO3	STIPA COMATA	15	2	13.3
		SUBTOTAL	15	15	100.0
FORB	ACMIM	ACHILLEA MILLEFOLIUM	15	1	6.7
	ARLUL	ARTEMISIA LUDOVICIANA	15	5	33.3
	ASTRA	ASTRAGALUS SP.	15	4	26.7
	ERIOG	ERIOGONUM SP.	15	1	6.7
	KOSC	KOCHIA SCOPARIA	15	2	13.3
	LUPIN	LUPINUS SP.	15	3	20.0
	PENST	PENSTEMON SP.	15	2	13.3
	PF	PERENNIAL FORB	15	1	6.7
		SUBTOTAL	15	10	66.7
SHRUB	AMUTU	AMELANCHIER UTAHENSIS	15	2	13.3

	ARTRT	ARTEMISIA TRIDENTATA	15	13	86.7
	BERE	BERBERIS REPENS	15	1	6.7
	ROSA	ROSA SP.	15	1	6.7
	SYOC	SYMPHORICARPOS OCCIDENTALIS	15	8	53.3
		SUBTOTAL	15	15	100.0
TREE	ACGR	ACER GRANDIDENTATUM	15	2	13.3
	JUOS	JUNIPERUS OSTEOSPERMA	15	6	40.0
	PIED	PINUS EDULIS	15	2	13.3
	PIPO	PINUS PONDEROSA	15	1	6.7
	QUGA	QUERCUS GAMBELII	15	15	100.0
		SUBTOTAL	15	15	100.0
		TOTAL	15	15	100.0

DIVERSITY INDEX CALCULATIONS

SHANNON INDEX - 1.940
VARIANCE - .045
MAXIMUM INDEX - 3.178
EVENNESS - .611
NO OF SPECIES - 24

****

**** EVALUATION OF SAMPLING ADEQUACY ****

DESIRED CONFIDENCE LEVEL = 90.0 PERCENT

SAMPLE SIZE = 15

MEAN VEGETATION PERCENT COVER = 47.7
SAMPLE STANDARD DEVIATION = 9.8
MINIMUM SAMPLE SIZE TO PROVIDE DESIRED CONFIDENCE LEVEL = 14
Z STATISTIC = 1.33
CONFIDENCE LEVEL OBTAINED = 91.0 PERCENT

MEAN VEGETATION, LITTER-ROCK PERCENT COVER = 86.0
SAMPLE STANDARD DEVIATION = 5.9
MINIMUM SAMPLE SIZE TO PROVIDE DESIRED CONFIDENCE LEVEL = 2
Z STATISTIC = 3.99
CONFIDENCE LEVEL OBTAINED = 100.0 PERCENT

****

VEGETATION COVER, FREQUENCY, AND SPECIES DIVERSITY ESTIMATES

PRICE RIVER COAL COMPANY
HELPER, UTAH

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CASTLE GATE MIXED BRUSH
REFERENCE SITE
JULY 1981

TRANSECT 1

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	6	12.0	85.7
	ORHY	ORYZOPSIS HYMENOIDES	1	2.0	14.3
		SUBTOTAL	7	14.0	100.0
SHRUB	AMUTU	AMELANCHIER UTAHENSIS	4	8.0	40.0
	ARTRT	ARTEMISIA TRIDENTATA	6	12.0	60.0
		SUBTOTAL	10	20.0	100.0
		TOTAL	17	34.0	
BARE GROUND			19	38.0	
LITTER-ROCK			14	28.0	
VEGETATION, LITTER-ROCK			31	62.0	

TRANSECT 2

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	2	4.0	100.0
		SUBTOTAL	2	4.0	100.0
SHRUB	AMUTU	AMELANCHIER UTAHENSIS	6	12.0	31.6
	ARTRT	ARTEMISIA TRIDENTATA	13	26.0	68.4
		SUBTOTAL	19	38.0	100.0
TREE	PIED	PINUS EDULIS	2	4.0	100.0
		SUBTOTAL	2	4.0	100.0
		TOTAL	23	46.0	

BARE GROUND	12	24.0
LITTER-ROCK	15	30.0
VEGETATION, LITTER-ROCK	38	76.0

TRANSECT 3

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	10	20.0	76.9
	AGSP3	AGROPYRON SPICATUM	1	2.0	7.7
	ORHY	ORYZOPSIS HYMENOIDES	2	4.0	15.4
		SUBTOTAL	13	26.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	3	6.0	42.9
	ATCA	ATRIPLEX CANESCENS	4	8.0	57.1
		SUBTOTAL	7	14.0	100.0
		TOTAL	20	40.0	
BARE GROUND			10	20.0	
LITTER-ROCK			20	40.0	
VEGETATION, LITTER-ROCK			40	80.0	

TRANSECT 4

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	8	16.0	72.7
	AGSP3	AGROPYRON SPICATUM	1	2.0	9.1
	ORHY	ORYZOPSIS HYMENOIDES	2	4.0	18.2
		SUBTOTAL	11	22.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	5	10.0	55.6
	ATCA	ATRIPLEX CANESCENS	1	2.0	11.1
	CHNAN	CHRYSOTHAMNUS NAUSEOSUS	1	2.0	11.1
	EPVI	EPHEDRA VIRIDUS	2	4.0	22.2
		SUBTOTAL	9	18.0	100.0
		TOTAL	20	40.0	
BARE GROUND			16	32.0	
LITTER-ROCK			14	28.0	
VEGETATION, LITTER-ROCK			34	68.0	

TRANSECT 5

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	17	34.0	100.0
		SUBTOTAL	17	34.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	1	2.0	25.0
	ATCA	ATRIPLEX CANESCENS	3	6.0	75.0
		SUBTOTAL	4	8.0	100.0
		TOTAL	21	42.0	
BARE GROUND			7	14.0	
LITTER-ROCK			22	44.0	
VEGETATION, LITTER-ROCK			43	86.0	

TRANSECT 6

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	16	32.0	100.0
		SUBTOTAL	16	32.0	100.0
SHRUB	ATCA	ATRIPLEX CANESCENS	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
		TOTAL	17	34.0	
BARE GROUND			10	20.0	
LITTER-ROCK			23	46.0	
VEGETATION, LITTER-ROCK			40	80.0	

TRANSECT 7

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	20	40.0	95.2

	ORHY	ORYZOPSIS HYMENOIDES	1	2.0	4.8
		SUBTOTAL	21	42.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	4	8.0	100.0
		SUBTOTAL	4	8.0	100.0
		TOTAL	25	50.0	
BARE GROUND			9	18.0	
LITTER-ROCK			16	32.0	
VEGETATION, LITTER-ROCK			41	82.0	

TRANSECT 8

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	11	22.0	91.7
	ORHY	ORYZOPSIS HYMENOIDES	1	2.0	8.3
		SUBTOTAL	12	24.0	100.0
SHRUB	AMUTU	AMELANCHIER UTAHENSIS	5	10.0	41.7
	ARTRT	ARTEMISIA TRIDENTATA	6	12.0	50.0
	ATCA	ATRIPLEX CANESCENS	1	2.0	8.3
		SUBTOTAL	12	24.0	100.0
		TOTAL	24	48.0	
BARE GROUND			9	18.0	
LITTER-ROCK			17	34.0	
VEGETATION, LITTER-ROCK			41	82.0	

TRANSECT 9

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	4	8.0	100.0
		SUBTOTAL	4	8.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	12	24.0	100.0
		SUBTOTAL	12	24.0	100.0
TREE	JUOS	JUNIPERUS OSTEOSPERMA	1	2.0	100.0

		SUBTOTAL	1	2.0	100.0
		TOTAL	17	34.0	
BARE GROUND			12	24.0	
LITTER-ROCK			21	42.0	
VEGETATION, LITTER-ROCK			36	76.0	

TRANSECT 10

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	6	12.0	100.0
		SUBTOTAL	6	12.0	100.0
SHRUB	AMUTU	AMELANCHIER UTAHENSIS	2	4.0	16.7
	ARTRT	ARTEMISIA TRIDENTATA	10	20.0	83.3
		SUBTOTAL	12	24.0	100.0
		TOTAL	18	36.0	
BARE GROUND			12	24.0	
LITTER-ROCK			20	40.0	
VEGETATION, LITTER-ROCK			38	76.0	

TRANSECT 11

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	14	28.0	93.3
	BRTET	BROMUS TECTORUM	1	2.0	6.7
		SUBTOTAL	15	30.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	2	4.0	66.7
	CHVIV	CHRYSOTHAMNUS VISCIDIFLORUS	1	2.0	33.3
		SUBTOTAL	3	6.0	100.0
		TOTAL	18	36.0	
BARE GROUND			17	34.0	
LITTER-ROCK			15	30.0	

VEGETATION, LITTER-ROCK	33	66.0

TRANSECT 12

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	15	30.0	71.4
	BRTET	BROMUS TECTORUM	6	12.0	28.6
		SUBTOTAL	21	42.0	100.0
SHRUB	ATCA	ATRIPLEX CANESCENS	4	8.0	80.0
	CHNAN	CHRYSOTHAMNUS NAUSEOSUS	1	2.0	20.0
		SUBTOTAL	5	10.0	100.0
		TOTAL	26	52.0	
BARE GROUND			9	18.0	
LITTER-ROCK			15	30.0	
VEGETATION, LITTER-ROCK			41	82.0	

TRANSECT 13

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	8	16.0	88.9
	ORHY	ORYZOPSIS HYMENOIDES	1	2.0	11.1
		SUBTOTAL	9	18.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	7	14.0	63.6
	CHNAN	CHRYSOTHAMNUS NAUSEOSUS	2	4.0	18.2
	EPVI	EPHEDRA VIRIDUS	2	4.0	18.2
		SUBTOTAL	11	22.0	100.0
		TOTAL	20	40.0	
BARE GROUND			13	26.0	
LITTER-ROCK			17	34.0	
VEGETATION, LITTER-ROCK			37	74.0	

TRANSECT 14

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	11	22.0	78.6
	AGSP3	AGROPYRON SPICATUM	1	2.0	7.1
	ORHY	ORYZOPSIS HYMENOIDES	2	4.0	14.3
		SUBTOTAL	14	28.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	9	18.0	100.0
		SUBTOTAL	9	18.0	100.0
		TOTAL	23	46.0	
BARE GROUND			11	22.0	
LITTER-ROCK			16	32.0	
VEGETATION, LITTER-ROCK			39	78.0	

TRANSECT 15

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	5	10.0	83.3
	BRTET	BROMUS TECTORUM	1	2.0	16.7
		SUBTOTAL	6	12.0	100.0
SHRUB	AMUTU	AMELANCHIER UTAHENSIS	9	18.0	75.0
	ARTRT	ARTEMISIA TRIDENTATA	3	6.0	25.0
		SUBTOTAL	12	24.0	100.0
		TOTAL	18	36.0	
BARE GROUND			13	26.0	
LITTER-ROCK			19	38.0	
VEGETATION, LITTER-ROCK			37	74.0	

SUMMARY - ALL COVER TRANSECTS

	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	N	# OF HITS	MEAN	S.D.	
GRASS	AGROP	AGROPYRON SP.	15	153	20.4	10.6	67.9
	AGSP3	AGROPYRON SPICATUM	15	3	.4	.8	1.7
	BRTET	BROMUS TECTORUM	15	8	1.1	3.1	4.6
	ORHY	ORYZOPSIS HYMENOIDES	15	10	1.3	1.6	5.7
		SUBTOTAL	15	174	23.2	11.8	100.0
0							
SHRUB	AMUTU	AMELANCHIER UTAHENSIS	15	26	3.5	5.8	20.0
	ARTRT	ARTEMISIA TRIDENTATA	15	81	10.8	8.3	62.3
	ATCA	ATRIPLEX CANESCENS	15	14	1.9	3.0	10.8
	CHNAN	CHRYSOTHAMNUS NAUSEOSUS	15	4	.5	1.2	3.1
	CHVIV	CHRYSOTHAMNUS VISCIDIFLORUS	15	1	.1	.5	.8
	EPVI	EPHEDRA VIRIDUS	15	4	.5	1.4	3.1
		SUBTOTAL	15	130	17.3	9.4	100.0
0							
TREE	JUOS	JUNIPERUS OSTEOSPERMA	15	1	.1	.5	33.3
	PIED	PINUS EDULIS	15	2	.3	1.0	66.7
		SUBTOTAL	15	3	.4	1.1	100.0
0							
		TOTAL	15	307	40.9	6.1	
BARE GROUND			15	179	23.9	6.6	
LITTER-ROCK			15	264	35.2	6.0	
VEGETATION, LITTER-ROCK			15	571	76.1	6.6	

VEGETATION SPECIES FREQUENCY

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	TOTAL NUMBER OF TRANSECTS	NUMBER OF TRANSECTS CONTAINING SPECIES	PERCENT FREQUENCY
GRASS	AGROP	AGROPYRON SP.	15	15	100.0
	AGSP3	AGROPYRON SPICATUM	15	3	20.0
	BRTET	BROMUS TECTORUM	15	3	20.0
	ORHY	ORYZOPSIS HYMENOIDES	15	7	46.7
		SUBTOTAL	15	15	100.0
SHRUB	AMUTU	AMELANCHIER UTAHENSIS	15	5	33.3

	ARTRT	ARTEMISIA TRIDENTATA	15	13	86.7
	ATCA	ATRIPLEX CANESCENS	15	6	40.0
	CHNAN	CHRYSOTHAMNUS NAUSEOSUS	15	3	20.0
	CHVIV	CHRYSOTHAMNUS VISCIDIFLORUS	15	1	6.7
	EPVI	EPHEDRA VIRIDUS	15	2	13.3
		SUBTOTAL	15	15	100.0
TREE	JUOS	JUNIPERUS OSTEOSPERMA	15	1	6.7
	PIED	PINUS EDULIS	15	1	6.7
		SUBTOTAL	15	2	13.3
		TOTAL	15	15	100.0

DIVERSITY INDEX CALCULATIONS

SHANNON INDEX - 1.484
VARIANCE - .031
MAXIMUM INDEX - 2.485
EVENNESS - .597
NO OF SPECIES - 12

****

**** EVALUATION OF SAMPLING ADEQUACY ****

DESIRED CONFIDENCE LEVEL = 90.0 PERCENT

SAMPLE SIZE = 15

MEAN VEGETATION PERCENT COVER = 40.9
SAMPLE STANDARD DEVIATION = 6.1
MINIMUM SAMPLE SIZE TO PROVIDE DESIRED CONFIDENCE LEVEL = 7
Z STATISTIC = 1.83
CONFIDENCE LEVEL OBTAINED = 96.6 PERCENT

MEAN VEGETATION, LITTER-ROCK PERCENT COVER = 76.1
SAMPLE STANDARD DEVIATION = 6.6
MINIMUM SAMPLE SIZE TO PROVIDE DESIRED CONFIDENCE LEVEL = 2
Z STATISTIC = 3.15
CONFIDENCE LEVEL OBTAINED = 99.9 PERCENT

****

VEGETATION COVER, FREQUENCY, AND SPECIES DIVERSITY ESTIMATES

PRICE RIVER COAL COMPANY
HELPER, UTAH

BARN CANYON-MIXED BRUSH
AFFECTED AREA
OCTOBER 1981

TRANSECT 1

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	ORHY	ORYZOPSIS HYMENOIDES	1	2.0	33.3
	PG	PERENNIAL GRASS	2	4.0	66.7
		SUBTOTAL	3	6.0	100.0
SHRUB	BERE	BERBERIS REPENS	2	4.0	100.0
		SUBTOTAL	2	4.0	100.0
TREE	ACGR	ACER GRANDIDENTATUM	14	28.0	50.0
	JUOS	JUNIPERUS OSTEOSPERMA	2	4.0	7.1
	QUGA	QUERCUS GAMBELII	12	24.0	42.9
		SUBTOTAL	28	56.0	100.0
		TOTAL	33	66.0	
BARE GROUND			1	2.0	
LITTER-ROCK			16	32.0	
VEGETATION, LITTER-ROCK			49	98.0	

TRANSECT 2

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	2	4.0	100.0
		SUBTOTAL	2	4.0	100.0
FORB	ARLUL	ARTEMISIA LUDOVICIANA	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	BERE	BERBERIS REPENS	2	4.0	33.3
	RIBES	RIBES SP.	2	4.0	33.3
	SYOC	SYMPHORICARPOS OCCIDENTALIS	2	4.0	33.3

		SUBTOTAL	6	12.0	100.0
TREE	ABCO	ABIES CONCOLOR	1	2.0	4.3
	ACGR	ACER GRANDIDENTATUM	12	24.0	52.2
	JUOS	JUNIPERUS OSTEOSPERMA	6	12.0	26.1
	QUGA	QUERCUS GAMBELII	4	8.0	17.4
		SUBTOTAL	23	46.0	100.0
		TOTAL	32	64.0	
BARE GROUND			5	10.0	
LITTER-ROCK			13	26.0	
VEGETATION, LITTER-ROCK			45	90.0	

TRANSECT 3

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	4	8.0	100.0
		SUBTOTAL	4	8.0	100.0
FORB	AF	ANNUAL FORB	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	BERE	BERBERIS REPENS	3	6.0	100.0
		SUBTOTAL	3	6.0	100.0
TREE	ABCO	ABIES CONCOLOR	1	2.0	4.3
	ACGR	ACER GRANDIDENTATUM	3	6.0	13.0
	JUOS	JUNIPERUS OSTEOSPERMA	3	6.0	13.0
	PIED	PINUS EDULIS	1	2.0	4.3
	PSMEM	PSEUDOTSUGA MENZIESII	3	6.0	13.0
	QUGA	QUERCUS GAMBELII	12	24.0	52.2
		SUBTOTAL	23	46.0	100.0
		TOTAL	31	62.0	
BARE GROUND			0	.0	
LITTER-ROCK			19	38.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 4

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM

GRASS	AGROP	AGROPYRON SP.	5	10.0	100.0
		SUBTOTAL	5	10.0	100.0
FORB	ARLUL	ARTEMISIA LUDOVICIANA	2	4.0	100.0
		SUBTOTAL	2	4.0	100.0
SHRUB	BERE	BERBERIS REPENS	6	12.0	46.2
	RIBES	RIBES SP.	3	6.0	23.1
	SYOC	SYMPHORICARPOS OCCIDENTALIS	4	8.0	30.8
		SUBTOTAL	13	26.0	100.0
TREE	ACGR	ACER GRANDIDENTATUM	5	10.0	33.3
	QUGA	QUERCUS GAMBELII	10	20.0	66.7
		SUBTOTAL	15	30.0	100.0
		TOTAL	35	70.0	
BARE GROUND			0	.0	
LITTER-ROCK			15	30.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 5

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	DECA	DESCHAMPSIA CAESPITOSA	8	16.0	100.0
		SUBTOTAL	8	16.0	100.0
SHRUB	SYOC	SYMPHORICARPOS OCCIDENTALIS	4	8.0	100.0
		SUBTOTAL	4	8.0	100.0
TREE	ACGR	ACER GRANDIDENTATUM	11	22.0	39.3
	QUGA	QUERCUS GAMBELII	17	34.0	60.7
		SUBTOTAL	28	56.0	100.0
		TOTAL	40	80.0	
BARE GROUND			0	.0	
LITTER-ROCK			10	20.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 6

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	1	2.0	11.1
	BRTET	BROMUS TECTORUM	3	6.0	33.3
	PG	PERENNIAL GRASS	5	10.0	55.6
		SUBTOTAL	9	18.0	100.0
FORB	PF	PERENNIAL FORB	3	6.0	100.0
		SUBTOTAL	3	6.0	100.0
SHRUB	BERE	BERBERIS REPENS	3	6.0	23.1
	SYOC	SYMPHORICARPOS OCCIDENTALIS	10	20.0	76.9
		SUBTOTAL	13	26.0	100.0
TREE	ACGR	ACER GRANDIDENTATUM	9	18.0	69.2
	CELEL	CERCOCARPUS LEDIFOLIUS	1	2.0	7.7
	QUGA	QUERCUS GAMBELII	3	6.0	23.1
		SUBTOTAL	13	26.0	100.0
BRYOPHYTE	MOSS	BRYOPHYTE	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
		TOTAL	39	78.0	
BARE GROUND			0	.0	
LITTER-ROCK			11	22.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 7

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	BRTET	BROMUS TECTORUM	29	58.0	96.7
	POA	POA SP.	1	2.0	3.3
		SUBTOTAL	30	60.0	100.0
FORB	AF	ANNUAL FORB	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	ATCA	ATRIPLEX CANESCENS	1	2.0	16.7
	BERE	BERBERIS REPENS	3	6.0	50.0
	RIPES	RIBES SP.	1	2.0	16.7
	SYOC	SYMPHORICARPOS OCCIDENTALIS	1	2.0	16.7
		SUBTOTAL	6	12.0	100.0

TREE	JUOS	JUNIPERUS OSTEOSPERMA	1	2.0	14.3
	QUGA	QUERCUS GAMBELII	6	12.0	85.7
		SUBTOTAL	7	14.0	100.0
		TOTAL	44	88.0	
BARE GROUND			1	2.0	
LITTER-ROCK			5	10.0	
VEGETATION, LITTER-ROCK			49	98.0	

TRANSECT 8

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	3	6.0	23.1
	AGROP	AGROPYRON SP.	1	2.0	7.7
	BRTET	BROMUS TECTORUM	5	10.0	38.5
	DECA	DESCHAMPSIA CAESPITOSA	2	4.0	15.4
	PG	PERENNIAL GRASS	2	4.0	15.4
		SUBTOTAL	13	26.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	7	14.0	38.9
	BERE	BERBERIS REPENS	2	4.0	11.1
	RIBES	RIBES SP.	2	4.0	11.1
	SYOC	SYMPHORICARPOS OCCIDENTALIS	7	14.0	38.9
		SUBTOTAL	18	36.0	100.0
TREE	ACGR	ACER GRANDIDENTATUM	2	4.0	33.3
	JUOS	JUNIPERUS OSTEOSPERMA	3	6.0	50.0
	QUGA	QUERCUS GAMBELII	1	2.0	16.7
		SUBTOTAL	6	12.0	100.0
		TOTAL	37	74.0	
BARE GROUND			0	.0	
LITTER-ROCK			13	26.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 9

197

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM

	POA	POA SP.	3	6.0	75.0
		SUBTOTAL	4	8.0	100.0
FORB	ACMIM	ACHILLEA MILLEFOLIUM	1	2.0	25.0
	AF	ANNUAL FORB	2	4.0	50.0
	PF	PERENNIAL FORB	1	2.0	25.0
		SUBTOTAL	4	8.0	100.0
SHRUB	CEMOM	CERCOCARPUS MONTANUS	1	2.0	16.7
	RIBES	RIBES SP.	1	2.0	16.7
	SALIX	SALIX SP.	2	4.0	33.3
	SYOC	SYMPHORICARPOS OCCIDENTALIS	2	4.0	33.3
		SUBTOTAL	6	12.0	100.0
TREE	POAN	POPULUS ANGUSTIFOLIA	14	28.0	100.0
		SUBTOTAL	14	28.0	100.0
BRYOPHYTE	MOSS	BRYOPHYTE	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
		TOTAL	29	58.0	
BARE GROUND			2	4.0	
LITTER-ROCK			19	38.0	
VEGETATION, LITTER-ROCK			48	96.0	

TRANSECT 10

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	2	4.0	100.0
		SUBTOTAL	2	4.0	100.0
FORB	AF	ANNUAL FORB	2	4.0	50.0
	PF	PERENNIAL FORB	2	4.0	50.0
		SUBTOTAL	4	8.0	100.0
SHRUB	BERE	BERBERIS REPENS	1	2.0	20.0
	CEMOM	CERCOCARPUS MONTANUS	1	2.0	20.0
	SYOC	SYMPHORICARPOS OCCIDENTALIS	3	6.0	60.0
		SUBTOTAL	5	10.0	100.0
TREE	PSME	PSEUDOTSUGA MENZIESII	3	6.0	33.3
	QUGA	QUERCUS GAMBELII	6	12.0	66.7
		SUBTOTAL	9	18.0	100.0

		TOTAL	20	40.0
BARE GROUND			0	.0
LITTER-ROCK			30	60.0
VEGETATION, LITTER-ROCK			50	100.0

TRANSECT 11

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGPOP	AGROPYRON SP.	1	2.0	33.3
	ORHY	ORYZOPSIS HYMENOIDES	2	4.0	66.7
		SUBTOTAL	3	6.0	100.0
FORB	AF	ANNUAL FORB	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	BERE	BERBERIS REPENS	5	10.0	83.3
	CHVIV	CHRYSOTHAMNUS VISCIDIFLORUS	1	2.0	16.7
		SUBTOTAL	6	12.0	100.0
TREE	ACER	ACER GRANDIDENTATUM	11	22.0	84.6
	QUGA	QUERCUS GAMBELII	2	4.0	15.4
		SUBTOTAL	13	26.0	100.0
		TOTAL	23	46.0	
BARE GROUND			3	6.0	
LITTER-ROCK			24	48.0	
VEGETATION, LITTER-ROCK			47	94.0	

TRANSECT 12

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	BRTET	BROMUS TECTORUM	1	2.0	25.0
	PG	PERENNIAL GRASS	3	6.0	75.0
		SUBTOTAL	4	8.0	100.0
FORB	AF	ANNUAL FORB	1	2.0	33.3
	GRSO	GRINDELIA SQUARROSA	2	4.0	66.7
		SUBTOTAL	3	6.0	100.0

SHRUB	BERE	BERBERIS REPENS		1	2.0	8.3
	SYOC	SYMPHORICARPOS OCCIDENTALIS		11	22.0	91.7
			SUBTOTAL	12	24.0	100.0
TREE	ACGR	ACER GRANDIDENTATUM		11	22.0	91.7
	POSA	POPULUS SARGENTII		1	2.0	8.3
			SUBTOTAL	12	24.0	100.0
			TOTAL	31	62.0	
BARE GROUND				1	2.0	
LITTER-ROCK				18	36.0	
VEGETATION, LITTER-ROCK				49	98.0	

TRANSECT 13

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME		# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	PG	PERENNIAL GRASS		9	18.0	64.3
	POPA	POA PALUSTRIS		5	10.0	35.7
			SUBTOTAL	14	28.0	100.0
FORB	AF	ANNUAL FORB		4	8.0	44.4
	PF	PERENNIAL FORB		5	10.0	55.6
			SUBTOTAL	9	18.0	100.0
SHRUB	SALIX	SALIX SP.		3	6.0	100.0
			SUBTOTAL	3	6.0	100.0
TREE	ACGR	ACER GRANDIDENTATUM		3	6.0	60.0
	POAN	POPULUS ANGUSTIFOLIA		2	4.0	40.0
			SUBTOTAL	5	10.0	100.0
			TOTAL	31	62.0	
BARE GROUND				2	4.0	
LITTER-ROCK				17	34.0	
VEGETATION, LITTER-ROCK				48	96.0	

TRANSECT 14

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM

GRASS	PG	PERENNIAL GRASS	5	10.0	100.0
		SUBTOTAL	5	10.0	100.0
SHRUB	BERE	BERBERIS REPENS	1	2.0	16.7
	CEMOM	CERCOCARPUS MONTANUS	1	2.0	16.7
	SYOC	SYMPHORICARPOS OCCIDENTALIS	4	8.0	66.7
		SUBTOTAL	6	12.0	100.0
TREE	ACGR	ACER GRANDIDENTATUM	8	16.0	47.1
	QUGA	QUERCUS GAMBELII	9	18.0	52.9
		SUBTOTAL	17	34.0	100.0
		TOTAL	28	56.0	
BARE GROUND			0	.0	
LITTER-ROCK			22	44.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 15

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	PG	PERENNIAL GRASS	4	8.0	80.0
	POPA	POA PALUSTRIS	1	2.0	20.0
		SUBTOTAL	5	10.0	100.0
FORB	GRSQ	GRINDELIA SQUARROSA	2	4.0	66.7
	PF	PERENNIAL FORB	1	2.0	33.3
		SUBTOTAL	3	6.0	100.0
TREE	ABLA	ABIES LASIOCARPA	5	10.0	23.8
	ACGR	ACER GRANDIDENTATUM	15	30.0	71.4
	JUOS	JUNIPERUS OSTEOSPERMA	1	2.0	4.8
		SUBTOTAL	21	42.0	100.0
		TOTAL	29	58.0	
BARE GROUND			0	.0	
LITTER-ROCK			21	42.0	
VEGETATION, LITTER-ROCK			50	100.0	

SUMMARY - ALL COVER TRANSECTS

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	N	# OF HITS	PERCENT COVER ALL CLASSES MEAN	S.D.	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	15	4	.5	1.6	3.6
	AGROP	AGROPYRON SP.	15	15	2.0	3.2	13.5
	BRTET	BROMUS TECTORUM	15	38	5.1	14.9	34.2
	DECA	DESCHAMPSIA CAESPITOSA	15	10	1.3	4.2	9.0
	ORHY	ORYZOPSIS HYMENOIDES	15	3	.4	1.1	2.7
	PG	PERENNIAL GRASS	15	31	4.1	5.4	27.9
	POPA	POA PALUSTRIS	15	6	.8	2.6	5.4
	POA	POA SP.	15	4	.5	1.6	3.6
		SUBTOTAL	15	111	14.8	14.5	100.0
0							
FORB	ACMIM	ACHILLEA MILLEFOLIUM	15	1	.1	.5	3.1
	AF	ANNUAL FORB	15	12	1.6	2.3	37.5
	ARLUL	ARTEMISIA LUDOVICIANA	15	3	.4	1.1	9.4
	GRSQ	GRINDELIA SQUARROSA	15	4	.5	1.4	12.5
	PF	PERENNIAL FORB	15	12	1.6	2.9	37.5
		SUBTOTAL	15	32	4.3	4.6	100.0
0							
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	15	7	.9	3.6	6.6
	ATCA	ATRIPLEX CANESCENS	15	1	.1	.5	1.0
	BEFE	BERBERIS REPENS	15	29	3.9	3.7	28.2
	CEMOM	CERCOCARPUS MONTANUS	15	3	.4	.8	2.9
	CHVIV	CHRYSOTHAMNUS VISCIDIFLORUS	15	1	.1	.5	1.0
	RIBES	RIBES SP.	15	9	1.2	2.0	8.7
	SALIX	SALIX SP.	15	5	.7	1.8	4.9
	SYOC	SYMPHORICARPOS OCCIDENTALIS	15	48	6.4	7.2	46.6
		SUBTOTAL	15	103	13.7	9.9	100.0
0							
TREE	ABCO	ABIES CONCOLOR	15	2	.3	.7	.9
	ABLA	ABIES LASIOCARPA	15	5	.7	2.6	2.1
	ACGR	ACER GRANDIDENTATUM	15	104	13.9	10.7	44.4
	CELEL	CERCOCARPUS LEDIFOLIUS	15	1	.1	.5	.4
	JUOS	JUNIPERUS OSTEOSPERMA	15	16	2.1	3.5	6.8
	PIED	PINUS EDULIS	15	1	.1	.5	.4
	POAN	POPULUS ANGUSTIFOLIA	15	16	2.1	7.2	6.8
	POSA	POPULUS SARGENTII	15	1	.1	.5	.4
	PSMEM	PSEUDOTSUGA MENZIESII	15	6	.8	2.1	2.6
	QUGA	QUERCUS GAMBELII	15	82	10.9	10.8	35.0
		SUBTOTAL	15	234	31.2	15.1	100.0
0							
BRYOPHYTE	MOSS	BRYOPHYTE	15	2	.3	.7	100.0
		SUBTOTAL	15	2	.3	.7	100.0
0							

TOTAL	15	482	64.3	12.6
BARE GROUND	15	15	2.0	2.9
LITTER-ROCK	15	253	33.7	12.3
VEGETATION, LITTER-ROCK	15	735	98.0	2.9

VEGETATION SPECIES FREQUENCY

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	TOTAL NUMBER OF TRANSECTS	NUMBER OF TRANSECTS CONTAINING SPECIES	PERCENT FREQUENCY
GRASS	AGINI	AGROPYRON INTERMEDIUM	15	2	13.3
	AGROP	AGROPYRON SP.	15	6	40.0
	BRTET	BROMUS TECTORUM	15	4	26.7
	DECA	DESCHAMPSIA CAESPITOSA	15	2	13.3
	ORHY	ORYZOPSIS HYMENOIDES	15	2	13.3
	PG	PERENNIAL GRASS	15	8	53.3
	POPA	POA PALUSTRIS	15	2	13.3
	POA	POA SP.	15	2	13.3
		SUBTOTAL	15	15	100.0
FORB	ACMIM	ACHILLEA MILLEFOLIUM	15	1	6.7
	AF	ANNUAL FORB	15	7	46.7
	ARLUL	ARTEMISIA LUDOVICIANA	15	2	13.3
	GRSQ	GRINDELIA SQUARROSA	15	2	13.3
	PF	PERENNIAL FORB	15	5	33.3
		SUBTOTAL	15	11	73.3
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	15	1	6.7
	ATCA	ATRIPLEX CANESCENS	15	1	6.7
	BERE	BERBERIS REPENS	15	11	73.3
	CEMOM	CERCOCARPUS MONTANUS	15	3	20.0
	CHVIV	CHRYSOTHAMNUS VISCIDIFLORUS	15	1	6.7
	RIBES	RIBES SP.	15	5	33.3
	SALIX	SALIX SP.	15	2	13.3
	SYOC	SYMPHORICARPOS OCCIDENTALIS	15	10	66.7
		SUBTOTAL	15	14	93.3
TREE	ABCO	ABIES CONCOLOR	15	2	13.3
	ABLA	ABIES LASIOCARPA	15	1	6.7
	ACGR	ACER GRANDIDENTATUM	15	12	80.0
	CELEL	CERCOCARPUS LEDIFOLIUS	15	1	6.7
	JUOS	JUNIPERUS OSTEOSPERMA	15	6	40.0
	PIED	PINUS EDULIS	15	1	6.7
	POAN	POPULUS ANGUSTIFOLIA	15	2	13.3
	POSA	POPULUS SARGENTII	15	1	6.7

	PSMEM	PSEUDOTSUGA MENZIESII		15	2	13.3
	QUGA	QUERCUS GAMBELII		15	11	73.3
			SUBTOTAL	15	15	100.0
BRYOPHYTE	MOSS	BRYOPHYTE		15	2	13.3
			SUBTOTAL	15	2	13.3
			TOTAL	15	15	100.0

DIVERSITY INDEX CALCULATIONS

SHANNON INDEX - 2.682
VARIANCE - .019
MAXIMUM INDEX - 3.466
EVENNESS - .774
NO OF SPECIES - 32

****

**** EVALUATION OF SAMPLING ADEQUACY ****

DESIRED CONFIDENCE LEVEL = 90.0 PERCENT

SAMPLE SIZE = 15

MEAN VEGETATION PERCENT COVER = 64.3
SAMPLE STANDARD DEVIATION = 12.6
MINIMUM SAMPLE SIZE TO PROVIDE DESIRED CONFIDENCE LEVEL = 13
Z STATISTIC = 1.40
CONFIDENCE LEVEL OBTAINED = 91.9 PERCENT

MEAN VEGETATION, LITTER-ROCK PERCENT COVER = 98.0
SAMPLE STANDARD DEVIATION = 2.9
MINIMUM SAMPLE SIZE TO PROVIDE DESIRED CONFIDENCE LEVEL = 0
Z STATISTIC = 9.17
CONFIDENCE LEVEL OBTAINED = 100.0 PERCENT

****

VEGETATION COVER, FREQUENCY, AND SPECIES DIVERSITY ESTIMATES

PRICE RIVER COAL COMPANY
HELPER, UTAH

DRY CANYON-MIXED BRUSH
REFERENCE SITE
OCTOBER 1981

TRANSECT 1

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	5	10.0	55.6
	AGSP3	AGROPYRON SPICATUM	1	2.0	11.1
	ORHY	ORYZOPSIS HYMENOIDES	1	2.0	11.1
	PG	PERENNIAL GRASS	2	4.0	22.2
		SUBTOTAL	9	18.0	100.0
FORB	AF	ANNUAL FORB	4	8.0	80.0
	PF	PERENNIAL FORB	1	2.0	20.0
		SUBTOTAL	5	10.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	3	6.0	60.0
	SYOC	SYMPHORICARPOS OCCIDENTALIS	2	4.0	40.0
		SUBTOTAL	5	10.0	100.0
TREE	JUOS	JUNIPERUS OSTEOSPERMA	2	4.0	11.8
	QUGA	QUERCUS GAMBELII	15	30.0	88.2
		SUBTOTAL	17	34.0	100.0
		TOTAL	36	72.0	
BARE GROUND			0	.0	
LITTER-ROCK			14	28.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 2

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	9	18.0	100.0
		SUBTOTAL	9	18.0	100.0
FORB	ANTEN	ANTENNARIA SP.	1	2.0	100.0

		SUBTOTAL	1	2.0	100.0
SHRUB	AMUTU	AMELANCHIER UTAHENSIS	1	2.0	14.3
	ARTRT	ARTEMISIA TRIDENTATA	3	6.0	42.9
	SYOC	SYMPHORICARPOS OCCIDENTALIS	3	6.0	42.9
		SUBTOTAL	7	14.0	100.0
TREE	JUOS	JUNIPERUS OSTEOSPERMA	1	2.0	5.9
	QUGA	QUERCUS GAMBELII	16	32.0	94.1
		SUBTOTAL	17	34.0	100.0
		TOTAL	34	68.0	
BARE GROUND			2	4.0	
LITTER-ROCK			14	28.0	
VEGETATION, LITTER-ROCK			48	96.0	

TRANSECT 3

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	5	10.0	62.5
	AGSP3	AGROPYRON SPICATUM	1	2.0	12.5
	ORHY	ORYZOPSIS HYMENOIDES	2	4.0	25.0
		SUBTOTAL	8	16.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	5	10.0	100.0
		SUBTOTAL	5	10.0	100.0
TREE	QUGA	QUERCUS GAMBELII	18	36.0	100.0
		SUBTOTAL	18	36.0	100.0
		TOTAL	31	62.0	
BARE GROUND			3	6.0	
LITTER-ROCK			16	32.0	
VEGETATION, LITTER-ROCK			47	94.0	

TRANSECT 4

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM

GRASS	AGROP	AGROPYRON SP.	3	6.0	100.0
		SUBTOTAL	3	6.0	100.0
TREE	QUGA	QUERCUS GAMBELII	26	52.0	100.0
		SUBTOTAL	26	52.0	100.0
		TOTAL	29	58.0	
BARE GROUND			0	.0	
LITTER-ROCK			21	42.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 5

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	7	14.0	87.5
	AGSP3	AGROPYRON SPICATUM	1	2.0	12.5
		SUBTOTAL	8	16.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	2	4.0	100.0
		SUBTOTAL	2	4.0	100.0
TREE	QUGA	QUERCUS GAMBELII	22	44.0	100.0
		SUBTOTAL	22	44.0	100.0
SUCCULENT	OPPO	OPUNTIA POLYACANTHA	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
		TOTAL	33	66.0	
BARE GROUND			0	.0	
LITTER-ROCK			17	34.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 6

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	1	2.0	100.0
		SUBTOTAL	1		100.0

SHRUB	ARTRT	ARTEMISIA TRIDENTATA	4	8.0	80.0
	RIBES	RIBES SP.	1	2.0	20.0
		SUBTOTAL	5	10.0	100.0
TREE	JUOS	JUNIPERUS OSTEOSPERMA	1	2.0	4.0
	QUGA	QUERCUS GAMBELII	24	48.0	96.0
		SUBTOTAL	25	50.0	100.0
		TOTAL	31	62.0	
BARE GROUND			2	4.0	
LITTER-ROCK			17	34.0	
VEGETATION, LITTER-ROCK			48	96.0	

TRANSECT 7

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	3	6.0	100.0
		SUBTOTAL	3	6.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	9	18.0	100.0
		SUBTOTAL	9	18.0	100.0
TREE	QUGA	QUERCUS GAMBELII	16	32.0	100.0
		SUBTOTAL	16	32.0	100.0
		TOTAL	28	56.0	
BARE GROUND			0	.0	
LITTER-ROCK			22	44.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 8

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	1	2.0	50.0

	SYOC	SYMPHORICARPOS OCCIDENTALIS	1	2.0	50.0
		SUBTOTAL	2	4.0	100.0
TREE	ABLA	ABIES LASIOCARPA	1	2.0	4.2
	ACGR	ACER GRANDIDENTATUM	1	2.0	4.2
	PIED	PINUS EDULIS	1	2.0	4.2
	PSMEN	PSEUDOTSUGA MENZIESII	4	8.0	16.7
	QUGA	QUERCUS GAMBELII	17	34.0	70.8
		SUBTOTAL	24	48.0	100.0
		TOTAL	27	54.0	
BARE GROUND			9	18.0	
LITTER-ROCK			14	28.0	
VEGETATION, LITTER-ROCK			41	82.0	

TRANSECT 9

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	7	14.0	100.0
		SUBTOTAL	7	14.0	100.0
SHRUB	SYOC	SYMPHORICARPOS OCCIDENTALIS	2	4.0	100.0
		SUBTOTAL	2	4.0	100.0
TREE	QUGA	QUERCUS GAMBELII	26	52.0	100.0
		SUBTOTAL	26	52.0	100.0
		TOTAL	35	70.0	
BARE GROUND			1	2.0	
LITTER-ROCK			14	28.0	
VEGETATION, LITTER-ROCK			49	98.0	

TRANSECT 10

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	1	2.0	12.5
	AGSP3	AGROPYRON SPICATUM	6	12.0	75.0
	STIPA	STIPA SP.	1	2.0	12.5

			SUBTOTAL	8	16.0	100.0
TREE	QUGA	QUERCUS GAMBELII		21	42.0	100.0
			SUBTOTAL	21	42.0	100.0
SUCCULENT	OPPO	OPUNTIA POLYACANTHA		1	2.0	100.0
			SUBTOTAL	1	2.0	100.0
			TOTAL	30	60.0	
BARE GROUND				3	6.0	
LITTER-ROCK				17	34.0	
VEGETATION, LITTER-ROCK				47	94.0	

TRANSECT 11

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME		# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.		12	24.0	75.0
	AGSP3	AGROPYRON SPICATUM		4	8.0	25.0
			SUBTOTAL	16	32.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA		10	20.0	90.9
	RIBES	RIBES SP.		1	2.0	9.1
			SUBTOTAL	11	22.0	100.0
TREE	QUGA	QUERCUS GAMBELII		3	6.0	100.0
			SUBTOTAL	3	6.0	100.0
			TOTAL	30	60.0	
BARE GROUND				2	4.0	
LITTER-ROCK				18	36.0	
VEGETATION, LITTER-ROCK				48	96.0	

TRANSECT 12

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGINI	AGROPYRON INTERMEDIUM	1	2.0	6.7
	AGROP	AGROPYRON SP.	7	14.0	46.7
	AGSP3	AGROPYRON SPICATUM	5	10.0	33.3
	BRTET	BROMUS TECTORUM	1	2.0	6.7

	PG	PERENNIAL GRASS	1	2.0	6.7
		SUBTOTAL	15	30.0	100.0
SHRUB	AMUTU	AMELANCHIER UTAHENSIS	1	2.0	25.0
	ARTRT	ARTEMISIA TRIDENTATA	2	4.0	50.0
	ATCA	ATRIPLEX CANESCENS	1	2.0	25.0
		SUBTOTAL	4	8.0	100.0
TREE	QUGA	QUERCUS GAMBELII	16	32.0	100.0
		SUBTOTAL	16	32.0	100.0
		TOTAL	35	70.0	
BARE GROUND			0	.0	
LITTER-ROCK			15	30.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 13

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGROP	AGROPYRON SP.	7	14.0	70.0
	AGSP3	AGROPYRON SPICATUM	1	2.0	10.0
	PG	PERENNIAL GRASS	2	4.0	20.0
		SUBTOTAL	10	20.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	7	14.0	87.5
	SYOC	SYMPHORICARPOS OCCIDENTALIS	1	2.0	12.5
		SUBTOTAL	8	16.0	100.0
TREE	QUGA	QUERCUS GAMBELII	13	26.0	100.0
		SUBTOTAL	13	26.0	100.0
		TOTAL	31	62.0	
BARE GROUND			0	.0	
LITTER-ROCK			19	38.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 14

LIFE FORM	CIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM

GRASS	AGINI	AGROPYRON INTERMEDIUM	1	2.0	8.3
	AGROP	AGROPYRON SP.	4	8.0	33.3
	AGSP3	AGROPYRON SPICATUM	2	4.0	16.7
	ORHY	ORYZOPSIS HYMENOIDES	2	4.0	16.7
	PG	PERENNIAL GRASS	3	6.0	25.0
		SUBTOTAL	12	24.0	100.0
FORB	AF	ANNUAL FORB	2	4.0	50.0
	PF	PERENNIAL FORB	2	4.0	50.0
		SUBTOTAL	4	8.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	5	10.0	100.0
		SUBTOTAL	5	10.0	100.0
TREE	ACGR	ACER GRANDIDENTATUM	5	10.0	29.4
	QUGA	QUERCUS GAMBELII	12	24.0	70.6
		SUBTOTAL	17	34.0	100.0
		TOTAL	38	76.0	
BARE GROUND			0	.0	
LITTER-ROCK			12	24.0	
VEGETATION, LITTER-ROCK			50	100.0	

TRANSECT 15

LIFE FORM	SPECIES CODE	SCIENTIFIC NAME	# OF HITS	PERCENT COVER ALL CLASSES	PERCENT COVER WITHIN LIFE FORM
GRASS	AGSP3	AGROPYRON SPICATUM	2	4.0	40.0
	ORHY	ORYZOPSIS HYMENOIDES	3	6.0	60.0
		SUBTOTAL	5	10.0	100.0
SHRUB	ARTRT	ARTEMISIA TRIDENTATA	5	10.0	100.0
		SUBTOTAL	5	10.0	100.0
TREE	QUGA	QUERCUS GAMBELII	23	46.0	100.0
		SUBTOTAL	23	46.0	100.0
SUCCULENT	OPPO	OPUNTIA POLYACANTHA	1	2.0	100.0
		SUBTOTAL	1	2.0	100.0
		TOTAL	34	68.0	
BARE GROUND			1	2.0	
LITTER-ROCK			15	30.0	