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Survey of Revegetated Areas on the Fitzner/Eberhardt Arid Lands Ecology Reserve: Status and Initial Monitoring Results

JL Downs
SO Link
L Rozeboom
RE Durham
R Cruz
S McKee

September 2011

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CH2M HILL Plateau Remediation Company
under Contract DE-AC05-76RL01830

Pacific Northwest National Laboratory
Richland, Washington 99352

[1] Department of Science and Engineering, Confederated Tribes of the Umatilla Indian Reservation, Pendleton, Oregon.

Summary

During 2010, the U.S. Department of Energy (DOE), Richland Operations Office removed a number of facilities and debris from the Fitzner/Eberhardt Arid Lands Ecology Reserve (ALE), which is part of the Hanford Reach National Monument (HRNM). Revegetation of disturbed sites is necessary to stabilize the soil, reduce invasion by exotic weeds, and to accelerate re-establishment of native plant communities. Seven revegetation units were identified on ALE based on soils and potential native plant communities. Native seed mixes and plant material were identified for each unit based on the desired plant community. Revegetation of locations affected by decommissioning of buildings and debris removal was undertaken during the winter and early spring of 2010 and 2011, respectively. This report describes both the details of planting and seeding for each of the units, describes the sampling design for monitoring, and summarizes the data collected during the first year of monitoring.

In general, the revegetation efforts were successful in establishing native bunchgrasses and shrubs on most of the sites within the 7 revegetation units. Invasion of the revegetation areas by exotic annual species was minimal for most sites, but was above initial criteria in 3 areas: the Hodges Well subunit of Unit 2, and Units 6 and 7.

Acronyms and Abbreviations

ALE	Fitzner/Eberhardt Arid Lands Ecology Reserve
CCCF	Combined Community Communications Facility
CTUIR	Confederated Tribes of the Umatilla Indian Reservation
DOE	U.S. Department of Energy
HQ	ALE Ecology Headquarters
HRNM	Hanford Reach National Monument
PNNL	Pacific Northwest National Laboratory

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1.0 Introduction

During 2010, the U.S. Department of Energy (DOE), Richland Operations Office removed a number of facilities and debris from the Fitzner/Eberhardt Arid Lands Ecology Reserve (ALE), which is part of the Hanford Reach National Monument (HRNM). Revegetation of locations affected by decommissioning of buildings and debris removal was specified by the Environmental Assessment (DOE 2009; DOE/EA-1660F) and by Stipulation C.7 of the Memorandum of Agreement (MOA) for the Rattlesnake Mountain Combined Community Communication Facility and Infrastructure Cleanup on the Fitzner/Eberhardt Arid Lands Ecology Reserve, Hanford Site, Richland Washington (DOE 2009). Revegetation of disturbed sites is necessary to stabilize the soil, reduce invasion of these areas by exotic weeds, and to accelerate re-establishment of native plant communities.

The excavation of buildings and debris removal resulted in varying levels and extents of soil and surface disturbance at a number of locations on ALE shown in Figure 1.1. Revegetation strategies and guidance for implementing revegetation actions were developed for groups of locations (revegetation units) based on level of disturbance, elevation, soil type, and potential native vegetation (Downs et al. 2011). Revegetation actions were implemented on approximately 10 acres between November 2010 and March 2011 by Pacific Northwest National Laboratory (PNNL) and their subcontractors in cooperation with the Confederated Tribes of the Umatilla Indian Reserve (CTUIR) under funding from CH2M HILL Plateau Remediation Company. PNNL and CTUIR also cooperated in initial monitoring surveys of the revegetation units in June and July 2011. This report provides detailed descriptions of the revegetation actions implemented for individual locations and units, describes the sampling methods used to conduct initial monitoring surveys in 2011, and summarizes the monitoring results to assess native plant establishment on these disturbed sites.

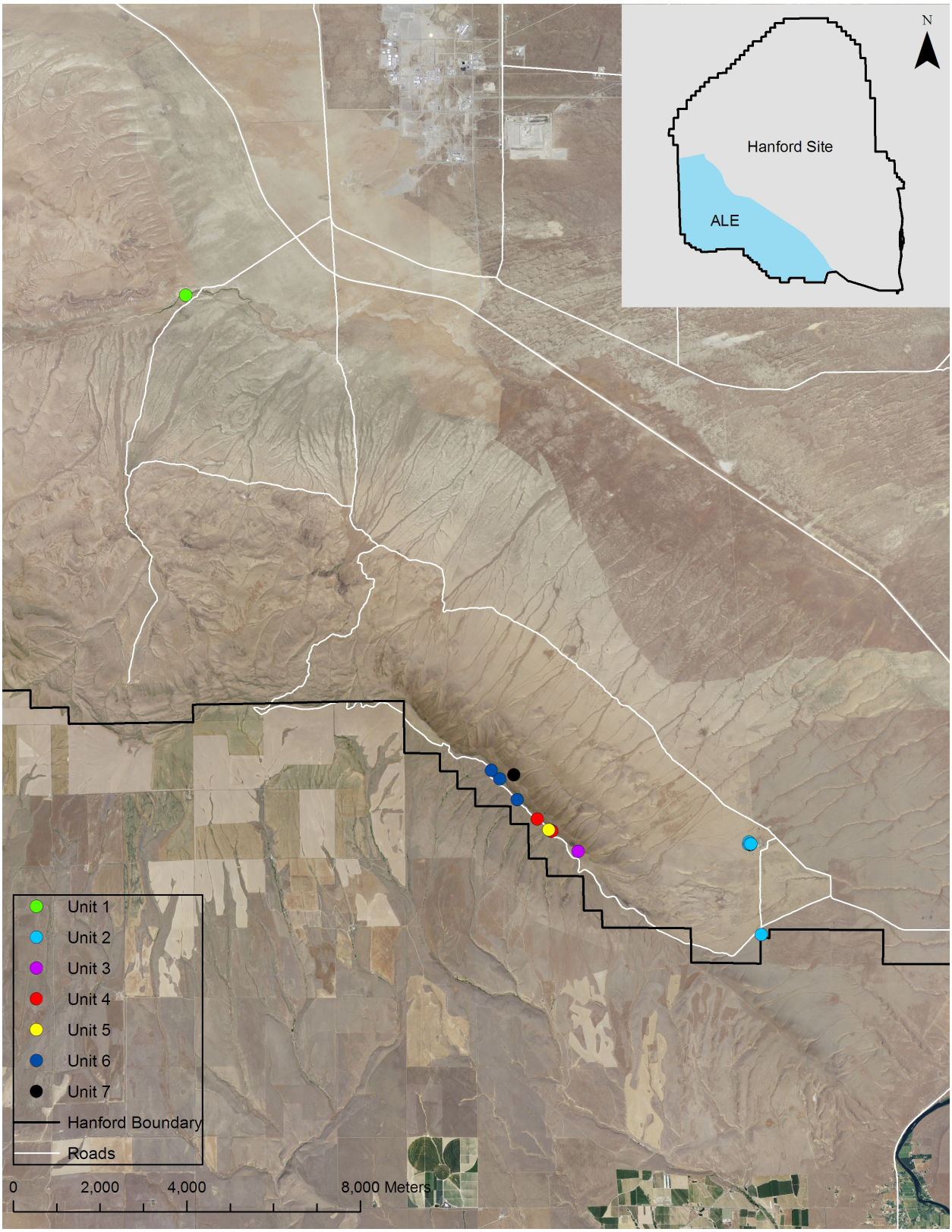

Figure 1.1. Relative Locations of Revegetation Units on the Arid Lands Ecology Reserve

2.0 Methods

This study was conducted on the ALE Reserve, which lies on the northern slope of Rattlesnake Ridge near Richland, Washington. The semi-arid ALE Reserve is characterized as shrub-steppe habitat, with elevations ranging from 600 to 3600 feet above mean sea level. The average annual precipitation is 16 cm, occurring mostly in the autumn and winter (Stone et al. 1983). Seven revegetation units were identified in the revegetation plan (Downs et al. 2011) based on soils, plant community, and elevation (Table 2.1). The individual sites were prepared for revegetation, and then seeded and planted with the appropriate mix of native species between November 2010 and March 2011.

Table 2.1. Revegetation Sites and Units (from Downs et al. 2011)

Site	Location	Habitat Type	Revegetation Unit	Estimated Size (acres)
646 – Aquatic Research Laboratory	East of Rattlesnake Springs	Black greasewood (*Sarcobatus vermiculatus*)/Saltgrass (*Distichilis stricta*)	Unit 1	0.5
6652-G, H, I, J, M, and parking areas;	ALE Ecology Buildings, 1200 ft elevation	Big sagebrush (*Artemisia tridentata*)/ Bluebunch wheatgrass (*Pseudoroegnaria spicata*)	Unit 2	2.0
8 miscellaneous debris sites	8 sites; 1000 to 1600 ft elevation	Big sagebrush/Bluebunch wheatgrass	Unit 2	1.7
Hodges Well Pump House and Roadway (6630)	~1 mi south of ALE Buildings, 1200 ft elevation	Big sagebrush/Bluebunch wheatgrass	Unit 2	0.52
Radio telescope site (6631) and road	Approximately 3000 ft elevation alongside 106-road to ridge top	Big sagebrush/bluebunch wheatgrass-Idaho fescue (*Festuca idahoensis*) and Thyme buckwheat (*Eriogonum thymoides*)/bluebunch wheatgrass	Unit 3 – Transitional	0.36
6652-C Building and parking area, including 6652-D and 6632	Top of ridge	Thyme buckwheat/Bluebunch wheatgrass and Big sagebrush/ Bluebunch wheatgrass-Idaho fescue	Unit 4	1.3
623A	Top of ridge	Thyme buckwheat/Bluebunch wheatgrass and Big sagebrush/ Bluebunch wheatgrass-Idaho fescue	Unit 4	0.35
6652-C Shed, Telescope Dome, and Berm Areas	Top of ridge	Thyme buckwheat /Bluebunch wheatgrass and Eastside Canyon Shrublands	Unit 5	1.2
Powerline Roadway—New underground power service	Just below 6652-C Building area Rattlesnake Ridge	Thyme buckwheat/Bluebunch wheatgrass and Big sagebrush/ Bluebunch wheatgrass-Idaho fescue	Unit 4	0.2
Combined Community Communications Facility	Along Rattlesnake Ridge	Thyme buckwheat/Bluebunch wheatgrass and Big sagebrush/ Bluebunch wheatgrass-Idaho fescue	Unit 4	0.34

Table 2.1. (contd)

Site	Location	Habitat Type	Revegetation Unit	Estimated Size (acres)
Crown Castle (6635)	Along Rattlesnake Ridge	Thyme buckwheat/Bluebunch wheatgrass and Big sagebrush/ Bluebunch wheatgrass-Idaho fescue	Unit 6	0.1
6636 and 6637 Communication Towers and Access Roads	Along Rattlesnake Ridge	Thyme buckwheat/Bluebunch wheatgrass and Big sagebrush/ Bluebunch wheatgrass-Idaho fescue	Unit 6	0.6
6652T—Pumphouse	Below Ridgeline	Eastside Canyon Shrublands-Riparian	Unit 7	0.89

2.1 Planting Strategies

Because each revegetation site and unit differ in terms of soils, elevation, potential native vegetation, extent of disturbance, and accessibility, a suite of methods were used to seed and plant native species. Seed mixes for each site were specified based on the dominant grasses and shrubs of the potential native plant community, and the availability of forb species appropriate for that community. Site preparation and seeding methods for each planting area were determined based on the following considerations:

- amount of soil and surface disturbance and the condition of the substrate
- whether native plant species persisted within the disturbance footprint
- the topography and access to the site.

Drill seeding, broadcast seeding and other hand-seeding methods were employed depending on the site, substrate condition, and access for equipment.

In addition, islands of both seeded and transplanted native forbs and shrubs were installed by the CTUIR to create the potential for increased native diversity within the disturbance footprints. The CTUIR provided technical services by: collecting and processing native seed stocks for diversity islands; propagating transplant materials; installing the diversity islands; and field monitoring and reporting of vegetation establishment on the island plots. Transplanted islands in Unit 1 were irregular in shape (4-m^2), and shrubs were also planted along the roadway. Unit 2 islands were circular with a radius of 5 m. Island plots in Units 3 through 7 were circular with a radius of 4 m except where circumstances required planting in other irregular patterns. Seeded island plots were circlular with varying radii. Plots at low elevation (Units 1 and 2) had radii ranging from 2.6 to 1.96 m depending on the number of seeds applied. Plots at higher elevation (Units 3 through 6) had radii ranging from 1.39 to 0.544 m. No seeded islands were installed on Unit 7. Each of the island plots installed by the CTUIR was marked at the center with a spike or rebar with a numbered aluminum tag that was wired into the ground.

The specific methods used, planting details, seed mixes applied and the number and types (seeded or transplanted) of diversity islands at each site are described in Section 3. Seeding rates and transplant densities are provided in Appendix A.

2.2 Sampling Strategies

Two types of sampling were conducted to evaluate the revegetation units. A modified Whittaker plot design was used to sample the general vegetation characteristics on the revegetation units. Plots that were seeded or planted by the CTUIR to create islands of diversity were sampled separately. Sampling of all areas was conducted in June and July 2011. Units were sampled in approximate order of increasing elevation, starting with Unit 1, so that the lower elevation, drier and warmer locations were sampled earlier in the growing season before vegetation senesced.

2.2.1 Modified Whittaker Sampling Strategy

At each location, a modified Whittaker approach (Stohlgren et al. 1995) was used to survey the establishment of vegetation on each of the units by species. The modified Whittaker plot design uses a series of nested plots to sample plant species at different scales. The modified Whittaker approach utilizes 3 plots of different sizes:

- a 1000-m^2 plot (20 m × 50 m), where only species presence is recorded
- a 100-m^2 plot (5 m × 20 m) centered within the 1000-m^2 plot, where species presence is recorded and within which 1-m^2 quadrats (0.5 m × 2.0 m) are located inside and adjacent to the plot perimeter to measure abundance of species present
- a 10-m^2 plot (2 m × 5 m) centered within the 100 m^2 plot, where only species presence is recorded.

We modified this sampling design at several points to adjust the size and location of plots in order to stay within revegetation area boundaries. Where the revegetation area was large enough, replicate plots were established. Because the size and shape of each revegetated area is unique to the disturbance footprint, most sites were not large enough to accommodate the 1000-m^2 plot in the full modified Whittaker design described. The 1000-m^2 plot was set up at only two sites in Unit 2 and data are not reported for these larger plots. Some areas (such as roadways) were too narrow to accommodate a 5-m × 20-m plot; in these cases, a narrower, longer rectangle of approximately 100 m^2 was placed on the site. We then used 12, 0.5-m × 1.0-m (0.5 m^2) quadrats (instead of the 1-m^2 quadrats described above) to sample species abundance around the boundary of each plot (Figure 2.1). A few debris locations and small building footprint areas were too small to place a 100-m^2 plot, and these were sampled using perpendicular line transects with quadrats placed along the lines or randomly in equal number within each of the four quadrants created by the perpendicular transect layout.

All species present in both the 10- and 100-m^2 plots were recorded to determine species richness. At two sampling sites where the areal extent of vegetation was large enough (the ALE Ecology Headquarters (HQ) site and the reference site in Unit 2), the species present within an additional 1000-m^2 plot were also recorded. Within each of the 100-m^2 plots, the heights of all large shrub species (big sagebrush (*Artemisia tridentata*), gray rabbitbrush (*Ericameria nauseosa*), and spiny hopsage (*Grayia spinosa*) were measured.

In each of the 0.5-m^2 quadrats, individual grass and forb plants were counted to measure the density of each species. Percent canopy cover and percent cover of bare ground and litter were also visually estimated. These values were used to calculate the mean percent canopy cover and mean density of both

herbaceous species and short-statured woody plants such as thyme buckwheat (*Eriogonum thymoides*) and narrow-leaved goldenweed (*Nestotus stenophyllus*).

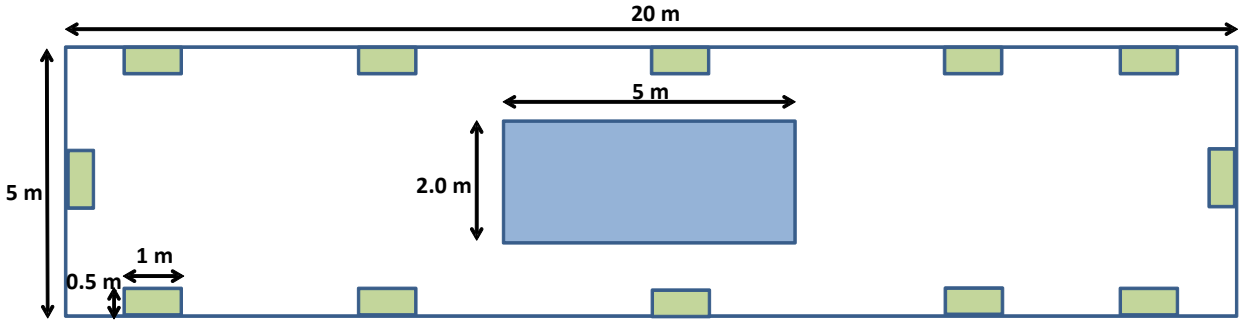

Figure 2.1. Diagram of Modified Whittaker Sample Plot Design. The 0.5-m × 1.0-m quadrats were consistently placed along the meter tape, beginning at point A (lower left-hand corner of figure) in a counter-clockwise fashion.

Three sites were too small to place 100-m^2 modified Whittaker plots within the revegetated area. In these sampling areas, crossed transects (with length fit to the site area) were used, and 12, 0.5-m^2 plots were placed at random along the crossed transect lines. Within the smallest sampling sites, species lists were recorded for a 1- m^2 plot and the entire revegetated area. Each plot was photographed, and the coordinates (Washington State Plane, South, m) for each plot were recorded using a global positioning system unit to aid in relocating plots for future monitoring efforts.

A total of 33 sites on the revegetation units were sampled using these methods. In addition, modified Whittaker plots were established and monitored in two reference plant communities: one along the 1200-ft road in the bluebunch wheatgrass (*Pseudoroegneria spicata*)/Sandberg's bluegrass (*Poa secunda*) association, and one along the ridgetop in a thyme buckwheat-rock buckwheat (*Eriogonum sphaerocephalum*)/bluebunch wheatgrass cover type. The coordinates, transect bearing, size, and number of sampling plots and transects that were established in each revegetation unit are listed in Appendix B of this document. Appendix B also provides photographs of each of the 100-m^2 plots that were sampled.

2.2.2 Monitoring Strategy for CTUIR Diversity Plantings

Field monitoring occurred between June 17 and July 14, 2011. In the transplanted plots, all individuals of all species were counted and condition noted (green and growing, stressed, dead, flowering status). All seedlings of applied species were counted and condition noted. Enumeration was done by dividing a plot into small sections to facilitate accurate counts. Percent cover of each species and that of litter, soil, soil cryptogams, and rocks was estimated for each plot. Two observers were used for every plot. Photographs were taken of each plot after assessment.

2.3 Data Summaries

Data from modified Whittaker plots on individual subunits were summarized to provide information on the canopy cover of exotic species, the density of native grasses, forbs and shrubs, and the total and native species richness of vegetation that established in the first year on each revegetation unit.

Additional summaries were generated to evaluate the individual sites or subunits within the unit that received similar seed mixes and treatments. Data tables for these measurements by species are included in Appendix C of this document.

Data collected on the diversity plots and circles planted or seeded by CTUIR were summarized to evaluate survivorship, which equaled the number of live seedlings divided by the number planted in each plot. Percent establishment for seeded species was determined by dividing the observed number of individuals of each species by the number of seed applied. Percent of plants in each condition class was also computed. Data were analyzed using JMP software (SAS Institute 2002) to compute means and one standard error of the mean. Data tables for these measurements are included in Appendix C. Additional information regarding CTUIR technical support is included in Appendix D of this document.

3.0 Revegetation Status and Initial Monitoring Results

Results of the initial monitoring indicate that native plants were successfully established on target revegetation areas. In general, the initial target criteria for revegetation were met for most of the individual metrics at the majority of the sites. The following sections describe the areas within the revegetation units, the specific revegetation strategies implemented at each site, summarize the results of the initial monitoring of vegetation establishment in 2011 and compare results to the initial criteria listed in the revegetation plan for these areas (Downs et al. 2011). The mean values for native species richness, and the mean canopy cover and density of large shrubs, grasses and forbs are listed in Table 3.1 for each of the revegetation units.

Table 3.1. Summary of Native Species Density and Richness and Exotic Species Cover Measured in 2011 on ALE Revegetation Areas and on Two Nearby Reference Areas. Initial criteria are shown in parentheses following each measured element.

Revegetation Unit	Desired Future Plant Community	Native Shrub Density (plants/ 100 m^2)	Native Bunchgrass Density (plants/m^2)	Native Forb Density (plants/m^2)	Native Species Richness (species/100 m^2)	Exotic Species Cover (%)
1	Black Greasewood/Saltgrass	22 (5)	29 (15)	1 (1)	13 (4)	11 (< 30)
2	Big Sagebrush/Bluebunch Wheatgrass	15 (5)	47(15)	5 (1)	11 (4)	20.8 (< 30)
3	Thyme Buckwheat/ Bluebunch Wheatgrass and Big Sagebrush/Bluebunch Wheatgrass-Idaho Fescue	2 (5)	105 (20)	1 (2)	19 (4)	8 (< 30)
4	Thyme Buckwheat/ Bluebunch Wheatgrass and Big Sagebrush/Bluebunch Wheatgrass-Idaho Fescue	0 (5)	87 (12)	5 (1)	15 (4)	9 (< 30)
5	Thyme Buckwheat/ Bluebunch Wheatgrass	0 (2)	45 (5)	1 (1)	6 (4)	0.1 (< 30)
6	Thyme Buckwheat/ Bluebunch Wheatgrass	0 (5)	47 (20)	11 (2)	24 (4)	40 (< 30)
7	Eastside Canyon Shrublands Transition	3 (5)	5 (20)	3 (2)	16 (4)	48 (< 30)
Reference 1	Big Sagebrush/Bluebunch Wheatgrass	1[(a)]	48	17	14	2.8
Reference 2	Thyme Buckwheat/Bluebunch Wheatgrass	14	83	37	18	0.7

(a) The reference site along the 1200-ft road on ALE has been burned previously and shrub densities are lower than desired target criteria for restoration

3.1 Unit 1

Unit 1 consists of a single site associated with decommissioning and removal of the 646 Aquatic Research Laboratory. The site is near Rattlesnake Springs adjacent to a black greasewood/saltgrass plant community growing on fine-grained alkaline soils. The unit includes the building footprint, parking area and a short roadway.

3.1.1 Unit 1 Planting Details

The roadway and disturbance footprint in this unit were prepared by ripping with an s-tine harrow. Bunchgrasses were seeded with a rangeland drill and harrowed to incorporate seed into the soil. Forbs and Wyoming big sagebrush were then broadcast seeded across the entire unit. Several forb, shrub, and one vine species were broadcast seeded into three small areas to create islands of diversity within the disturbance footprint. Container-grown sagebrush and spiny hopsage were transplanted throughout the unit and two small patches were transplanted with two native forbs. Seeding and transplant details are provided in Table 3.2. Seeding rates and transplant densities are provided in Appendix A. A bottlebrush squirreltail (*Elymus elymoides*) native grass straw was applied across the unit and crimped in place to a depth of 3 to 4 in. Water was applied to the entire site at a nominal rate of 6000 gal/acre once planting activities were complete. Supplemental water was also provided to the spiny hopsage and transplanted forbs on April 18. In this case, each plant was watered by opening a hole next to the seedling with a spike and pouring approximately 250 ml water into the hole.

Table 3.2. Seeding and Transplant Details for Unit 1

Method	Growth Habit	Scientific Name	Common Name	Whole Unit	Diversity Islands
drill seeded	bunchgrass	*Leymus cinereus*	giant wildrye	x	
		Poa secunda	Sandberg's bluegrass	x	
broadcast seeded	forb	*Achillea millefolium*	yarrow	x	
		Astragalus succumbens[(a)]	crouching milkvetch		x
		Balsamorhiza careyana	Carey's balsamroot	x	
		Chaenactis douglasii	hoary falseyarrow		x
		Crepis atribarba	slender hawksbeard		x
		Lomatium macrocarpum	bigseed desertparsley	x	
		Machaeranthera canescens	hoary aster		x
		Sphaeralcea munroana	Munro's globemallow	x	
	shrub	*Artemisia tridentata*	Wyoming big sagebrush	x	x
		Grayia spinosa	spiny hopsage		x
	vine	*Clematis ligusticifolia*	western white clematis		x
transplant	forb	*Agoseris grandiflora*	showy mountain dandelion		x
		Astragalus caricinus	buckwheat milkvetch		x
	shrub	*Artemisia tridentata*	Wyoming big sagebrush	x	
		Grayia spinosa	spiny hopsage	x	

(a) State Watch List species.

3.1.2 Unit 1 Vegetation Establishment

Native perennial grass establishment on Unit 1 was dominated by bottlebrush squirreltail with a mean density of 21 plants/m^2. These plants established from seeds within the native bunchgrass straw that was crimped over the site after seeding. Sandberg's bluegrass, alkali saltgrass (*Distichilis stricta*) and Great Basin wildrye (*Leymus cinerus*) also established from seeding and existing propagules on the site. These four species contributed to a total mean native grass density of 29 plants/m^2. Mean densities of big sagebrush and spiny hopsage were approximately 13 and 9 shrubs/100 m^2, respectively.

Only one native forb was rooted within the quadrats sampled at Unit 1; common yarrow (*Achillea millefolium*) was present at a density of about 1 plant/3 m^2. Hoary aster (*Machaeranthera canescens*) was also present, but not rooted within the 0.5-m^2 quadrats. Three non-native summer annual forbs—Russian thistle (*Salsola tragus*), tumble mustard (*Sisymbirum altissimum*), and kochia or burning bush (*Bassia scoparia*) were common on the revegetation site.

3.2 Unit 2

Unit 2 consists of 10 subunits adjacent to the 1200-ft road. The 6652 ALE Ecology subunit is a 2-ac disturbance footprint associated with the removal and decommissioning of several buildings. The Hodges Well subunit is a 0.52-ac footprint associated with well decommissioning, pumphouse removal, and a short roadway. The eight remaining subunits are made up of miscellaneous debris sites with a total area of 1.7 ac flanking the 1200-ft road between 1000 and 1600 ft elevation. Each of the subunits in Unit 2 is adjacent to a big sagebrush/bluebunch wheatgrass plant community growing on fine-grained silt-loam soils.

3.2.1 Unit 2 Planting Details

Planting methods varied depending on subunit size and access. Both the ALE Ecology and Hodges Well subunits were accessed by road, which facilitated the use of heavy equipment. The eight debris sites were either reached by foot or by light vehicle along primitive but well-vegetated two-track roads. Site preparation and seeding equipment used on the debris sites was limited to a rototiller, hand rakes, and hand-pushed seed broadcasters. Hoedads and dibble bars were used to install transplant stock at the Unit 2 locations. Preparation and planting activities performed at each subunit are described in the following subsections. Seeding rates and transplant densities are provided in Appendix A.

3.2.1.1 ALE Ecology and Hodges Well Sub Units

Both the ALE Ecology HQ (6652-H, I, and J building footprints) and Hodges Well subunits were prepared by ripping with an s-tine harrow. Bunchgrasses were seeded with a rangeland drill and harrowed to incorporate seed. Additional bunchgrasses, forbs, and shrubs were then broadcast seeded across each subunit. Eleven seeded islands (eight at the ALE subunit; three at Hodges Well), and six transplant islands (ALE subunit only) were created to encourage additional native diversity. Seeded islands were circular with varying radii from 2 to 2.6 m depending on the number of seeds planted. Transplant islands were circular with a 5-m radius. Container-grown sagebrush were transplanted throughout both subunits. Seeding and transplant details for the ALE Ecology HQ and Hodges Well subunits are provided in Table 3.3. Squirreltail straw was applied across both subunits and crimped into

place to a depth of 3 to 4 in. Water was applied at a nominal rate of 6000 gal/ac once planting activities were complete. No additional supplemental water was provided.

Table 3.3. Seeding and Transplant Detail for the ALE Ecology and Hodges Well Subunits in Unit 2

Method	Growth Habit	Scientific Name	Common Name	Subunit	Diversity Islands
drill seeded	bunchgrass	*Pseudoroegneria spicata*	bluebunch wheatgrass	x	
		Poa secunda	Sandberg's bluegrass	x	
broadcast seeded	bunchgrass	*Achnatherum hymenoides*	Indian ricegrass	x[(a)]	
		Elymus elymoides	bottlebrush squirreltail	x	
	forb	*Achillea millefolium*	yarrow	x	
		Astragalus succumbens[(b)]	crouching milkvetch		x
		Balsamorhiza careyana	Carey's balsamroot	x	
		Calochortus macrocarpus	sagebrush mariposa lily		x
		Chaenactis douglasii	hoary falseyarrow		x
		Crepis atribarba	slender hawksbeard	x	x
		Erigeron filifolius	threadleaf fleabane		x
		Erigeron piperianus[(c)]	Piper's daisy		x
		Helianthus cusickii	Cusick's sunflower		x
		Lomatium macrocarpum	bigseed desertparsley	x[(a)]	
		Lupinus sericeus	silky lupine		x
		Machaeranthera canescens	hoary aster	x	x
	shrub	*Artemisia tridentata*	Wyoming big sagebrush	x	
		Ericameria nauseosa	gray rabbitbrush		x
transplants	bunchgrass	*Achnatherum thurberianum*	Thurber's needlegrass		x[(d)]
	forb	*Agoseris grandiflora*	showy mountain dandelion		x[(d)]
		Astragalus caricinus	buckwheat milkvetch		x[(d)]
		Erigeron piperianus[(c)]	Piper's daisy		x[(d)]
		Lupinus sericeus	silky lupine		x[(d)]
		Phlox longifolia	longleaf phlox		x[(d)]
	shrub	*Artemisia tridentata*	Wyoming big sagebrush	x	

(a) Hodges Well subunit only.
(b) State Watch List species.
(c) State Sensitive species.
(d) ALE Ecology subunit only.

3.2.1.2 Debris Site Sub Units

Five debris sites were planted with a similar suite of forbs and shrubs. Site 50 is about 0.4 ac including a small disturbance footprint associated with cleanup and a well-vegetated roadway leading to the site. Site 109 is associated with a disturbance footprint from the removal of gas wells at two small pads (about 0.03 ac), a 0.13-ac contractor turnaround, and a 1.2-ac section of primitive but well-vegetated road. Site 60 is made up of two small footprints totaling 0.05 ac and site 146, located below the 1200-ft road, includes a small 0.07-ac footprint associated with debris cleanup. Each site (with the exception of

the road portions described) was rototilled prior to seeding with bunchgrasses. Hand rakes were used to incorporate seeds. Forbs and sagebrush seed were then hand broadcast and native grass straw composed of Idaho fescue (*Festuca idahoensis*) was distributed atop each of the planting areas. Squirreltail straw was applied to the upper planting site at subunit 60. The straw was not crimped and supplemental water was not provided.

Seven seeded islands (one each at subunits 50, 109, and 138; two each at subunits 60 and 146) were created to increase native diversity. Seeded islands were circular with varying radii from 2 to 2.6 m depending on the number of seeds planted. Sagebrush were transplanted along the roads on subunits 50 and 109. Seeding and transplant details for these subunits are provided in Table 3.4.

Table 3.4. Seeding and Transplant Detail for Debris Sites 50, 60, 109, 138, and 146

Method	Growth Habit	Scientific Name	Common Name	Subunit	Diversity Islands
broadcast seeded	bunchgrass	*Pseudoroegneria spicata*	bluebunch wheatgrass	x	
		Poa secunda	Sandberg's bluegrass	x	
	forb	*Achillea millefolium*	yarrow	x	
		Astragalus caricinus	buckwheat milkvetch		x[(a)]
		Astragalus succumbens[(b)]	crouching milkvetch		x
		Balsamorhiza careyana	Carey's balsamroot	x	
		Calochortus macrocarpus	sagebrush mariposa lily		x
		Chaenactis douglasii	hoary falseyarrow		x
		Crepis atribarba	slender hawksbeard		x
		Erigeron filifolius	threadleaf fleabane		x
		Erigeron piperianus[(c)]	Piper's daisy		x
		Helianthus cusickii	Cusick's sunflower		x
		Lomatium macrocarpum	bigseed desertparsley	x	
		Lupinus sericeus	silky lupine		x
		Machaeranthera canescens	hoary aster		x
	shrub	*Artemisia tridentata*	Wyoming big sagebrush	x	
		Ericameria nauseosa	gray rabbitbrush		x
transplants	shrub	*Artemisia tridentata*	Wyoming big sagebrush	x	x

(a) Debris-site 60 only.
(b) State Watch List species.
(c) State Sensitive species.

Debris site 40, 127, and 139 were the smallest of the subunits, ranging in size from 0.01 to 0.02 ac. Diversity islands were not created on these smaller sites. Subunits 127 and 139 were rototilled prior to broadcast seeding with bunchgrasses. Hand rakes were used to incorporate seeds. Forbs and sagebrush seed were then hand broadcast. Idaho fescue straw was distributed atop each planting area but was not crimped into place. Sagebrush transplants were installed on debris sites 40 and 139 only. Seeding and transplant details for these subunits are provided in Table 3.5. Supplemental water was not applied.

Table 3.5. Seeding and Transplanting Detail for Debris Sites 40,[a] 127, and 139

Method	Growth Habit	Scientific Name	Common Name	Sub Unit	Diversity Islands
broadcast seeded	bunchgrass	*Pseudoroegneria spicata*	bluebunch wheatgrass	x	
		Poa secunda	Sandberg's bluegrass	x	
	forb	*Achillea millefolium*	yarrow	x	
		Balsamorhiza careyana	Carey's balsamroot	x	
		Lomatium macrocarpum	bigseed desertparsley	x	
	shrub	*Artemisia tridentata*	Wyoming big sagebrush	x	
transplants	shrub	*Artemisia tridentata*	Wyoming big sagebrush	x[b]	

(a) Debris site 40 received only sagebrush transplants.
(b) Debris sites 40 and 139 only.

3.2.2 Unit 2 Vegetation Establishment

Native perennial grass establishment on Unit 2 was dominated by bluebunch wheatgrass, Sandberg's bluegrass, and bottlebrush squirreltail with a mean density of 21 plants/m^2. Table 3.6 provides a summary of the attributes measured on seven of the subunits within Unit 2. Native bunchgrass mean density measured on the subunits ranged from 7 to 140 plants/m^2, and exotic species mean canopy cover measured on the subunits ranged from 2.5% to 58%. Exotic species cover exceeded initial target criteria within several of the unit 2 subunits. Russian thistle (*Salsola kali*) was the largest contributor to exotic species cover on the ALE Ecology HQ plots and subunits on debris areas 138 and 139; whereas cheatgrass (*Bromus tectorum*) was the major contributor to exotic species cover on the 109 debris site. High values for exotic species cover on the Hodges Well subunit were due to several summer annual exotic forbs, but Jim Hill mustard (*Sisymbrium altissumumi)* was the primary exotic species.

Table 3.6. Initial Monitoring Results for Vegetation Characteristics Measured on Subunits within Unit 2

Revegetation Subunit	Mean Native Shrub Density (plants/100 m^2)	Mean Native Bunchgrass Density (plants/m^2)	Mean Native Forb Density (plants/m^2)	Native Species Richness (species/100 m^2)	Mean Exotic Species Cover (%)
2_109	9	30	12	14	16
2_138 and 139	12.5	9	3	6	32
2_50	10	70.8	8	18	3
2_60	14.5	42	6	14	5
2_146	49	29	10	15	45
2_HQ	14	93	2	13	14
2_Hodges Well	7.5	115	12	10	38

3.3 Unit 3

Unit 3 consists of a single 0.36-ac site associated with decommissioning and removal of the 6631 Radiotelescope and roadway. The unit is located along Rattlesnake Ridge at an elevation of approximately 3000 ft. Adjacent vegetation grades from elements of lithosolic plant communities of

thyme buckwheat or roundhead buckwheat and bluebunch wheatgrass into a bunchgrass and shrub community containing bluebunch wheatgrass, Idaho fescue, big sagebrush, green rabbitbrush (*Chrysothamnus viscidiflorus*), gray rabbitbrush, and three-tip sagebrush (*Artemisia tripartita*). The substrate of Unit 3 is of thin compacted soils with some rocky/gravel surfaces.

3.3.1 Unit 3 Planting Details

The roadway and disturbance footprint were prepared by ripping with an s-tine harrow. Bunchgrasses were broadcast seeded and harrowed to incorporate seed into the soil. Thyme buckwheat seed was then broadcast. Two diversity islands, one seeded and one transplant, were created to encourage additional native diversity within the disturbance footprint. The seeded island was installed by broadcasting seed within a 1-m radius. The transplant island was circular with a 4-m radius. Transplants were installed using pry bars, and rocks were placed in a circle around the plants, especially on the upwind side of the seedling, to create a protected space. A guar-gum tackifier (Super Tack®) was applied at a rate of 50-lb/ac) with supplemental watering applied at a nominal rate of 6000 gal/ac across the entire unit. Seeding and transplant details for this unit are provided in Table 3.7. Seeding and transplant rates are provided in Appendix A.

Table 3.7. Seeding and Transplant Details for Unit 3

Method	Growth Habit	Scientific Name	Common Name	Whole Unit	Diversity Islands
broadcast seeded	bunchgrass	*Festuca idahoensis*	Idaho fescue	x	
		Pseudoroegneria spicata	bluebunch wheatgrass	x	
		Poa secunda	Sandberg's bluegrass	x	
	forb	*Agastache occidentalis*	western horsemint		x
		Astragalus purshii	woolly-pod milkvetch		x
		Lomatium macrocarpum	bigseed desertparsley		x
		Lupinus sericeus	silky lupine		x
	shrub	*Artemisia tridentata*	Wyoming big sagebrush		x
		Ericameria nauseosa	gray rabbitbrush		x
	subshrub	*Eriogonum sphaerocephalum*	rock buckwheat		x
		Eriogonum thymoides	thymeleaf buckwheat	x	x
transplants	forb	*Agastache occidentalis*	western horsemint		x
		Astragalus purshii	woolly-pod milkvetch		x
		Balsamorhiza rosea[(a)]	rosy balsamroot		x
		Erigeron linearis	desert yellowdaisy		x
		Erigeron poliospermus	cushion fleabane		x
		Penstemon speciosus	showy beardtongue		x
		Phemeranthus spinescens	spiny flameflower		x
		Phlox hoodii	Hood's phlox		x
		Sedum leibergii	Leiberg's stonecrop		x
	shrub	*Salvia dorrii*	grayball sage		x
	subshrub	*Eriogonum sphaerocephalum*	rock buckwheat		x
		Eriogonum thymoides	thymeleaf buckwheat		x
		Nestotus stenophyllus	narrowleaf goldenweed		x

(a) State Watch List species.

3.3.2 Unit 3 Vegetation Establishment

Vegetation establishment on the radiotelescope site was dominated by native perennial grasses (~29% canopy cover). Bluebunch wheatgrass and Sandberg's bluegrass were the primary contributors with cover of 17% and 10%, and average densities of 45 and 46 plants/m^2, respectively. Exotic species cover (Table 3.1) on Unit 3 was below initial target criteria.

3.4 Unit 4

Unit 4 consists of four subunits associated with the removal of buildings and associated infrastructure, and the disturbance footprint from construction of a new communication facility located at the uppermost elevations along Rattlesnake Ridge. The surrounding native plant communities consist primarily of a thyme buckwheat/bluebunch wheatgrass association that transitions to a big sagebrush/bluebunch wheatgrass/Idaho fescue association where pockets of deeper soils occur. Soils are shallow stony silt loams. Substrate conditions after building removal and other construction consist of stony loam soils with rocks and rubble.

3.4.1 Unit 4 Planting Details

Unit 4 subunits include the 623A Building footprint and roadway; the 6652-C building footprint; the Combined Community Communications Facility (CCCF) construction footprint; and a linear area associated with the removal of an overhead powerline and construction of a new underground power service . Diversity islands were created by seeding and transplanting on most of the subunits. Seeded diversity islands were broadcast seeded into circular areas with radii ranging from 0.5 to 1.4 m depending on the number of seeds planted. Transplant islands were circular with a 4-m radius except where circumstances required planting in other irregular patterns. Rocks were circled around each transplant, especially on the upwind side, to create a protected space for the seedlings. Preparation and planting activities performed at each subunit are described in the following subsections. Seeding rates and transplant densities are provided in Appendix A.

3.4.1.1 623A Subunit

The roadway and disturbance footprint associated with building removal were prepared by ripping with an s-tine harrow. Bunchgrasses were broadcast seeded and harrowed to incorporate seed into the soil. Thyme buckwheat seed was then broadcast. Super Tack® was applied (50-lb/ac) with supplemental watering at a nominal rate of 6000 gal/ac across the entire sub unit. No diversity islands were created. Seeding details are provided in Table 3.8.

Table 3.8. Seeding Detail for Unit 4 (Subunit 623A)

Method	Growth Habit	Scientific Name	Common Name	Subunit	Diversity Islands
broadcast seeded	bunchgrass	*Festuca idahoensis*	Idaho fescue	x	
		Pseudoroegneria spicata	bluebunch wheatgrass	x	
		Poa secunda	Sandberg's bluegrass	x	
	subshrub	*Eriogonum thymoides*	thymeleaf buckwheat	x	

3.4.1.2 6652-C Building Subunit

The disturbance footprint associated with the removal of buildings, sidewalks, and a two-track roadway were prepared by ripping with an s-tine harrow. Bunchgrasses were broadcast seeded and harrowed to incorporate seed into the rocky soil. Thyme buckwheat seed was then broadcast. Seven seeded islands and six transplant islands were created as previously described to increase native diversity. Seeding and transplant details are provided in Table 3.9. Super Tack® was applied (50-lb/ac) with supplemental watering at a nominal rate of 6000 gal/ac across the entire subunit.

Table 3.9. Seeding and Transplant Details for Unit 4 (Subunit 6652-C)

Method	Growth Habit	Scientific Name	Common Name	Whole Unit	Diversity Islands
broadcast seeded	bunchgrass	*Festuca idahoensis*	Idaho fescue	x	
		Pseudoroegneria spicata	bluebunch wheatgrass	x	
		Poa secunda	Sandberg's bluegrass	x	
	forb	*Agastache occidentalis*	western horsemint		x
		Astragalus conjunctus var. rickardii[(a)]	Dr. Bills locoweed		x
		Astragalus purshii	woolly-pod milkvetch		x
		Balsamorhiza rosea[(a)]	rosy balsamroot		x
		Erigeron linearis	desert yellowdaisy		x
		Erigeron poliospermus	cushion fleabane		x
		Eriophyllum lanatum var. integrifolum	woolly sunflower		x
		Lomatium grayi	Gray's desertparsley		x
		Penstemon speciosus	showy beardtongue		x
		Phemeranthus spinescens	spiny flameflower		x
		Sedum leibergii	Leiberg's stonecrop		x
	shrub	*Salvia dorrii*	grayball sage		x
		Tetradymia canescens	gray horsebrush		x
	subshrub	*Eriogonum sphaerocephalum*	rock buckwheat		x
		Eriogonum thymoides	thymeleaf buckwheat	x	
		Nestotus stenophyllus	narrowleaf goldenweed		x
transplant	forb	*Agastache occidentalis*	western horsemint		x
		Astragalus purshii	woolly-pod milkvetch		x
		Balsamorhiza rosea[(a)]	rosy balsamroot		x
		Crepis modocensis	low hawksbeard		x
		Erigeron linearis	desert yellowdaisy		x
		Erigeron poliospermus	cushion fleabane		x
		Penstemon speciosus	showy beardtongue		x
		Phemeranthus spinescens	spiny flameflower		x
		Phlox hoodii	Hood's phlox		x
		Sedum leibergii	Leiberg's stonecrop		x
	shrub	*Salvia dorrii*	grayball sage		x
	subshrub	*Eriogonum sphaerocephalum*	rock buckwheat		x
		Eriogonum thymoides	thymeleaf buckwheat		x
		Nestotus stenophyllus	narrowleaf goldenweed		x

(a) State Watch List species.

3.4.1.3 CCCF Subunit

The CCCF construction footprint includes some off-road damage due east and due south of the new facility, a roadway leading behind the site to the east and north, and several new berms surrounding the new structures. Level areas were prepared by ripping with an s-tine harrow. Bunchgrasses were broadcast seeded across the entire unit, including new berms. The level areas were then harrowed to incorporate seed. Thyme buckwheat seed was then hand broadcast. Five seeded diversity islands were created in the off-road damage area south of the new facility. Super Tack® was applied (50-lb/ac) with supplemental watering at a nominal rate of 6000 gal/ac across the entire sub unit. No transplant islands were created. Seeding details are provided in Table 3.10.

Table 3.10. Seeding and Transplant Detail for Unit 4 (Subunit CCCF)

Method	Growth Habit	Scientific Name	Common Name	Sub Unit	Diversity Islands
broadcast seeded	bunchgrass	*Festuca idahoensis*	Idaho fescue	x	
		Pseudoroegneria spicata	bluebunch wheatgrass	x	
		Poa secunda	Sandberg's bluegrass	x	
	forb	*Agastache occidentalis*	western horsemint		x
		Astragalus purshii	woolly-pod milkvetch		x
		Balsamorhiza rosea[(a)]	rosy balsamroot		x
		Erigeron linearis	desert yellowdaisy		x
		Erigeron poliospermus	cushion fleabane		x
		Eriophyllum lanatum var. integrifolum	woolly sunflower		x
		Lomatium grayi	Gray's desertparsley		x
		Lomatium triternatum	nineleaf desertparsley		x
		Sedum leibergii	Leiberg's stonecrop		x
	shrub	*Tetradymia canescens*	gray horsebrush		x
	subshrub	*Eriogonum sphaerocephalum*	rock buckwheat		x
		Eriogonum thymoides	thymeleaf buckwheat	x	
		Nestotus stenophyllus	narrowleaf goldenweed		x

(a) State Watch List species.

3.4.1.4 Powerline Roadway Subunit

Re-contouring the powerline road along the northeast face ridge has resulted in the invasion of significant numbers of cheatgrass. The population was documented and seed removal attempted by mechanical means and by hand. Cheatgrass control was initiated on June 15 and finished on August 2, 2011. Plants were cut with a gasoline powered Honda weed eater or pulled by hand. Plants and seed were picked up using a Stihl vacuum along with rakes and hand picking. Trash bags were filled with the material and removed from the area. No seeding or planting was conducted on this subunit in 2011.

3.4.2 Unit 4 Vegetation Establishment

Native bunchgrass density on subunit 623A was approximately 8 plants/m^2 and the major contributor was Sandberg's bluegrass. Native forb density on this subunit totaled just slightly less than 1 plant/m^2. Exotic cover on subunit 623A was measured at approximately 6%, with nearly equal amounts of Russian thisle and cheatgrass (~5% each) occurring on the site. Total species richness on this subunit was 10 with 6 native species occurring within the 100-m^2 plots.

Native bunchgrass densities in Unit 4 were greatest on the 6652-C subunit and totaled almost 200 individuals/m^2. Sandberg's bluegrass was the primary contributor to native bunchgrass density (150 plants/m^2) co-occurring with bluebunch wheatgrass, Idaho fescue, and bottlebrush squirreltail. The native forb, white scorpionweed (*Phacelia hastata*) appeared to act as a pioneer species and occurred at densities of 8 plants/m^2 on the 6652-C Building subunit. Invasive species canopy cover was less than 14% and was dominated by Russian thistle and Jim Hill mustard. Native species richness was above 8 species/100 m^2.

Native bunchgrass densities on the CCCF subunit were approximately 29 plants/m^2, composed of bluebunch wheatgrass and Sandberg's bluegrass. Native forb densities were approximately 7 plants/m^2. Exotic species cover on the CCCF subunit was higher than other subunits in Unit 4 and totaled almost 14%, which was composed of primarily cheatgrass (24%).

3.5 Unit 5

Unit 5 consists of the area associated with the excavated and bladed areas lying within the rock berms surrounding the observatory and sheds at the top of the ridgeline. This site was composed of large rocky substrate with minimal amounts of soil. The substrates typical of the area surrounding the heavily disturbed revegetation Unit 5 are thin rocky lithosols that support thyme buckwheat or rock buckwheat/ bunchgrass plant communities. These communities represent the desired future conditions for this area. Some contouring of the site was conducted to fill in low areas and walkway and building footprints with rocky basalt cobble from the surrounding berms. Material from the berms was also used to fill in the cisterns at the 109 debris site. Where native vegetation had already established on the basalt berms, no additional seeding or re-contouring was attempted as part of this revegetation project.

3.5.1 Unit 5 Planting Details

The disturbance footprint was prepared by ripping with an s-tine harrow. Bunchgrasses were broadcast seeded and harrowed to incorporate seed into the rocky substrate. Thyme buckwheat seed was then broadcast. Three seeded islands and one transplant island were created. Seeded diversity islands were broadcast seeded into circular areas with radii ranging from 0.5 to 1.4 m depending on the number of seeds planted. The transplant island was circular with a 4-m radius. Transplants were installed using pry bars and dibbles. Rocks were placed in a circle around each transplant, especially on the upwind side, to create a protected space for the seedlings. Seeding and transplant details are provided in Table 3.11. Seeding rates and transplant densities are provided in Appendix A. Super Tack® was applied (50-lb/ac) with supplemental watering at a nominal rate of 6000 gal/ac across the entire unit.

Table 3.11. Seeding and Transplant Details for Unit 5

Method	Growth Habit	Scientific Name	Common Name	Whole Unit	Diversity Islands
broadcast seeded	bunchgrass	*Pseudoroegneria spicata*	bluebunch wheatgrass	x	
		Poa secunda	Sandberg's bluegrass	x	
	forb	*Agastache occidentalis*	western horsemint		x
		Astragalus conjunctus var. rickardii[(a)]	Dr. Bills locoweed		x
		Astragalus purshii	woolly-pod milkvetch		x
		Balsamorhiza rosea[(a)]	rosy balsamroot		x
		Erigeron linearis	desert yellowdaisy		x
		Erigeron poliospermus	cushion fleabane		x
		Eriophyllum lanatum var. integrifolum	woolly sunflower		x
		Lomatium grayi	Gray's desertparsley		x
		Lomatium triternatum	nineleaf desertparsley		x
		Penstemon speciosus	showy beardtongue		x
		Phemeranthus spinescens	spiny flameflower		x
		Sedum leibergii	Leiberg's stonecrop		x
	shrub	*Salvia dorrii*	grayball sage		x
		Tetradymia canescens	gray horsebrush		x
	subshrub	*Eriogonum sphaerocephalum*	rock buckwheat		x
		Eriogonum thymoides	thymeleaf buckwheat	x	
		Nestotus stenophyllus	narrowleaf goldenweed		x
transplant	forb	*Agastache occidentalis*	western horsemint		x
		Astragalus purshii	woolly-pod milkvetch		x
		Balsamorhiza rosea[(a)]	rosy balsamroot		x
		Crepis modocensis	low hawksbeard		x
		Erigeron linearis	desert yellowdaisy		x
		Erigeron poliospermus	cushion fleabane		x
		Penstemon speciosus	showy beardtongue		x
		Phemeranthus spinescens	spiny flameflower		x
		Phlox hoodii	Hood's phlox		x
		Sedum leibergii	Leiberg's stonecrop		x
	shrub	*Salvia dorrii*	grayball sage		x
	subshrub	*Eriogonum sphaerocephalum*	rock buckwheat		x
		Eriogonum thymoides	thymeleaf buckwheat		x
		Nestotus stenophyllus	narrowleaf goldenweed		x

(a) State Watch List species.

3.5.2 Unit 5 Vegetation Establishment

This unit presented the greatest technical challenges to revegetation because of the rocky nature of the substrate and relative lack of fine soil material. However, native bunchgrass densities on Unit 5 were

about 45 plants/m^2 with Sandberg's bluegrass being the primary contributor (~40 plants/m^2). Substrates on Unit 5 were extremely rocky and the only native forb that grew within the 100-m^2 plots was white scorpionweed, which occurred at a density of slightly less than 1 plant/m^2. Cover of exotic species was minimal (<1%). Species richness was low on this unit, but will likely increase over time.

3.6 Unit 6

Revegetation at Unit 6 consists of three small areas along Rattlesnake ridge associated with decommissioning and removal of the 6635 Crown Castle facility (0.1 ac), and the 6636 and 6637 communication towers and access road (0.6 ac). The desired future conditions for revegetation on Unit 6 are recovery to a thyme buckwheat/bluebunch wheatgrass plant community typical of the lithosolic soils of the ridgetop. Portions of the access roads and of the facility footprint at each individual location harbored remnant native grasses and forbs.

3.6.1 Unit 6 Planting Details

The disturbance footprints and road tracks were prepared by ripping with an s-tine harrow. Bunchgrasses were broadcast seeded and harrowed to incorporate seed. Thyme buckwheat seed was broadcast. Five seeded islands (3 at 6635 Crown Castle; 2 at 6636 communication towers) and three transplant islands (2 at 6635 Crown Castle; 1 at 6636 communication towers) were created. The same suite of species was used for each area (Table 3.12). Seeded islands were broadcast seeded into circular areas with radii ranging from 0.5 to 1.4 m depending on the number of seeds planted. Transplant islands were circular with a 4-m radius except where circumstances required planting in other irregular patterns. Transplants were installed using pry bars and dibbles. As before, rocks were placed in a circle around each transplant to create a protected space for the seedlings. Super Tack® was applied (50-lb/ac) with supplemental watering at a nominal rate of 6000 gal/ac across the entire unit. Seeding rates and transplant densities are provided in Appendix A.

3.6.2 Unit 6 Vegetation Establishment

Native bunchgrass establishment on Unit 6 was dominated by bluebunch wheatgrass, which had densities of approximately 40 plants/m^2. Total native bunchgrass density was approximately 47 plants/m^2. Exotic cover was approximately 40% and consisted mainly of two species: doorweed (*Polygonum aviculare*) and Jim Hill mustard. These values exceeded initial target criteria.

3.7 Unit 7

Revegetation Unit 7 is located on the north-facing slope of Rattlesnake Ridge at an elevation of approximately 3000 ft. Soil at the site is a stony silt loam and the general area surrounding the site supports vegetation typical of seeps and springs occurring on hills within the shrub-steppe areas of the Columbia Plateau ecoregion, which can be characterized as Eastside Canyon Shrublands. The revegetation unit was relatively small compared to most of the other units and encompassed the area associated with the pumphouse at the springs and a small parking/turn-around area. The surrounding area also contained a number of exotic weedy species such as cheatgrass and Jim Hill mustard.

Table 3.12. Seeding and Transplant Detail for Unit 6

Method	Growth Habit	Scientific Name	Common Name	Subunit	Diversity Islands
broadcast seeded	bunchgrass	*Festuca idahoensis*	Idaho fescue	x	
		Pseudoroegneria spicata	bluebunch wheatgrass	x	
		Poa secunda	Sandberg's bluegrass	x	
	forb	*Agastache occidentalis*	western horsemint		x
		Astragalus purshii	woolly-pod milkvetch		x
		Erigeron linearis	desert yellowdaisy		x
		Erigeron poliospermus	cushion fleabane		x
		Eriophyllum lanatum var. integrifolum	woolly sunflower		x
		Lomatium grayi	Gray's desertparsley		x
		Sedum leibergii	Leiberg's stonecrop		x
	shrub	*Tetradymia canescens*	gray horsebrush		
	subshrub	*Eriogonum sphaerocephalum*	rock buckwheat		x
		Eriogonum thymoides	thymeleaf buckwheat	x	
		Nestotus stenophyllus	narrowleaf goldenweed		x
transplant	forb	*Agastache occidentalis*	western horsemint		x
		Astragalus purshii	woolly-pod milkvetch		x
		Balsamorhiza rosea[(a)]	rosy balsamroot		x
		Erigeron linearis	desert yellowdaisy		x
		Erigeron poliospermus	cushion fleabane		x
		Penstemon speciosus	showy beardtongue		x
		Phemeranthus spinescens	spiny flameflower		x
		Phlox hoodii	Hood's phlox		x
		Sedum leibergii	Leiberg's stonecrop		x
	shrub	*Salvia dorrii*	grayball sage		x
	subshrub	*Eriogonum sphaerocephalum*	rock buckwheat		x
		Eriogonum thymoides	thymeleaf buckwheat		x
		Nestotus stenophyllus	narrowleaf goldenweed		x

(a) State Watch List species.

3.7.1 Unit 7 Planting Details

The site was accessed with light vehicles. The footprint was prepared by hand raking. Bunchgrasses were hand broadcast and the site was raked again to incorporate seed into the stony soil. Forbs were then broadcast and a layer of Idaho fescue native straw was applied. The straw was not crimped. Supplemental water was not applied. No seeded islands were created but transplants were installed at three locations. Forb transplants were installed in one marked irregular plot. Vine transplants were installed in two locations and marked with flagging. Transplants were installed using dibbles and hand tools. Seeding and transplant details are provided in Table 3.13. Seeding rates and transplant densities are provided in Appendix A.

Table 3.13. Seeding and Transplant Detail for Unit 7

Method	Growth Habit	Scientific Name	Common Name	Whole Unit	Diversity Islands
broadcast seeded	bunchgrass	*Leymus cinereus*	giant wildrye	x	
		Pseudoroegneria spicata	bluebunch wheatgrass	x	
		Poa secunda	Sandberg's bluegrass	x	
	forb	*Lomatium macrocarpum*	bigseed desertparsley	x	
transplant	forb	*Agastache occidentalis*	western horsemint		x
		Astragalus purshii	woolly-pod milkvetch		x
	vine	*Clematis ligusticifolia*	western white clematis		x

3.7.2 Unit 7 Vegetation Establishment

Native plant densities on Unit 7 were relatively low at approximately 5 to 6 plants/m^2. The primary native bunchgrass that established was bluebunch wheatgrass. Native forbs were also found in the revegetation area at a density of approximately 5 plants/m^2. Exotic cover at this site was quite high at about 48%.

4.0 Summary and Recommendations

Measurements of the initial vegetation establishment on the seven revegetation units on the Fitzner/Eberhard Arid Lands Ecology Reserve indicate that native plants were well established on most of the units. In most cases, the density of native bunchgrasses and forbs exceeded the initial target criteria and initial survival of transplanted and seeded forbs and shrubs was relatively high. However, several areas had fairly high canopy cover of exotic species including the Hodges Well subunit in Unit 2, Unit 6 and Unit 7. Where exotic species cover is composed primarily of summer annuals such as Jim Hill mustard and Russian thistle, the trajectory of succession is expected to favor future increases in native species cover over continued increases in alien annual species if native bunchgrasses and forbs appear to be relatively well-established at the site. This may be the case at the Hodges Well subunit.

Where cheatgrass is a primary component of the exotic species cover, additional monitoring is critical to assess whether further treatment (e.g., herbicides, weeding, or seeding) is needed to restore native vegetation. Unit 7 has a very small footprint and the surrounding area harbors weedy alien species that may affect the development of a native-dominated community on the site. However, the conditions at Unit 7 are relatively mesic and may favor native grasses and forbs over cheatgrass over time.

Unit 6 footprints are also relatively small, and the surrounding areas do not harbor a significant amount of weedy alien species. The main species contributing to exotic species cover along the roadway and where small communications facilities were removed was doorweed, an annual forb. It is unknown whether this species will persist under the climatic conditions found at the top of Rattlesnake Ridge. If this species persists or increases over the next several years, additional treatments may be needed to reduce doorweed and encourage regrowth of native species.

5.0 References

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Appendix A

Planting Details

Table A.1. Unit Seeding Rates (lb/ac) and Methods Used

Unit	Subunit	Method	Growth Habit	Species	Application Rate (lb/ac)
Unit 1	Rattlesnake Springs	drill seeded	bunchgrass	*Leymus cinereus*	20.0
				Poa secunda	20.0
		broadcast seeded	forb	*Achillea millefolium*	1.4
				Balsamorhiza careyana	3.7
				Sphaeralcea munroana	(a)
				Lomatium macrocarpum	0.3
			shrub	*Artemisia tridentata*	2.8
Unit 2	ALE Ecology buildings	drill seeded	bunchgrass	*Pseudoroegneria spicata*	20.0
				Poa secunda	20.0
		broadcast seeded	bunchgrass	*Elymus elymoides*	(a)
			forb	*Achillea millefolium*	1.3
				Balsamorhiza careyana	3.7
				Machaeranthera canescens	(a)
				Crepis atribarba	(a)
			shrub	*Artemisia tridentata*	2.7
	Hodges Well (HW)	drill seeded	bunchgrass	*Pseudoroegneria spicata*	20.0
				Poa secunda	20.0
		broadcast seeded	bunchgrass	*Achnatherum hymenoides*	(a)
				Elymus elymoides	(a)
			forb	*Achillea millefolium*	1.4
				Balsamorhiza careyana	3.7
				Crepis atribarba	(a)
				Lomatium macrocarpum	0.3
				Machaeranthera canescens	(a)
			shrub	*Artemisia tridentata*	2.8
	Debris site 50	broadcast seeded	bunchgrass	*Pseudoroegneria spicata*	12.5
				Poa secunda	12.5
			forb	*Achillea millefolium*	0.4
				Balsamorhiza careyana	1.0
				Lomatium macrocarpum	0.3
			shrub	*Artemisia tridentata*	1.7
	Debris site 60	broadcast seeded	bunchgrass	*Pseudoroegneria spicata*	12.4
				Poa secunda	12.4
			forb	*Achillea millefolium*	1.4
				Balsamorhiza careyana	3.7
				Lomatium macrocarpum	0.3
			shrub	*Artemisia tridentata*	16.8

Table A.1. (contd)

Unit	Subunit	Method	Growth Habit	Species	Application Rate (lb/ac)
	Debris site 109 (gas wells)	broadcast seeded	bunchgrass	*Pseudoroegneria spicata*	11.1
				Poa secunda	11.1
			forb	*Achillea millefolium*	1.2
				Balsamorhiza careyana	3.2
				Lomatium macrocarpum	0.2
			shrub	*Artemisia tridentata*	2.5
	Debris site 127	broadcast seeded	bunchgrass	*Pseudoroegneria spicata*	12.5
				Poa secunda	12.5
			forb	*Achillea millefolium*	1.3
				Balsamorhiza careyana	3.4
				Lomatium macrocarpum	0.3
			shrub	*Artemisia tridentata*	25.9
	Debris sites 138, 139, and 146	broadcast seeded	bunchgrass	*Pseudoroegneria spicata*	12.5
				Poa secunda	12.5
			forb	*Achillea millefolium*	1.7
				Balsamorhiza careyana	4.6
				Lomatium macrocarpum	0.3
			shrub	*Artemisia tridentata*	2.0
Unit 3	Radio-telescope	broadcast seeded	bunchgrass	*Festuca idahoensis*	9.6
				Pseudoroegneria spicata	15.2
				Poa secunda	15.2
			subshrub	*Eriogonum thymoides*	0.3
Unit 4	All sub units	broadcast seeded	bunchgrass	*Festuca idahoensis*	9.6
				Pseudoroegneria spicata	15.2
				Poa secunda	15.2
			subshrub	*Eriogonum thymoides*	0.1
Unit 5	6652-C Shed and Berm Area	broadcast seeded	bunchgrass	*Pseudoroegneria spicata*	20.0
				Poa secunda	20.0
			subshrub	*Eriogonum thymoides*	0.1
Unit 6	All sub units	broadcast seeded	bunchgrass	*Festuca idahoensis*	9.6
				Pseudoroegneria spicata	15.2
				Poa secunda	15.2
			subshrub	*Eriogonum thymoides*	0.1
Unit 7	6652-T Pumphouse	broadcast seeded	bunchgrass	*Leymus cinereus*	8.1
				Pseudoroegneria spicata	16.2
				Poa secunda	16.2
			forb	*Lomatium macrocarpum*	0.028

(a) Unknown quantity of seed scattered around the unit from on-hand local collections.

Table A.2. Wyoming Big Sagebrush Transplant Detail by Unit, Number Planted, Area, and Rate (plants/ac)

Unit	Subunit	Number Planted	Area[(a)] (ac)	Rate (plants/ac)
Unit 1	Rattlesnake Springs	240	0.5	480
Unit 2	ALE HQ	1260	2	630
	Hodges Well	400	0.5	800
	Debris site 40	10	0.01	1000
	Debris site 50	20	0.036	556
	Debris site 60	30	0.025	1200
	Debris site 109 (Roadway)	184	1.086	169
	Debris site 138 (Cistern)	15	0.006	2500
	Debris site 139 (Cistern)	30	0.04	750
	Debris site 146	45	0.07	643
Totals		**2234**	**4.273**	**523**[(b)]

(a) Area transplanted.
(b) Average number of plants per acre.

Table A.3. Transplanted Diversity Islands: Transplants by Unit, Sub Unit, Island Plot ID, and Species[(a)]

Revegetation Unit	Subunit	Island Plot ID Number	Growth Habit	Scientific Name	Number of Transplants per Island
Unit 1	Rattlesnake Springs	Circle	forb	*Agoseris grandiflora*	12
				Astragalus caricinus	12
			shrub	*Grayia spinosa*	150
		Road	forb	*Agoseris grandiflora*	13
				Astragalus caricinus	13
			shrub	*Grayia spinosa*	150
Unit 2	ALE HQ	280, 281, 282, 283, 1697 and 1698	bunchgrass	*Achnatherum thurberianum*	7
			forb	*Agoseris grandiflora*	21
				Astragalus caricinus	25
				Erigeron piperianus	39
				Lupinus sericeus	6
				Phlox longifolia	16
Unit 3	Radio-telescope	65	forb	*Agastache occidentalis*	24
				Astragalus purshii	35
				Balsamorhiza rosea	2
				Erigeron linearis	43
				Erigeron poliospermus	3
				Penstemon speciosus	1
				Phemeranthus spinescens	15
				Phlox hoodii	1
				Sedum leibergii	1
			shrub	*Salvia dorrii*	5
			subshrub	*Eriogonum sphaerocephalum*	4
				Eriogonum thymoides	3
				Nestotus stenophyllus	1
Unit 4	6652-C Buildings	64	forb	*Agastache occidentalis*	24
				Astragalus purshii	35
				Balsamorhiza rosea	2
				Erigeron linearis	43
				Erigeron poliospermus	3
				Penstemon speciosus	1
				Phemeranthus spinescens	15
				Phlox hoodii	1
				Sedum leibergii	1
			shrub	*Salvia dorrii*	5
			subshrub	*Eriogonum sphaerocephalum*	4
				Eriogonum thymoides	3
				Nestotus stenophyllus	1

Table A.3. (contd)

Revegetation Unit	Subunit	Island Plot ID Number	Growth Habit	Scientific Name	Number of Transplants per Island
		284	forb	*Agastache occidentalis*	24
				Astragalus purshii	29
				Balsamorhiza rosea	2
				Crepis modocensis	1
				Erigeron linearis	43
				Erigeron poliospermus	3
				Penstemon speciosus	1
				Phemeranthus spinescens	15
				Phlox hoodii	1
				Sedum leibergii	4
			shrub	*Salvia dorrii*	5
			subshrub	*Eriogonum sphaerocephalum*	3
				Eriogonum thymoides	2
				Nestotus stenophyllus	1
		285	forb	*Agastache occidentalis*	24
				Astragalus purshii	29
				Balsamorhiza rosea	2
				Crepis modocensis	1
				Erigeron linearis	43
				Erigeron poliospermus	3
				Penstemon speciosus	1
				Phemeranthus spinescens	15
				Phlox hoodii	1
				Sedum leibergii	1
			shrub	*Salvia dorrii*	5
			subshrub	*Eriogonum sphaerocephalum*	3
				Eriogonum thymoides	3
				Nestotus stenophyllus	1
		286	forb	*Agastache occidentalis*	24
				Astragalus purshii	35
				Balsamorhiza rosea	2
				Crepis modocensis	1
				Erigeron linearis	43
				Erigeron poliospermus	3
				Penstemon speciosus	1
				Phemeranthus spinescens	15
				Phlox hoodii	1
				Sedum leibergii	1
			shrub	*Salvia dorrii*	5
			subshrub	*Eriogonum sphaerocephalum*	3

Table A.3. (contd)

Revegetation Unit	Subunit	Island Plot ID Number	Growth Habit	Scientific Name	Number of Transplants per Island
				Eriogonum thymoides	3
				Nestotus stenophyllus	1
		287	forb	*Agastache occidentalis*	24
				Astragalus purshii	35
				Balsamorhiza rosea	2
				Crepis modocensis	1
				Erigeron linearis	43
				Erigeron poliospermus	3
				Penstemon speciosus	1
				Phemeranthus spinescens	15
				Phlox hoodii	1
				Sedum leibergii	1
			shrub	*Salvia dorrii*	5
			subshrub	*Eriogonum sphaerocephalum*	3
				Eriogonum thymoides	3
				Nestotus stenophyllus	1
		1592	forb	*Astragalus purshii*	12
			shrub	*Salvia dorrii*	3
Unit 5	6652-C Shed and Berm	1798	forb	*Agastache occidentalis*	24
				Astragalus purshii	33
				Balsamorhiza rosea	2
				Crepis modocensis	1
				Erigeron linearis	43
				Erigeron poliospermus	3
				Penstemon speciosus	1
				Phemeranthus spinescens	15
				Phlox hoodii	1
				Sedum leibergii	4
			shrub	*Salvia dorrii*	5
			subshrub	*Eriogonum sphaerocephalum*	3
				Eriogonum thymoides	2
				Nestotus stenophyllus	1
Unit 6	6635 Crown Castle	66	forb	*Agastache occidentalis*	24
				Astragalus purshii	35
				Balsamorhiza rosea	1
				Erigeron linearis	43
				Erigeron poliospermus	3
				Penstemon speciosus	1
				Phemeranthus spinescens	15
				Phlox hoodii	1

Table A.3. (contd)

Revegetation Unit	Subunit	Island Plot ID Number	Growth Habit	Scientific Name	Number of Transplants per Island
				Sedum leibergii	1
			shrub	*Salvia dorrii*	3
			subshrub	*Eriogonum sphaerocephalum*	4
				Eriogonum thymoides	2
				Nestotus stenophyllus	1
		1590[(b)]	forb	*Agastache occidentalis*	24
				Astragalus purshii	35
				Balsamorhiza rosea	1
				Erigeron linearis	44
				Erigeron poliospermus	3
				Penstemon speciosus	1
				Phemeranthus spinescens	15
				Phlox hoodii	2
				Sedum leibergii	1
			shrub	*Salvia dorrii*	5
			subshrub	*Eriogonum sphaerocephalum*	4
				Eriogonum thymoides	2
				Nestotus stenophyllus	1
	6636 Communication Towers	1591	forb	*Agastache occidentalis*	24
				Astragalus purshii	37
				Balsamorhiza rosea	1
				Erigeron linearis	43
				Erigeron poliospermus	6
				Penstemon speciosus	2
				Phemeranthus spinescens	8
				Phlox hoodii	3
			shrub	*Salvia dorrii*	5
			subshrub	*Eriogonum sphaerocephalum*	6
				Eriogonum thymoides	2
				Nestotus stenophyllus	1
Unit 7	6652-T Pumphouse	flag near shrubs	vine	*Clematis ligusticifolia*	6
		pin nw edge	forb	*Agastache occidentalis*	32
		pin nw edge	forb	*Astragalus purshii*	12

(a) Except where noted, all islands were circular in shape. Unit 2 islands had a 5-m radius; islands in Units 3, 4, 5, and 6 had a 4-m radius; islands in Units 1 and 7 were irregularly shaped as noted.
(b) Rectangular-shaped island.

Table A.4. Seeded Diversity Islands: Species by Unit, Sub Unit, and Island Plot ID Numbers[(a)]

Revegetation Unit	Subunit	Island ID Numbers	Growth Habit	Scientific Name	Average Number of Seeds per Island
1	Rattlesnake springs	1581, 1582, and 1583	forb	*Astragalus succumbens*	1052
				Chaenactis douglasii	885
				Crepis atribarba	2961
				Machaeranthera canescens	3226
			shrub	*Grayia spinosa*	1645
			vine	*Clematis ligusticifolia*	92
2	ALE HQ	1568, 1569, 1570, 1571, 1572, 1573, 1574, and 1575	forb	*Astragalus succumbens*	472
				Calochortus macrocarpus	1204
				Chaenactis douglasii	238
				Crepis atribarba	649
				Erigeron filifolius[(b)]	688
				Erigeron piperianus	266
				Helianthus cusickii	518
				Lupinus sericeus	84
				Machaeranthera canescens	2912
			shrub	*Ericameria nauseosa*	1170
	Debris site 109 (gas wells)	1585	forb	*Astragalus succumbens*	594
				Calochortus macrocarpus	1489
				Chaenactis douglasii	705
				Crepis atribarba	691
				Erigeron filifolius	454
				Erigeron piperianus	215
				Helianthus cusickii	482
				Lupinus sericeus	83
				Machaeranthera canescens	3451
			shrub	*Ericameria nauseosa*	977
	Debris site 138 (Cistern)	1584	forb	*Astragalus succumbens*	463
				Calochortus macrocarpus	1157
				Chaenactis douglasii	754
				Crepis atribarba	632
				Erigeron filifolius	528
				Erigeron piperianus	175
				Helianthus cusickii	443
				Lupinus sericeus	79
				Machaeranthera canescens	2838
			shrub	*Ericameria nauseosa*	1061

Table A.4. (contd)

Revegetation Unit	Subunit	Island ID Numbers	Growth Habit	Scientific Name	Average Number of Seeds per Island
	Debris site 146	1579 and 1580	forb	*Astragalus succumbens*	490
				Calochortus macrocarpus	1365
				Chaenactis douglasii	760
				Crepis atribarba	684
				Erigeron filifolius	454
				Erigeron piperianus	160
				Helianthus cusickii	556
				Lupinus sericeus	82
				Machaeranthera canescens	2276
			shrub	*Ericameria nauseosa*	1370
	Debris site 50	1586	forb	*Astragalus succumbens*	533
				Calochortus macrocarpus	1558
				Chaenactis douglasii	890
				Crepis atribarba	715
				Erigeron filifolius	786
				Erigeron piperianus	177
				Helianthus cusickii	435
				Lupinus sericeus	68
				Machaeranthera canescens	2610
			shrub	*Ericameria nauseosa*	881
	Debris site 60	1587 upslope and 1588 downslope	forb	*Astragalus caricinus*[(c)]	200
				Astragalus succumbens[(d)]	484
				Calochortus macrocarpus	1288
				Chaenactis douglasii[(d)]	802
				Crepis atribarba	824
				Erigeron filifolius	514
				Erigeron piperianus	266
				Helianthus cusickii	406
				Lupinus sericeus	82
				Machaeranthera canescens	2410
			shrub	*Ericameria nauseosa*	861
	Hodges Well	1576, 1577, and 1578	forb	*Astragalus succumbens*	495
				Calochortus macrocarpus	1304
				Chaenactis douglasii	733
				Crepis atribarba	681
				Erigeron filifolius	552
				Erigeron piperianus	180
				Helianthus cusickii	544
				Lupinus sericeus	77

Table A.4. (contd)

Revegetation Unit	Subunit	Island ID Numbers	Growth Habit	Scientific Name	Average Number of Seeds per Island
				Machaeranthera canescens	3284
			shrub	*Ericameria nauseosa*	1108
3	Radio-telescope	1589	forb	*Agastache occidentalis*	517
				Astragalus purshii	794
				Lomatium macrocarpum	400
				Lupinus sericeus	402
			shrub	*Ericameria nauseosa*	169
			subshrub	*Eriogonum sphaerocephalum*	76
4	6652-C Building (barracks)	259, 260, 261, 262, 263, 264 and 265	forb	*Agastache occidentalis*	50
				Astragalus conjunctus var. rickardii	50
				Astragalus purshii	50
				Balsamorhiza rosea	50
				Erigeron linearis	50
				Erigeron poliospermus	50
				Eriophyllum lanatum var. integrifolum	50
				Lomatium grayi	50
				Penstemon speciosus	50
				Phemeranthus spinescens	50
				Sedum leibergii	50
			shrub	*Salvia dorrii*	50
				Tetradymia canescens	50
			subshrub	*Eriogonum sphaerocephalum*	50
				Nestotus stenophyllus	50
	CCF	269, 270, 272, 273, 274, 275 and 276	forb	*Agastache occidentalis*	50
				Astragalus purshii	50
				Balsamorhiza rosea[(e)]	50
				Erigeron linearis	50
				Erigeron poliospermus	50
				Eriophyllum lanatum var. integrifolum	50
				Lomatium grayi	50
				Lomatium triternatum[(f)]	50
				Sedum leibergii	50
			shrub	*Tetradymia canescens*	50
			subshrub	*Eriogonum sphaerocephalum*	50
				Nestotus stenophyllus	50

Table A.4. (contd)

Revegetation Unit	Subunit	Island ID Numbers	Growth Habit	Scientific Name	Average Number of Seeds per Island
5	6652-C Shed and Berm Area	266, 267, and 268	forb	*Agastache occidentalis*	50
				Astragalus conjunctus var. rickardii[(g)]	50
				Astragalus purshii	50
				Balsamorhiza rosea	50
				Erigeron linearis	50
				Erigeron poliospermus	50
				Eriophyllum lanatum var. integrifolum	50
				Lomatium grayi	50
				Lomatium triternatum[(h)]	50
				Penstemon speciosus[(g)]	50
				Phemeranthus spinescens	50
				Sedum leibergii	50
			shrub	*Salvia dorrii*	50
				Tetradymia canescens	50
			subshrub	*Eriogonum sphaerocephalum*	50
				Nestotus stenophyllus	50
6	6635 Crown Castle	277	forb	*Agastache occidentalis*	50
				Astragalus purshii	50
				Erigeron linearis	50
				Erigeron poliospermus	50
				Eriophyllum lanatum var. integrifolum	50
				Lomatium grayi	50
				Sedum leibergii	50
			shrub	*Tetradymia canescens*	50
			subshrub	*Eriogonum sphaerocephalum*	50
				Nestotus stenophyllus	50

Table A.4. (contd)

Revegetation Unit	Subunit	Island ID Numbers	Growth Habit	Scientific Name	Average Number of Seeds per Island
	6636 Communication towers	278 and 279	forb	*Agastache occidentalis*	50
				Astragalus purshii	50
				Erigeron linearis	50
				Erigeron poliospermus(i)	50
				Eriophyllum lanatum var. integrifolum	50
				Lomatium grayi	50
				Sedum leibergii	50
			shrub	*Tetradymia canescens*	50
			subshrub	*Eriogonum sphaerocephalum*	50
				Nestotus stenophyllus	50

(a) The number of seeds planted at each island was averaged across each sub unit. Values for smaller seeded species were estimated by weight and known weight-to-seed-count ratios.
(b) Island 1572 was planted with 2284 *Erigeron filifolius* seeds; not used to calculate average.
(c) 1587 upslope island only.
(d) 1588 down-island slope only.
(e) Islands 269 and 270 only.
(f) Islands 269, 270, 272, and 273 only.
(g) Islands 266 and 267 only.
(h) Island 268 only.
(i) Island 279 only.

Appendix B

Plot Locations and Photographs

Appendix B

Plot Locations and Photographs

Table B.1. Modified Whittaker Plot IDs and Locations (Coordinate system: Washington State Plane [South]; Datum: NAD83; Units: meters)

Unit	Sub Unit	Plot ID Number	Point A Northing	Point A Easting	Bearing from Point A to B	Plot Shape and Comment
Reference	1200-ft Road	1200-REF-1	118982.858	573326.294	315°	20-m × 5-m plot
	Rattlesnake Ridge	RR-1	118791.649	569113.025	0°	20-m × 5-m plot
1	Rattlesnake Springs	1-RS-1	130727.718	561134.148	36°	20-m × 5-m plot
		1-RS-2	130706.044	561149.306	344°	33.3-m × 3-m plot
		1-RS-3	130658.486	561175.300	330°	33.3-m × 3-m plot
2	ALE Headquaters	2-HQ-1	118077.792	574149.020	274°	20-m × 5-m plot
		2-HQ-2	118097.713	574149.081	312°	20-m × 5-m plot
		2-HQ-3	118120.180	574122.040	292°	20-m × 5-m plot
	Hodges Well	2-HW-1	116016.141	574390.988	148°	20-m × 5-m plot
		2-HW-2	116011.488	574385.539	168°	20-m × 5-m plot
	Debris Site 50	2-50-1	118022.349	574682.013	250°	33.3-m × 3-m plot includes debris site and portion of road
	Debris Site 60	2-DS60-Xa	118332.490	572935.087	A-C: 74°, B-D: 350°	6 systematic, 1-m × 0.5m quadrats (3 along each line) sampled along cross-transect lines at 3, 6, and 9 meters. The side of the line (left or right) was determined randomly by tossing a coin. A-C = 11 m, B-D = 13 m.
		2-DS60-Xb	118340.754	572966.202	A-C: 76°, B-D: 342°	6 systematic, 1-m × 0.5m quadrats (3 along each line) sampled along cross-transect lines at 3, 6, and 8 meters. The side of the line (left or right) was determined randomly by tossing a coin. A-C = 9.65 m, B-D = 9.2 m.
	Debris Site 109	2-109-1	119304.831	572128.140	not avail.	20-m × 5-m plot. Bearing from point A to B is downslope.
		2-109-2	119507.671	572112.077	229°	33.3-m × 3-m plot on upper road
		2-109-3	119836.982	572544.682	51°	33.3-m × 3-m plot on lower road
	Debris Site 138	2-138-1	120647.157	572978.47	center point	4 random, 1/2-m plot frames (1 in each quadrant)
	Debris Site 139	2-139-1	120671.68	573004.39	center point	7, 1/2-m plot frames randomly sampled

Table B.1. (contd)

Unit	Sub Unit	Plot ID Number	Point A Northing	Point A Easting	Bearing from Point A to B	Plot Shape and Comment
	Debris Site 146	2-DS146-X	121391.298	571205.866	not avail.	12 systematic, 1/2-m quadrats (6 along on each line) placed every 2 m, coin toss determined which side of the line each quadrat would be placed. 17-m line (a to c), 15-m line (b to d)
3	Radio-telescope	3-RT-1	117915.745	570183.824	350°	20-m × 5-m plot
		3-RT-2	117853.599	570183.754	178°	33.3-m × 3-m plot along road
		3-RT-3	117857.368	570186.828	120°	33.3-m × 3-m plot along road
4	623A	4-623A-1	118007.498	570047.091	288°	20-m × 5-m plot
		4-623A-road			n/a	6 random, 1/2-m rectangles along roadway
	6652-C Building (barracks)	4-C-1	118393.286	569540.284	67°	20-m × 5-m plot
		4-C-2	118424.672	569552.093	213°	20-m × 5-m plot
		4-C-3	118403.652	569538.390	344°	20-m × 5-m plot
	CCCF	4-CCF-1	118643.307	569239.409	302°	20-m × 5-m plot
		4-CCF-Berm			n/a	6 random, 1/2-m rectangles along roadway
		4-CCF-Road			n/a	6 random, 1/2-m rectangles around berm
5	6652-C Shed and Berm Area	5-OB-1	118427.562	569502.077	312°	20-m × 5-m plot
		5-OB-2	118426.134	569485.307	255°	20-m × 5-m plot
6	Crown Castle	6-6635-X	119117.428	568774.218	47°	7-m × 15-m plot
	Communication towers	6-6636-1	119575.359	568366.085	50°	20-m × 5-m plot
7	Pumphouse	7-PH-X	119685.181	568699.399	center point	12 random, 1/2-m plot frames (3 in each quadrant)

Table B.2. Diversity Island Plot Locations and ID Numbers. Coordinates for transplant islands were not available when this document was drafted. (Coordinate system: Washington State Plane [South]; Datum: NAD83; Units: meters)

Unit	Sub Unit	Plot Type	Plot ID Number	Center-Point Northing	Center-Point Easting
1	Rattlesnake Springs	seeding	1581	130733.934	561132.552
			1582	130745.359	561133.969
			1583	130739.705	561140.683
		transplant	circle		
			road		
2	ALE HQ	seeding	1568	118161.582	574112.958
			1569	118149.012	574103.938
			1570	118121.470	574120.534
			1571	118101.307	574097.819
			1572	118084.911	574114.126
			1573	118059.142	574125.525
			1574	118073.137	574159.345
			1575	118113.410	574156.782
		transplant	280		
			281		
			282		
			283		
			1697		
			1698		
	HodgesWell	seeding	1576	116010.488	574403.022
			1577	115990.387	574391.298
			1578	116021.973	574392.970
	Debris Site 50	seeding	1586	118015.867	574676.767
	Debris Site 60 (up slope)	seeding	1587	118329.277	572940.087
	Debris Site 60 (down slope)	seeding	1588	118340.273	572968.502
	Debris Site 109 (Wells)	seeding	1585	119305.831	572139.590
	Debris Site 109 (Road)	transplant	1		
			2		
			3		
			4		
			5		
	Debris Site 138	seeding	1584	120669.637	573001.824
	Debris Site 146	seeding	1579	121405.265	571209.233
			1580	121395.810	571206.128
3	Radiotelescope	seeding	1589	117908.185	570186.073
		transplant	65	117933.626	570172.479

Table B.2. (contd)

Unit	Sub Unit	Plot Type	Plot ID Number	Center-Point Northing	Center-Point Easting
4	6652-C Building	seeding	259	118416.515	569512.910
			260	118421.129	569521.330
			261	118418.173	569529.151
			262	118416.460	569537.108
			263	118433.687	569544.846
			264	118422.972	569552.808
			265	118412.569	569563.661
		transplant	64		
			284		
			285		
			286		
			287		
			1592		
	CCCF	seeding	269	118658.283	569217.713
			270	118655.222	569224.464
			272	118652.929	569231.177
			273	118648.635	569238.060
			274	118643.389	569245.565
5	6652-C Shed and Berm	seeding	266	118422.203	569474.166
			267	118433.248	569470.196
			268	118431.503	569481.915
		transplant	1798		
6	6635 Crown Castle	seeding	275	119108.813	568775.166
			276	119112.564	568779.518
			277	119112.280	568770.959
		transplant	66		
			1590		
	6636 Communication Towers	seeding	278	119575.482	568362.351
			279	119579.805	568366.957
		transplant	1591		
7	6652-T Pumphouse	transplant	288	119685.66	568699.77
			flag		

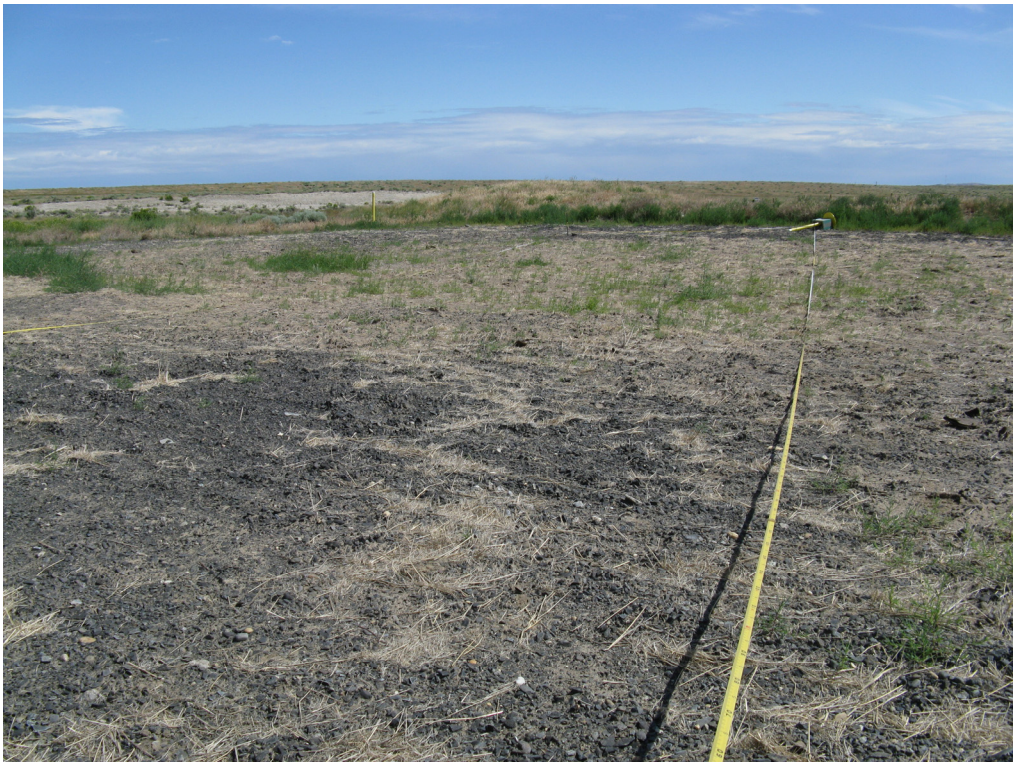

Figure B.1. Unit 1: Monitoring Plot 1-RS-1; Northing 130727.718; Easting 561134.148

Figure B.2. Unit 1: Monitoring Plot 1-RS-2; Northing 130706.044; Easting 561149.306

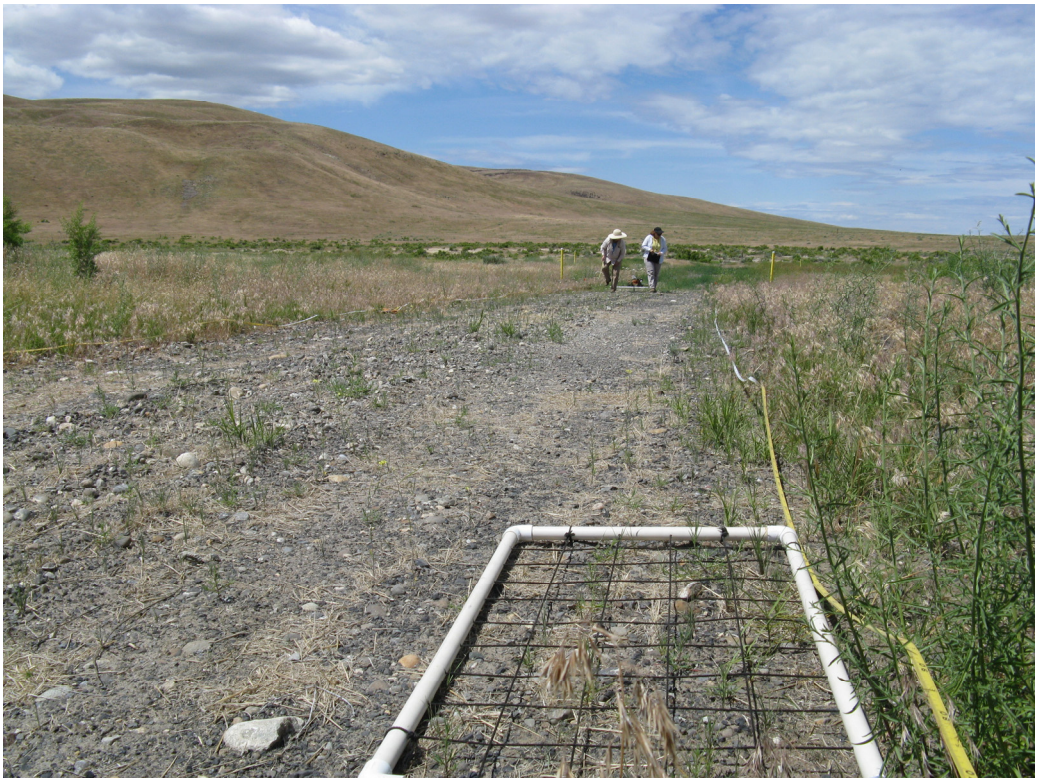

Figure B.3. Unit 1: Monitoring Plot 1-RS-3; Northing 130658.486, Easting 561175.300

Figure B.4. Unit 2 (ALE HQ): Monitoring Plot 2-HQ-1; Starting Coordinate N 118076, E 574149

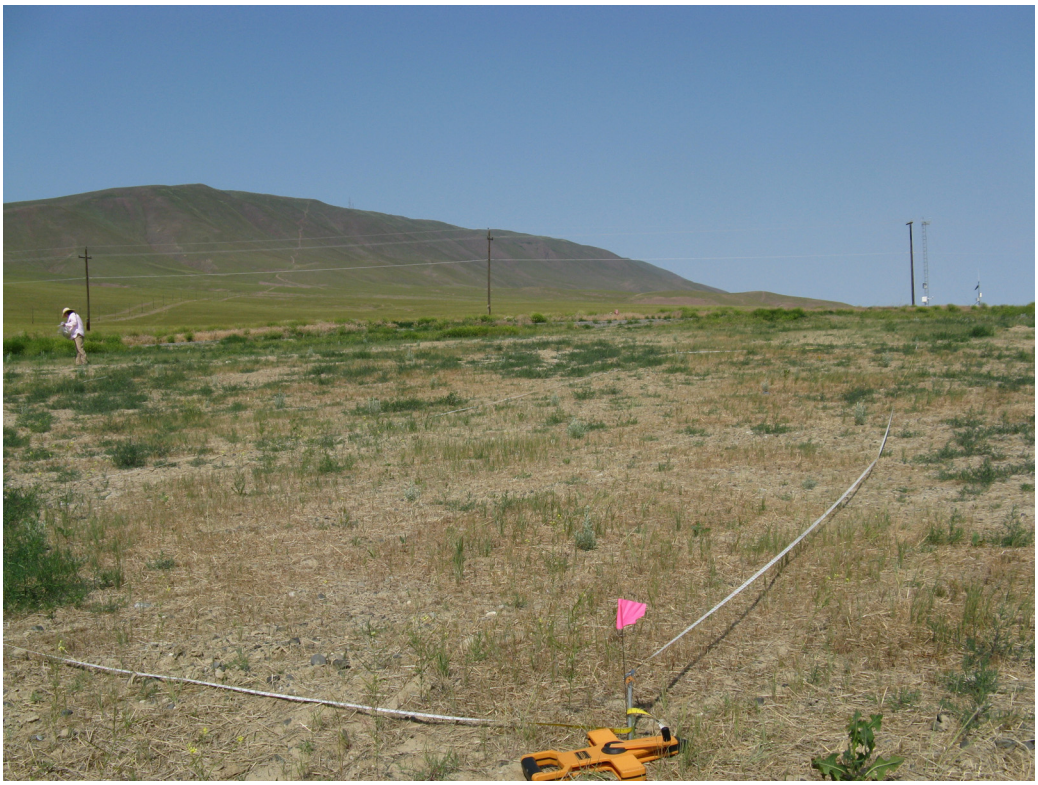

Figure B.5. Unit 2 (ALE HQ): Monitoring Plot 2-HQ-2; Starting Coordinate N118098.3, E 574149.5

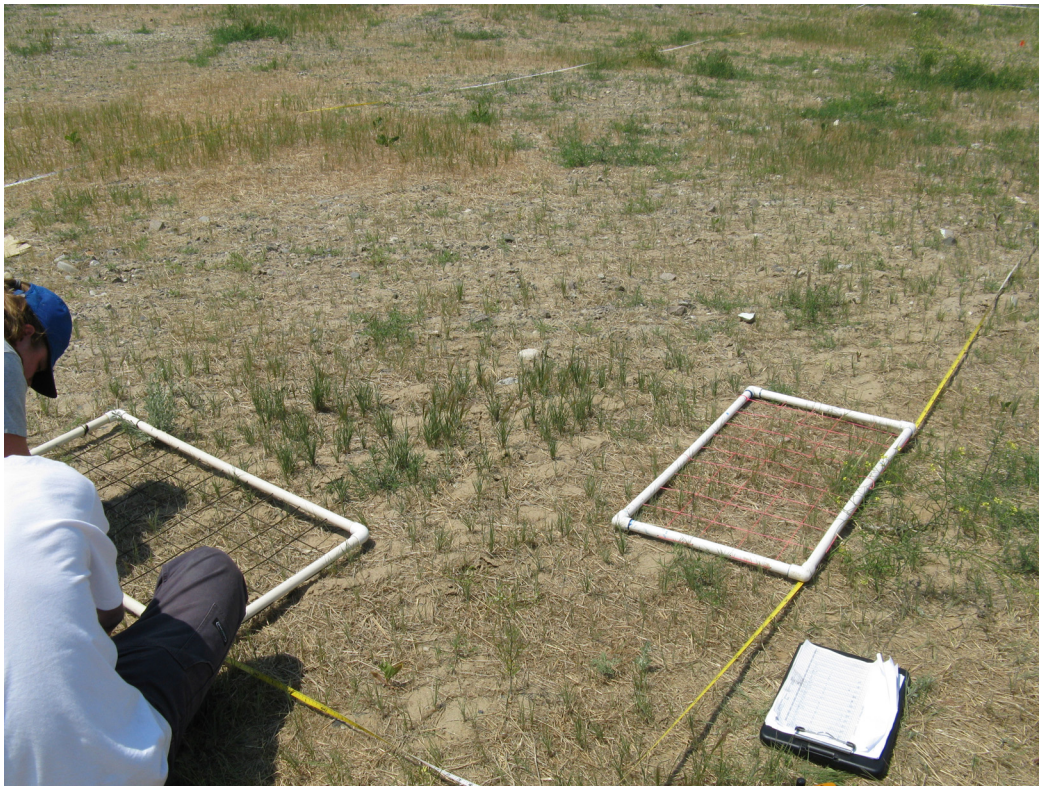

Figure B.6. Unit 2 (ALE HQ): Plot 2-HQ-3; Starting Coordinate N 118120.180, E 574122.040

Figure B.7. Unit 2 (Debris Site 109): Monitoring Plot 2-109-1, Starting Coordinate N 119304.831, E 572128.140

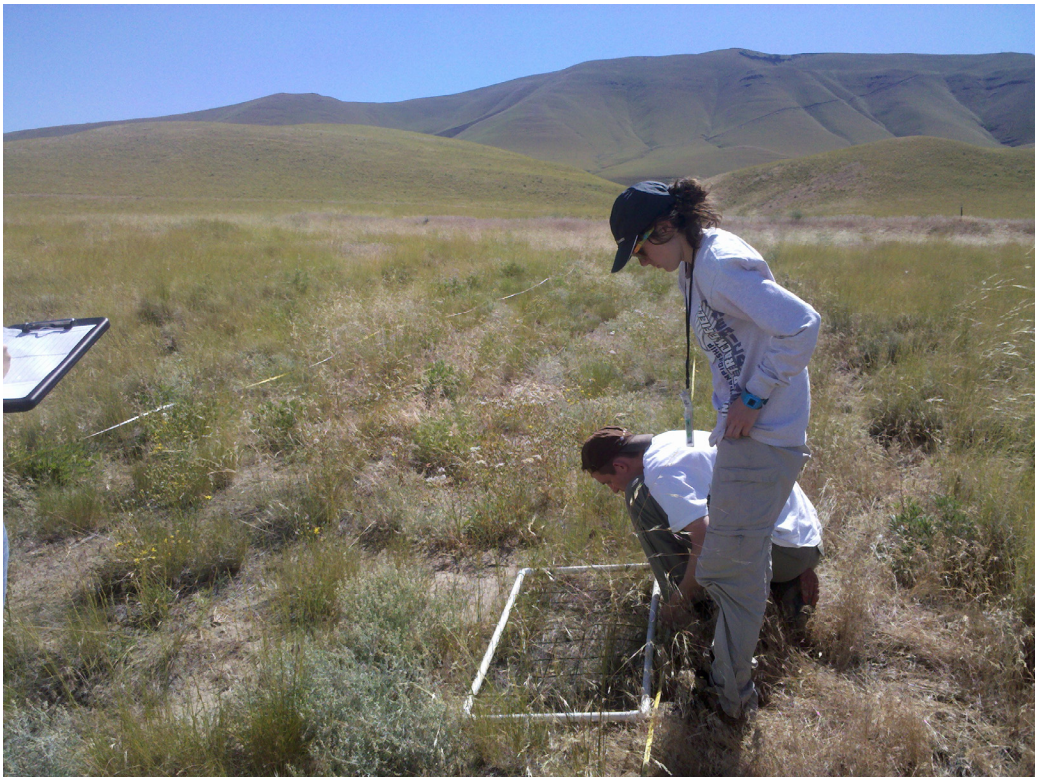

Figure B.8. Unit 2 (Debris Site 109): Plot 2-109-2, Starting Coordinates N 119507.671, E 572112.077

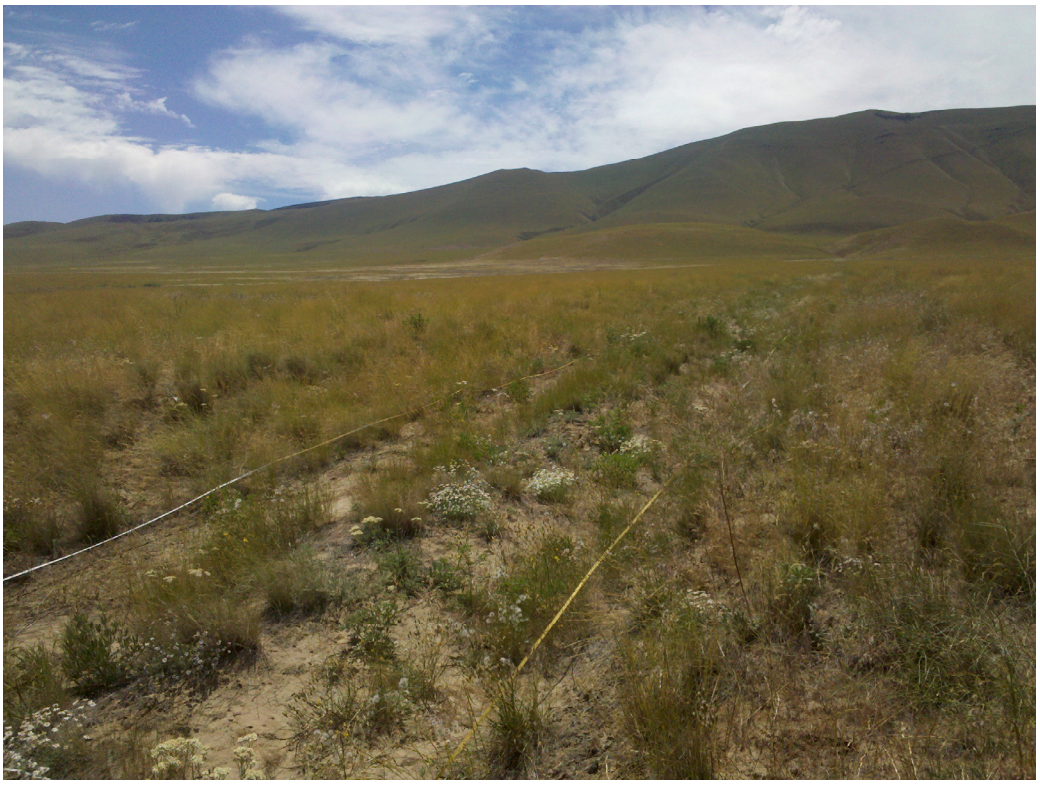

Figure B.9. Unit 2 (Debris Site 109): Plot 2-109-3, Starting Coordinates N 119835.11, E 572542.77

Figure B.10. Unit 2 (Hodges Well): Plot 2-HW-1, Starting Coordinates N 116016.141, E 574390.988

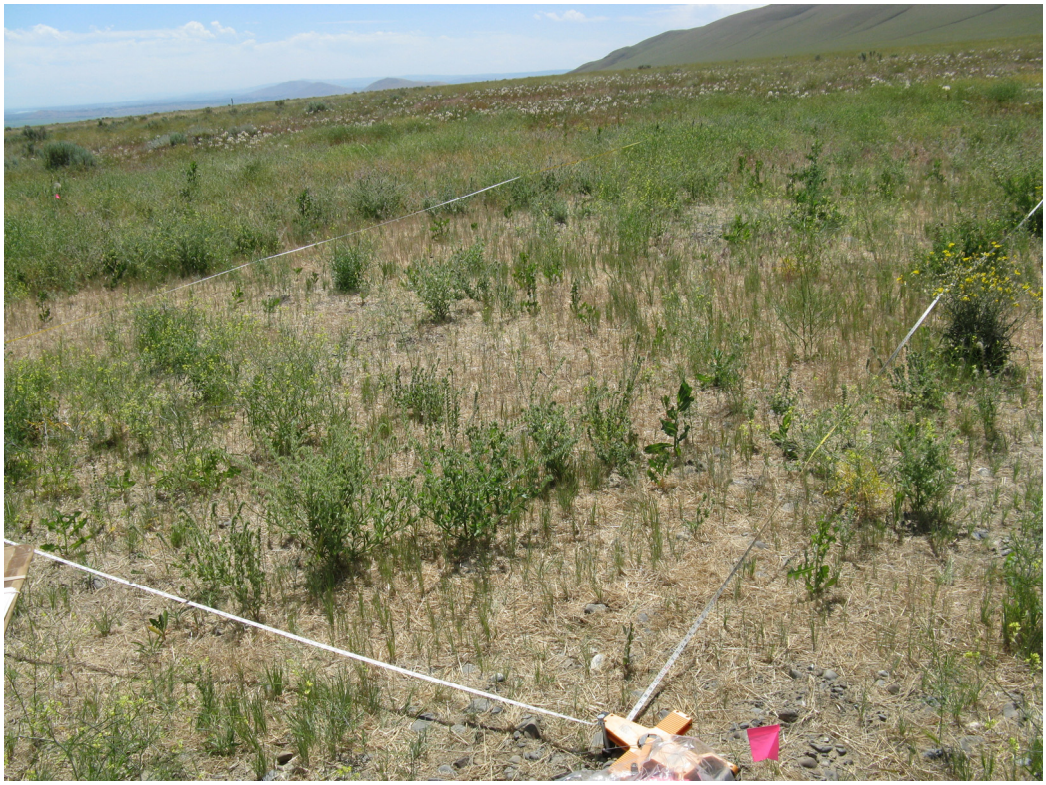

Figure B.11. Unit 2 (Hodges Well): Plot 2-HW-2, Starting Coordinates N 116011.488, E 574385.539

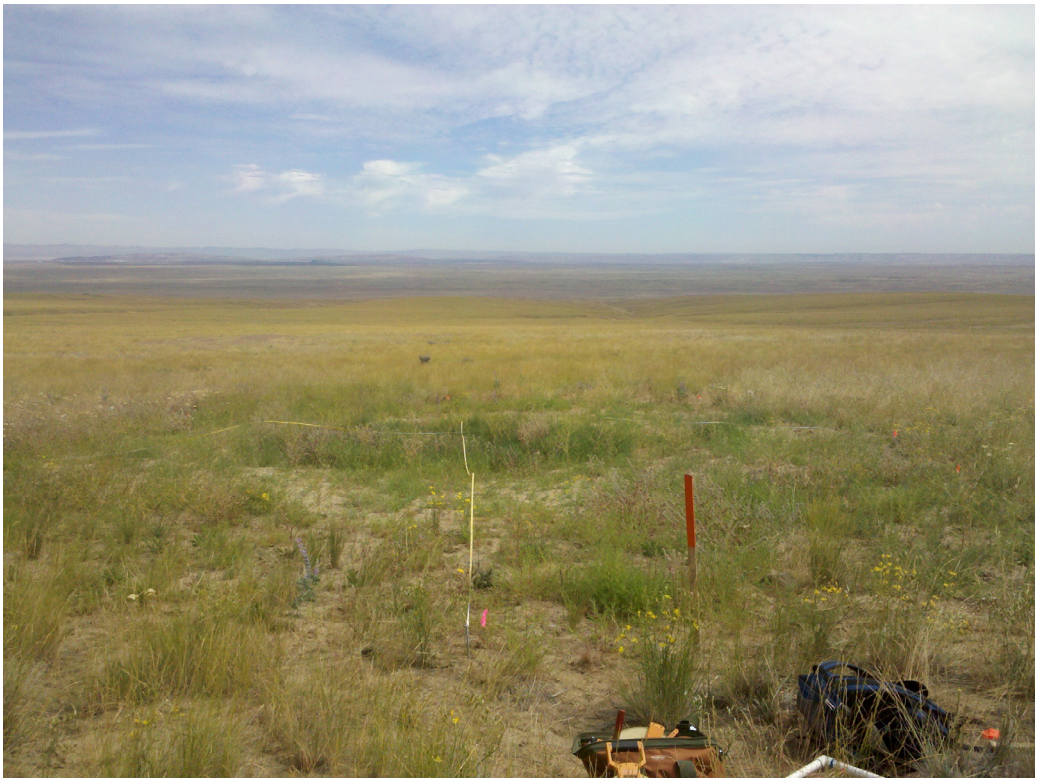

Figure B.12. Unit 2 (Debris Site 146): Plot 2-DS146-X, Starting Coordinates N 121391.15, E 511205.95

Figure B.13. Unit 2 (Debris Site 139): Plot 2-139-1, Starting Coordinates N 120672.508, E 573004.685

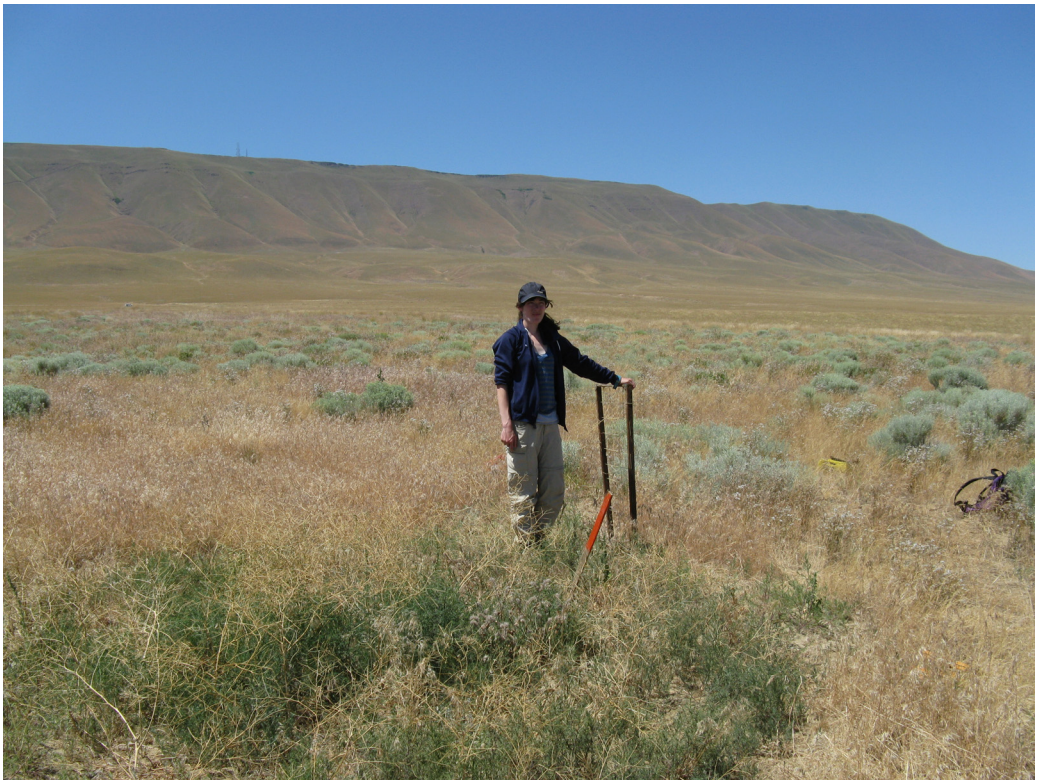

Figure B.14. Unit 2 (Debris Site 138): Plot 2-138-1, Starting Coordinates N 120647.157, E 572978.470

Figure B.15. Unit 2 (Debris Site 60): Plot 2-DS60-Xa, Starting Coordinates N118332.44, E 572935.5

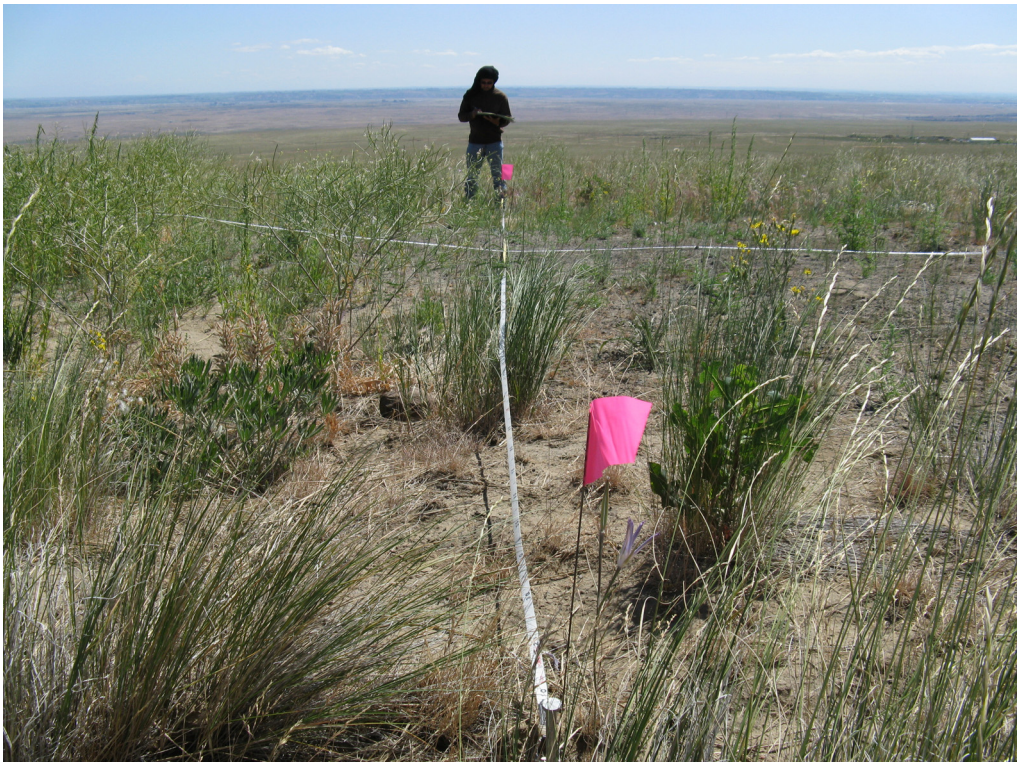

Figure B.16. Unit 2 (Debris Site 60): Plot 2-DS60-Xb, Starting Coordinates N 11830.56, E 572966.1

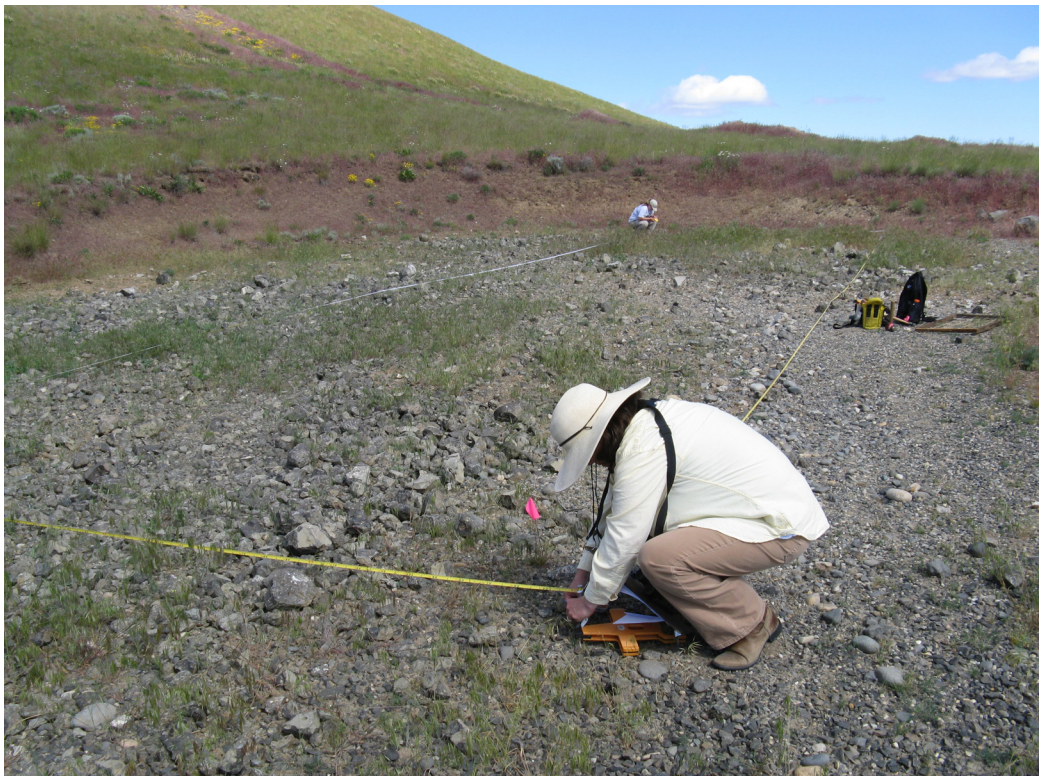

Figure B.17. Unit 3: Plot 3-RT-1, Starting Coordinates N 117915.745, E 570183.824

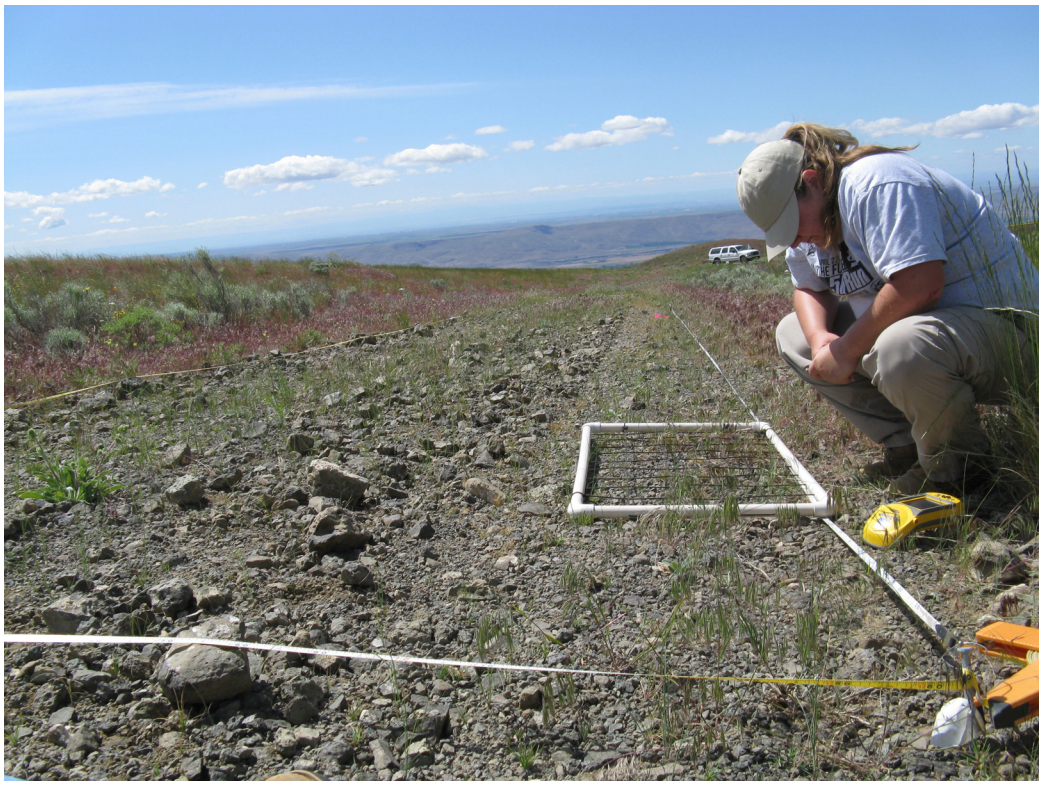

Figure B.18. Unit 3: Plot 3-RT-2, Starting Coordinates N 117852.03, E 570184.23

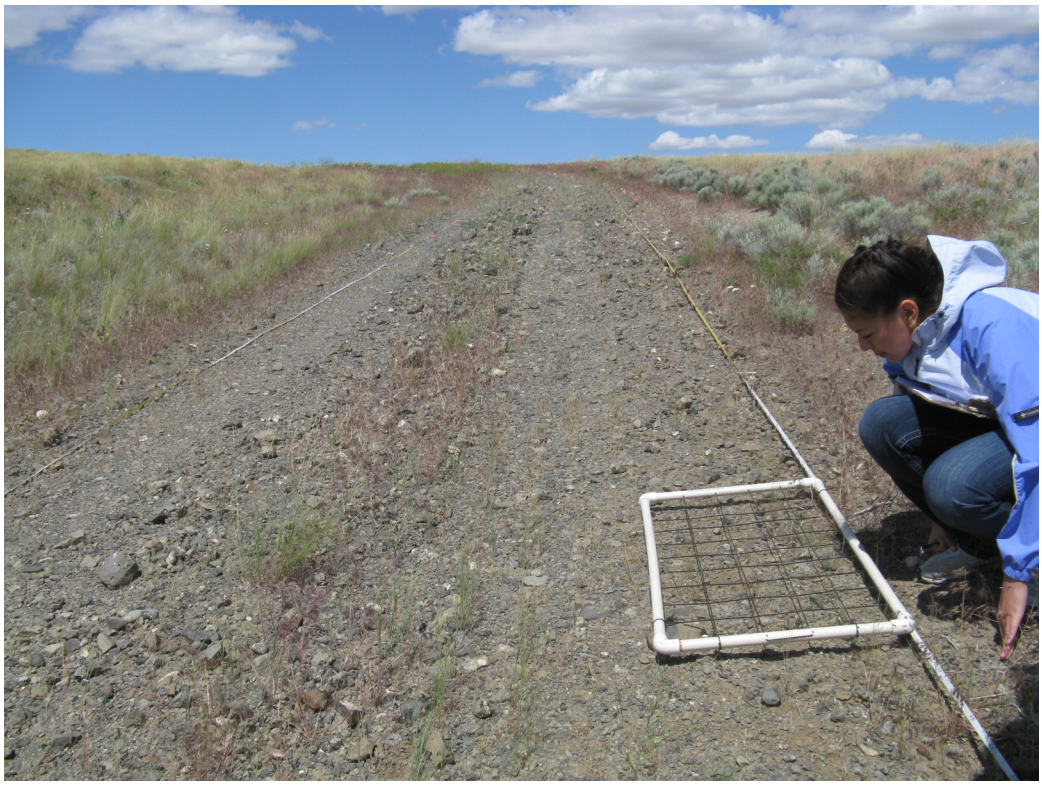

Figure B.19. Unit 3: Plot 3-RT-3, Starting Coordinates N 117857, E 570187

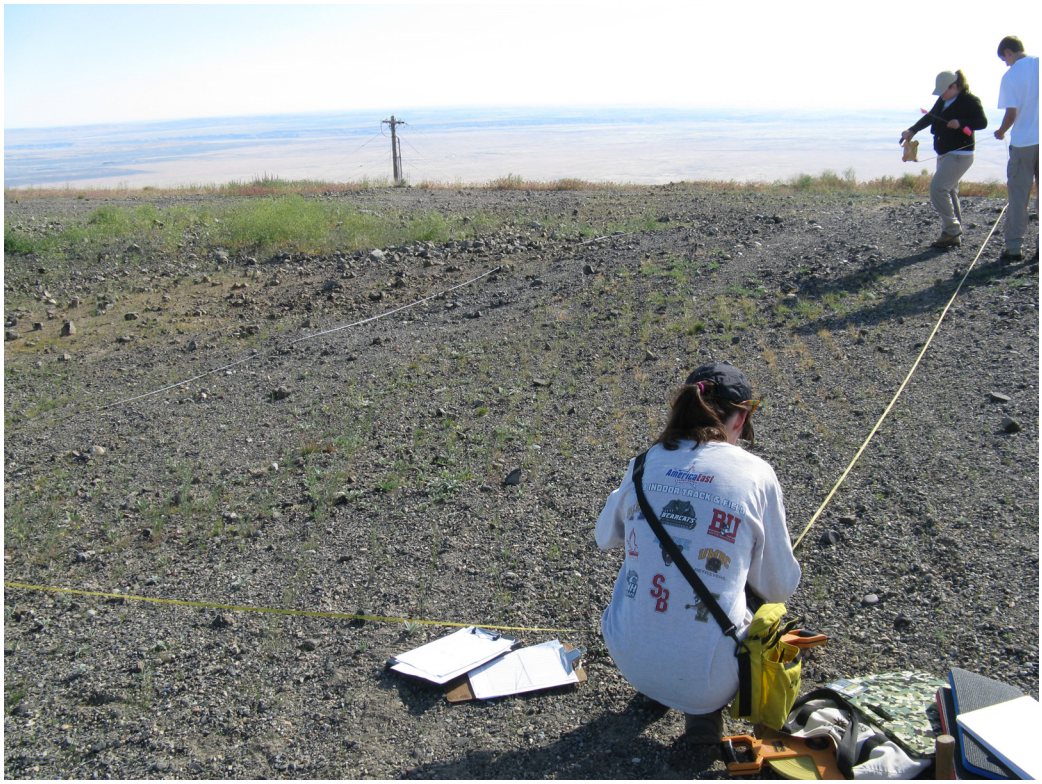

Figure B.20. Unit 4 (6652-C Bldgs): Plot 4-C-1, Starting Coordinates N 118594.6, E 569539.3

Figure B.21. Unit 4 (6652-C Bldgs): Plot 4-C-2, Starting Coordinates N 118429.54, E 569554.45

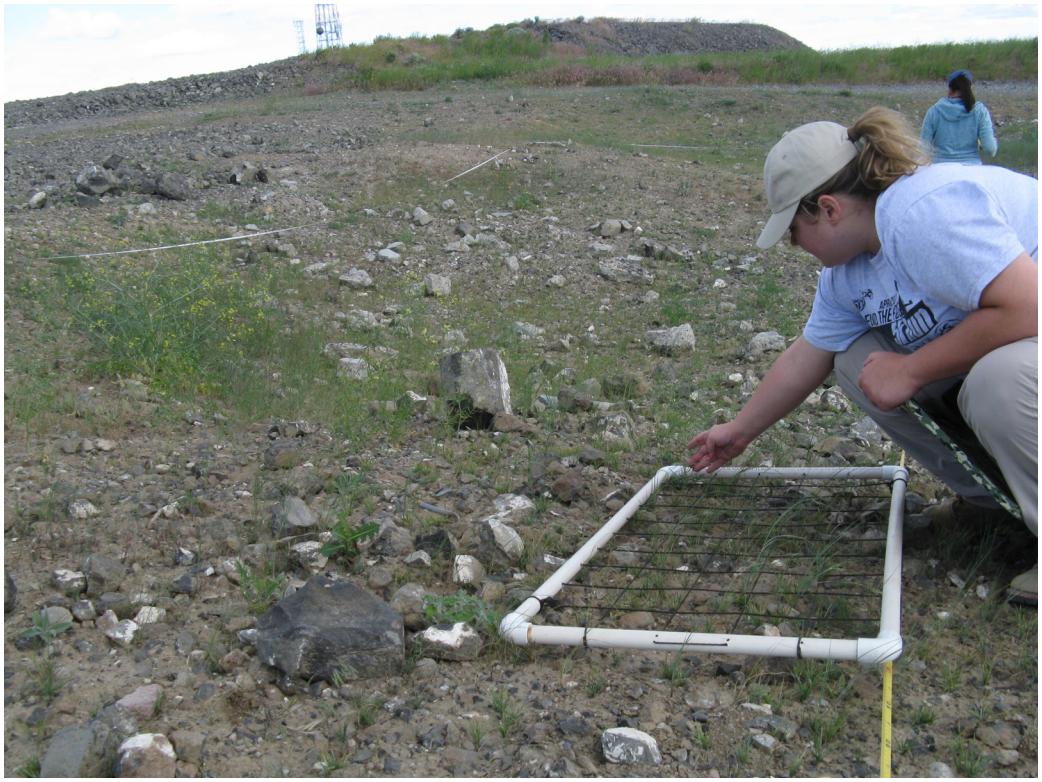

Figure B.22. Unit 4 (6652-C Bldgs): Plot 4-C-3, Starting Coordinates N 118404.54, E 569539.4

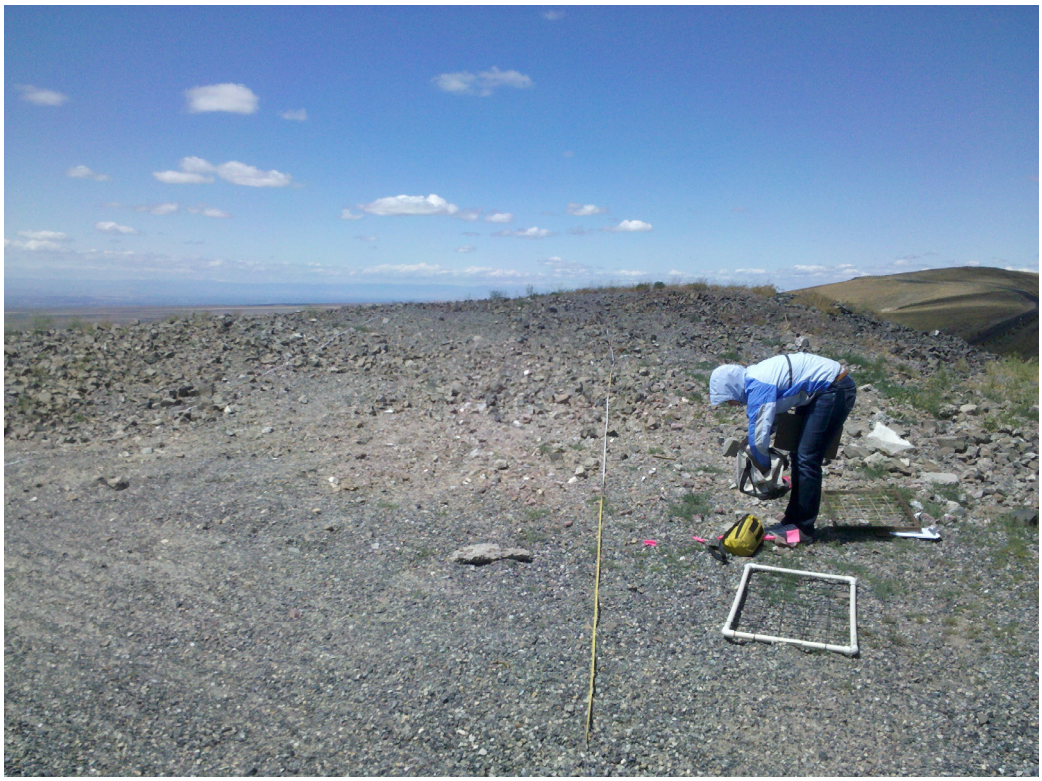

Figure B.23. Unit 4 (623A Bldg): Plot 4-623A-1, N 118007.498, E 570047.091

Figure B.24. Unit 4 (623A Road): Example of Road Surface Sampling

Figure B.25. Unit 4 (CCF Berms): Example of Berm Areas Sampled

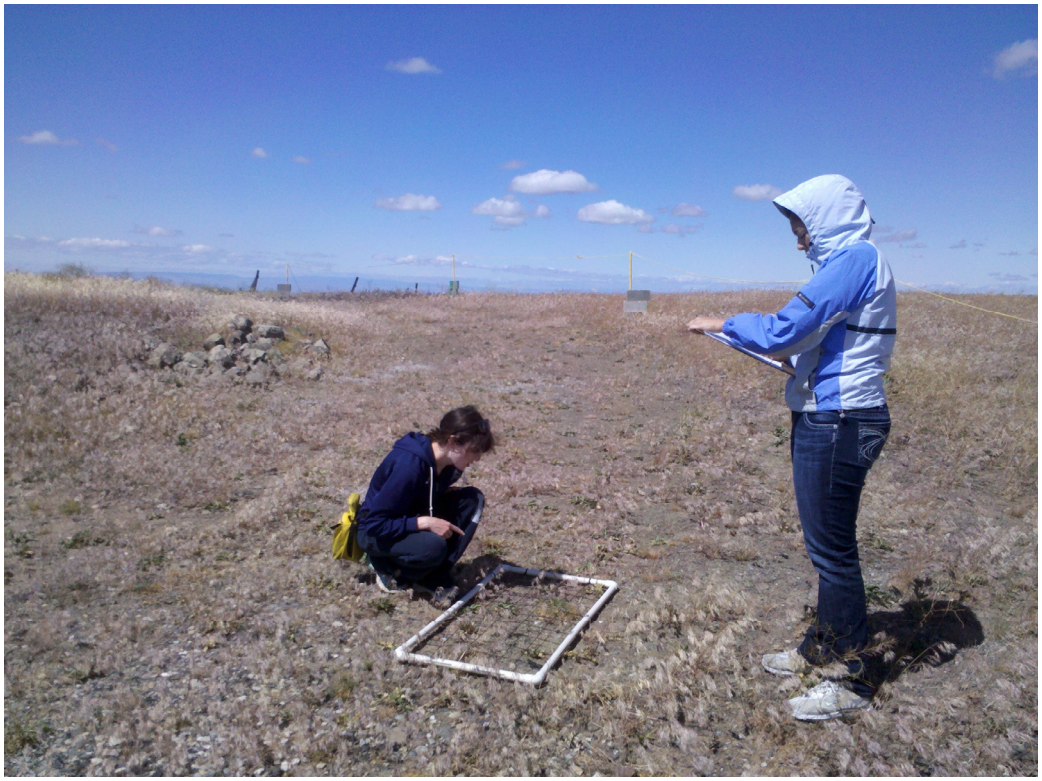

Figure B.26. Unit 4 (CCF): Example of Road Surface Sampling

Figure B.27. Unit 4 (CCF): Plot4-CCF-1, Starting Coordinates N 118643.307, E 569239.409

Figure B.28. Unit 5: Plot 5-OB-1, Starting Coordinates N 118428, E 569502.18

Figure B.29. Unit 5: Plot 5-OB-2, Starting Coordinate N 118426.38, E 569486.04

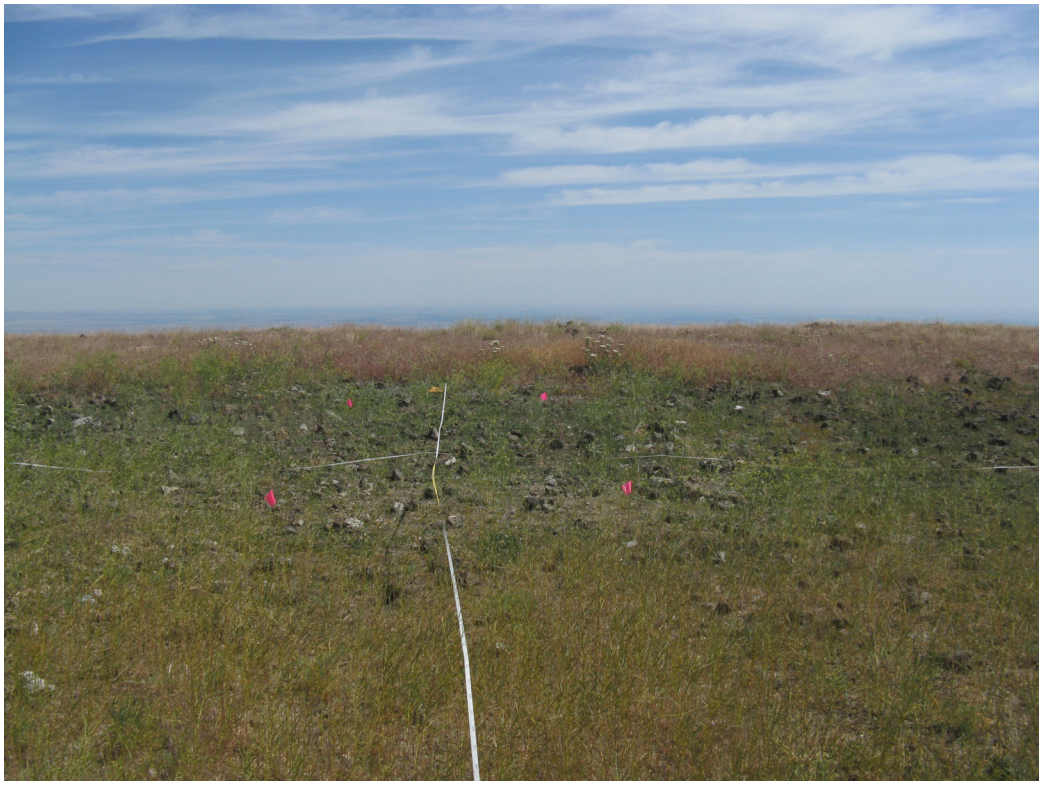

Figure B.30. Unit 6 (6635 Crown Castle): Plot 6-6635-X, Coordinates N 119117.54, E 568774.22

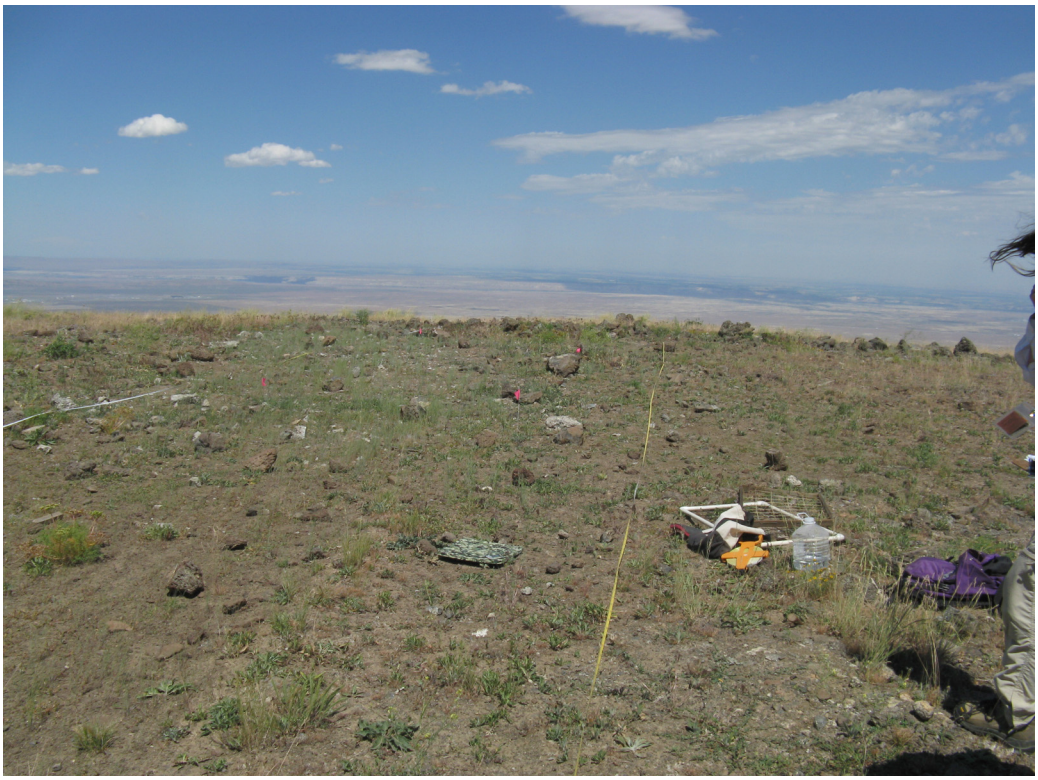

Figure B.31. Unit 6 (6636 Com Towers): Plot 6-6636-1, Coordinates N 119574.97, E 568365.6

Figure B.32. Unit 7 (Pumphouse): Plot 7-PH-X, Coordinates N 119685.66, E 568699.77

Figure B.33. Unit 0 (Ridgetop Ref): Plot RR-1, Starting Coordinates N 118791.649, E 569113.025

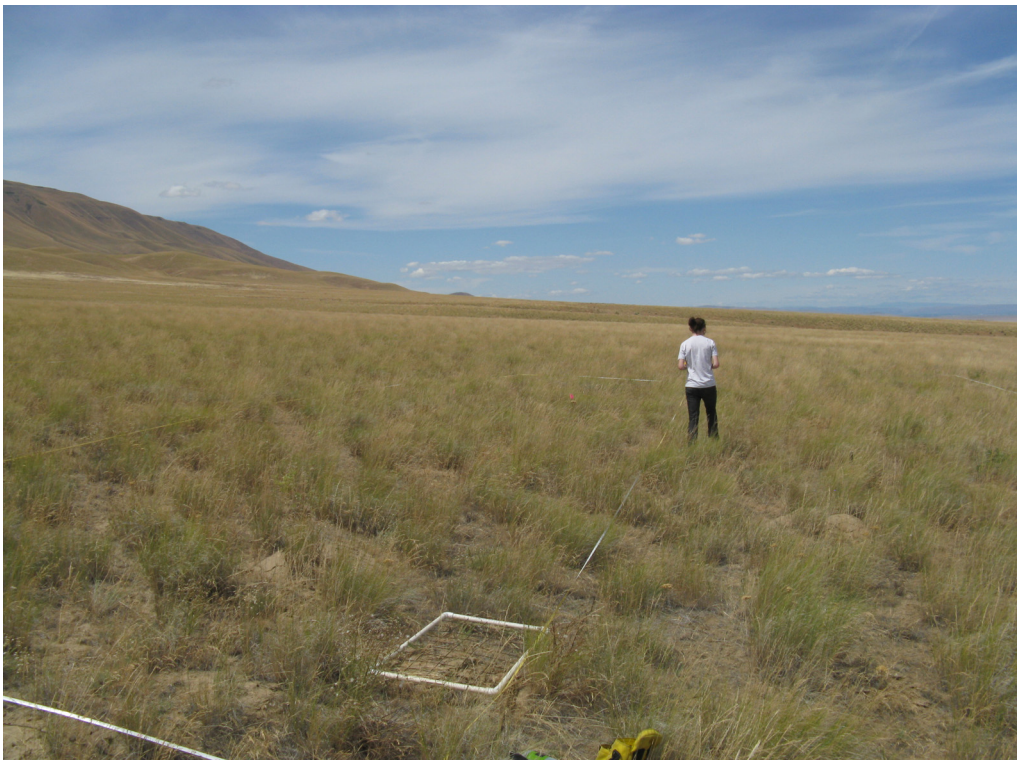

Figure B.34. Unit 0 (1200-ft Rd Ref): Plot 1200-REF-1, Coordinates N 118981.34, E 573325.59

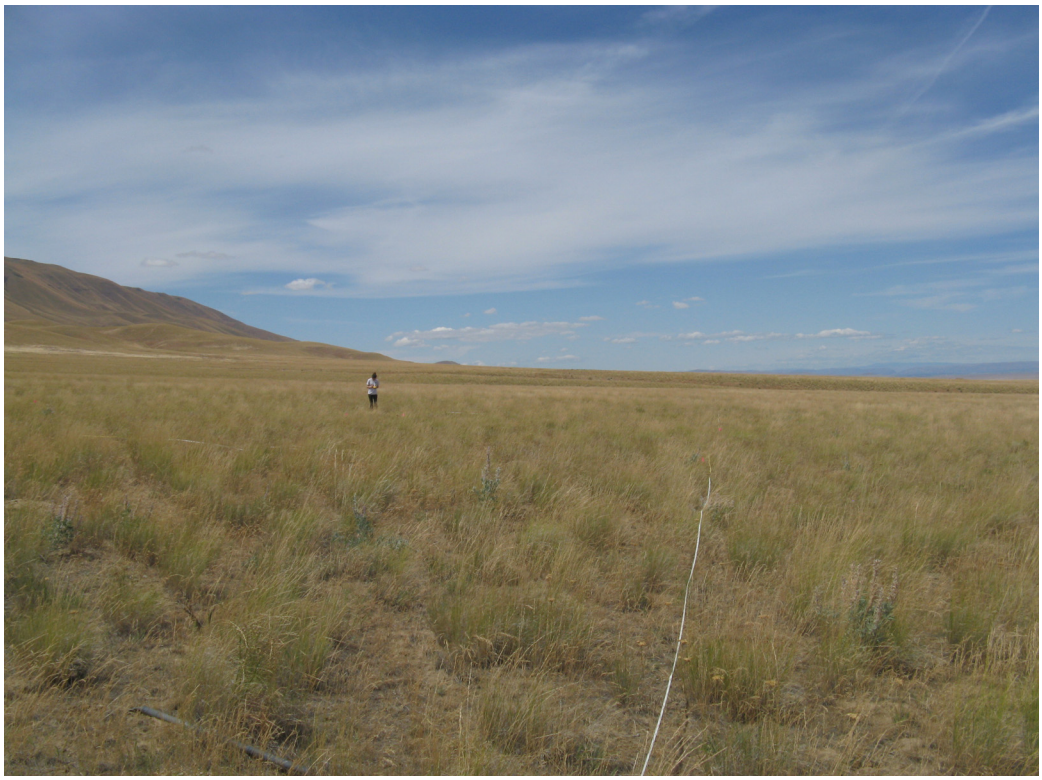

Figure B.35. Unit 0 (1200-ft Rd Ref): Photo of 20-m × 50-m Plot, N 118981.34, E 573325.59

Appendix C

Data Collected on Revegetation Monitoring Plots on ALE During FY 2011

Table C.1. Estimated Canopy Cover by Species Within 100-m^2 Modified Whittaker Monitoring Plots

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Cover	Frequency
0	1200-REF-1	*Achillea millefolium*	yarrow	5	6	2	7	4	1	1	6		1			2.75	0.75
0	1200-REF-1	*Agropyron spicatum*	bluebunch wheatgrass	6	60	12	60	64	32	28	73	32	34	23	20	37.00	1.00
0	1200-REF-1	*Astragalus purshii*	woolly-pod milkvetch			3						1				0.33	0.17
0	1200-REF-1	*Bare Ground*	Bare Ground	72	42	30	11	11	15	27	5	5	9	43	38	25.67	1.00
0	1200-REF-1	*Bromus tectorum*	cheatgrass	5	1											0.50	0.17
0	1200-REF-1	*Calochortus macrocarpus*	sagebrush mariposa lily					1			1					0.17	0.17
0	1200-REF-1	*Crepis atribarba*	slender hawksbeard		1		1	1					10			1.08	0.33
0	1200-REF-1	*Cryptogarmic*	Crust	5	2	40	4	3	5	8	15	30	22	5	2	11.75	1.00
0	1200-REF-1	*Erigeron filifolius*	threadleaf fleabane	7		1	5		2	7				1	11	2.83	0.58
0	1200-REF-1	*Holosteum umbellatum*	jagged chickweed				4	5	2							0.92	0.25
0	1200-REF-1	*Litter*	Litter	2	1	1	4	1	25	13	5	5	10	6	3	6.33	1.00
0	1200-REF-1	*Lomatium macrocarpum*	bigseed desertparsley		1	2					1			1	1	0.50	0.42
0	1200-REF-1	*Lupinus sericeus*	silky lupine				1									0.08	0.08
0	1200-REF-1	*Phlox longifolia*	longleaf phlox							1			2		1	0.33	0.25
0	1200-REF-1	*Poa sandbergii*	Sandberg's bluegrass	48	15	14	7	5	20	16	17	28	12	21	25	19.00	1.00
0	RR-1	*Achillea millefolium*	yarrow	1					1			1	2			0.42	0.33
0	RR-1	*Agropyron spicatum*	bluebunch wheatgrass	6	4	6		4		2		2		15		3.25	0.58
0	RR-1	*Antennaria dimorpha*	low pussytoes					1	1			1	3	1	1	0.67	0.50
0	RR-1	*Astragalus purshii*	woolly-pod milkvetch		1	1	1	1			1					0.42	0.42
0	RR-1	*Balsamorhiza rosea*	rosy balsamroot	4	1	8	1	1	1	26	5	6	6	6	2	5.58	1.00
0	RR-1	*Bare Ground*	Bare Ground	27	48	46	58	56	52	30	56	47	45	4	38	42.25	1.00
0	RR-1	*Bromus tectorum*	cheatgrass						1	1	1	1				0.33	0.33
0	RR-1	*Crepis modocensis*	low hawksbeard	2	5	3		3	4	1	2	4	6	5	5	3.33	0.92
0	RR-1	*Cryptogarmic*	Crust	18	12	14	7	7	12	8	7	8	8	2	16	9.92	1.00
0	RR-1	*Erigeron linearis*	desert yellowdaisy					1						2		0.25	0.17
0	RR-1	*Eriogonum sphaerocephalum*	rock buckwheat	1			4	4		5					4	1.50	0.42
0	RR-1	*Eriogonum thymoides*	thymeleaf buckwheat		5		5	1	2	1						1.17	0.42
0	RR-1	*Festuca idahoensis*	Idaho fescue	4					1		4	4	7		6	2.17	0.50
0	RR-1	*Haplopappus stenophylla*	narrowleaf goldenweed			1		1		1			1			0.33	0.33
0	RR-1	*Litter*	Litter	5	2	1	1	2	1	1	1	2	1	4	1	1.83	1.00

Table C.1. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Cover	Frequency
0	RR-1	*Lupinus sericeus*	silky lupine	14								1	4	50	2	5.92	0.42
0	RR-1	*Phlox hoodii*	Hood's phlox	7	8	4	7	3	8	6	8	3	2	5	2	5.25	1.00
0	RR-1	*Phoenicaulis cheiranthoides*	daggerpod								1					0.08	0.08
0	RR-1	*Poa sandbergii*	Sandberg's bluegrass	16	16	15	17	17	17	19	15	22	16	10	24	17.00	1.00
0	RR-1	*Sitanion hystrix*	bottlebrush grass			2										0.17	0.08
1	1-RS-1	*Bare Ground*	Bare Ground	81	90	26	74	60	50	65	90	60	65	85	75	68.42	1.00
1	1-RS-1	*Kochia scoparia*	summer cypress			1										0.08	0.08
1	1-RS-1	*Litter*	Litter	9	10	65	26	16	38	34	8	32	32	22	20	26.00	1.00
1	1-RS-1	*Salsola kali*	Russian thistle		1	14	2	8	4	3	6	7	2		1	4.00	0.83
1	1-RS-1	*Sitanion hystrix*	bottlebrush grass			4					2	5				0.92	0.25
1	1-RS-2	*Artemisia tridentata*	big sagebrush									1				0.08	0.08
1	1-RS-2	*Bare Ground*	Bare Ground	80	18	50	28	75	5	35	20	18	30	34	50	36.92	1.00
1	1-RS-2	*Bromus tectorum*	cheatgrass		8											0.67	0.08
1	1-RS-2	*Distichlis stricta*	alkali saltgrass	4	40	16	2		1	16	20	2				8.42	0.67
1	1-RS-2	*Elymus cinereus*	giant wildrye				4									0.33	0.08
1	1-RS-2	*Litter*	Litter	10	8	24	8	18	95	14	26	16	6	8	22	21.25	1.00
1	1-RS-2	*Salsola kali*	Russian thistle	2	4	2	30	2	7	22	5	22	59	66	10	19.25	1.00
1	1-RS-2	*Sitanion hystrix*	bottlebrush grass	2		2	2				4	6	1	1	2	1.67	0.67
1	1-RS-3	*Achillea millefolium*	yarrow									2				0.17	0.08
1	1-RS-3	*Artemisia tridentata*	big sagebrush		1											0.08	0.08
1	1-RS-3	*Bare Ground*	Bare Ground	63	58	56	60	70	75	65	60	50	75	70	45	62.25	1.00
1	1-RS-3	*Bromus tectorum*	cheatgrass						4	1		8	2	8	5	2.33	0.50
1	1-RS-3	*Distichlis stricta*	alkali saltgrass	2		2				10				1		1.25	0.33
1	1-RS-3	*Elymus cinereus*	giant wildrye					1	1			1				0.25	0.25
1	1-RS-3	*Grayia spinosa*	spiny hopsage									1				0.08	0.08
1	1-RS-3	*Kochia scoparia*	summer cypress		1											0.08	0.08
1	1-RS-3	*Litter*	Litter	31	26	30	33	14	10	15	31	14	15	9	27	21.25	1.00
1	1-RS-3	*Machaeranthera canescens*	hoary aster										2			0.17	0.08
1	1-RS-3	*Poa sandbergii*	Sandberg's bluegrass						1				1	2	2	0.50	0.33
1	1-RS-3	*Salsola kali*	Russian thistle	8	7	5	6	4	1	4	16	10	2	7	4	6.17	1.00

Table C.1. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Cover	Frequency
1	1-RS-3	*Sisymbrium altissimum*	Jim Hill's tumblemustard					1	1		1	2		4	1	0.83	0.50
1	1-RS-3	*Sitanion hystrix*	bottlebrush grass	3	2	2	5	3	2	1	1	1	3	3	4	2.50	1.00
2	2-109-1	*Achillea millefolium*	yarrow											2	2	0.33	0.17
2	2-109-1	*Agropyron spicatum*	bluebunch wheatgrass	1	2	2					1	2			2	0.83	0.50
2	2-109-1	*Amsinckia tessellata*	devil's lettuce	7	1							10	8			2.17	0.33
2	2-109-1	*Bare Ground*	Bare Ground	40	70	30	21	4	1	3		70	4		10	21.08	0.83
2	2-109-1	*Bromus tectorum*	cheatgrass	20	12	18	35	40	15	25	50	2	22	45	15	24.92	1.00
2	2-109-1	*Crepis atribarba*	slender hawksbeard				7		8		2	2				1.58	0.33
2	2-109-1	*Erodium cicutarium*	storksbill						1				1	1		0.25	0.25
2	2-109-1	*Lactuca serriola*	prickly lettuce			2	1		1		2	4	5		2	1.42	0.58
2	2-109-1	*Linum perenne*	wild blueflax							3						0.25	0.08
2	2-109-1	*Litter*	Litter	50	15	45	74	65	75	80	60	4	60	60	50	53.17	1.00
2	2-109-1	*Lupinus sericeus*	silky lupine	1	13	12	19	5	2	16	28	2	2		12	9.33	0.92
2	2-109-1	*Machaeranthera canescens*	hoary aster				1									0.08	0.08
2	2-109-1	*Poa bulbosa*	bulbous bluegrass		2	1	2	2	4	2	4		1	1	1	1.67	0.83
2	2-109-1	*Poa sandbergii*	Sandberg's bluegrass	1							1	2			1	0.42	0.33
2	2-109-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard	6	2	7		30	1			20		4		5.83	0.58
2	2-109-1	*Sitanion hystrix*	bottlebrush grass				1									0.08	0.08
2	2-109-1	*Stipa thurberiana*	Thurber's needlegrass	2	15	8	1		9	14			8	1	12	5.83	0.75
2	2-109-2	*Agropyron spicatum*	bluebunch wheatgrass	14	10	8	22	32	30	11		45	17	18	44	20.92	0.92
2	2-109-2	*Astragalus caricinus*	buckwheat milkvetch	1	33	20	20	13	11	10	5	8	14			11.25	0.83
2	2-109-2	*Bare Ground*	Bare Ground	10	45	50	15	10	9	38	65	14	75	34	30	32.92	1.00
2	2-109-2	*Bromus tectorum*	cheatgrass	6	2	2	8	10	6	10	18	3	1	1	1	5.67	1.00
2	2-109-2	*Crepis atribarba*	slender hawksbeard	4		16	2	4	2			2	1	2	10	3.58	0.75
2	2-109-2	*Erigeron filifolius*	threadleaf fleabane					5								0.42	0.08
2	2-109-2	*Litter*	Litter	55	35	32	61	28	55	35	18	20	8	50	18	34.58	1.00
2	2-109-2	*Lupinus sericeus*	silky lupine				2							12		1.17	0.17
2	2-109-2	*Phlox longifolia*	longleaf phlox	1	4	4			4	6	18	1	3	7	6	4.50	0.83
2	2-109-2	*Poa bulbosa*	bulbous bluegrass	2	1	1	2	6	2	2	10		1	2	1	2.50	0.92
2	2-109-2	*Poa sandbergii*	Sandberg's bluegrass	2		1	1	5	5	2	1	2	2	1	3	2.08	0.92

Table C.1. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Cover	Frequency
2	2-109-2	*Stipa comata*	needle-and-thread grass	38		1	2	4	10		18			2	8	6.92	0.67
2	2-109-2	*Tragopogon dubius*	Yellow salsify				2									0.17	0.08
2	2-109-3	*Achillea millefolium*	yarrow	1	1	4			1	12	3	2				2.00	0.58
2	2-109-3	*Agropyron spicatum*	bluebunch wheatgrass	18	15	20	2	16	14	28	30	35	9	6	14	17.25	1.00
2	2-109-3	*Artemisia tridentata*	big sagebrush						1							0.08	0.08
2	2-109-3	*Astragalus caricinus*	buckwheat milkvetch							6		16	5			2.25	0.25
2	2-109-3	*Bare Ground*	Bare Ground	60	80	60	70	50	40	40	30	10	65	90	45	53.33	1.00
2	2-109-3	*Bromus tectorum*	cheatgrass	1	2	9	4	1	3	1		1	1	1	4	2.33	0.92
2	2-109-3	*Crepis atribarba*	slender hawksbeard	9	12	1	18	10				2	6	8	13	6.58	0.75
2	2-109-3	*Erigeron filifolius*	threadleaf fleabane		12			1	14						10	3.08	0.33
2	2-109-3	*Festuca microstachys*	small sixweeks										1		1	0.17	0.17
2	2-109-3	*Lactuca serriola*	prickly lettuce						1							0.08	0.08
2	2-109-3	*Litter*	Litter	25	8	10	6	16	15	20	16	10	16	8	14	13.67	1.00
2	2-109-3	*Lupinus sericeus*	silky lupine	2	16	1	13	1		13	8	50				8.67	0.67
2	2-109-3	*Phlox longifolia*	longleaf phlox					7	3			2			4	1.33	0.33
2	2-109-3	*Poa bulbosa*	bulbous bluegrass	2	2	12	7	4	1		6				1	2.92	0.67
2	2-109-3	*Poa sandbergii*	Sandberg's bluegrass	1	3	1	3	2	3	4	4				5	2.17	0.75
2	2-109-3	*Sisymbrium altissimum*	Jim Hill's tumblemustard	5		2										0.58	0.17
2	2-109-3	*Stipa comata*	needle-and-thread grass						4							0.33	0.08
2	2-138-1	*Agropyron spicatum*	bluebunch wheatgrass	1	2	1	4									0.67	0.33
2	2-138-1	*Amsinckia tessellata*	devil's lettuce	8	2		2									1.00	0.25
2	2-138-1	*Artemisia tridentata*	big sagebrush	2	1	1	5									0.75	0.33
2	2-138-1	*Bare Ground*	Bare Ground	18	8	16	30									6.00	0.33
2	2-138-1	*Bromus tectorum*	cheatgrass	9		5	8									1.83	0.25
2	2-138-1	*Chenopodium leptophyllum*	slimleaf goosefoot	1	5	6	4									1.33	0.33
2	2-138-1	*Litter*	Litter	8	6	10	4									2.33	0.33
2	2-138-1	*Poa sandbergii*	Sandberg's bluegrass				10									0.83	0.08
2	2-138-1	*Salsola kali*	Russian thistle	51	60	50	35									16.33	0.33
2	2-138-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard	32	56	45	10									11.92	0.33
2	2-139-1	*Agropyron spicatum*	bluebunch wheatgrass					2	1	3	3					0.75	0.33

Table C.1. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Cover	Frequency
2	2-139-1	*Amsinckia tessellata*	devil's lettuce	2	7			10		5	14					3.17	0.42
2	2-139-1	*Artemisia tridentata*	big sagebrush	1		1	1		4							0.58	0.33
2	2-139-1	*Bare Ground*	Bare Ground	30	35	36	40	30	40		38					20.75	0.58
2	2-139-1	*Bromus tectorum*	cheatgrass	16		5	10	14	3	1	3					4.33	0.58
2	2-139-1	*Chenopodium leptophyllum*	slimleaf goosefoot	3	1		2	1	3	25	7					3.50	0.58
2	2-139-1	*Lactuca serriola*	prickly lettuce			2	3				2					0.58	0.25
2	2-139-1	*Litter*	Litter	24	7	5	6	3	5		6					4.67	0.58
2	2-139-1	*Salsola kali*	Russian thistle	30	38	50	35	38	46	17	30					23.67	0.67
2	2-139-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard		10		4		13	23	11					5.08	0.42
2	2-139-1	*Sitanion hystrix*	bottlebrush grass		1	1		2	1	6						0.92	0.42
2	2-50-1	*Agropyron spicatum*	bluebunch wheatgrass		13	6		1	4	4	3	13	8	12	9	6.08	0.83
2	2-50-1	*Amsinckia lycopsoides*	fiddleneck	18	1					23						3.50	0.25
2	2-50-1	*Bare Ground*	Bare Ground	1	18	31	50	77	44	50	55	84	63	80	90	53.58	1.00
2	2-50-1	*Bromus tectorum*	cheatgrass	6		2										0.67	0.17
2	2-50-1	*Calochortus macrocarpus*	sagebrush mariposa lily		1											0.08	0.08
2	2-50-1	*Chrysothamnus nauseosus*	gray rabbitbrush				8		1				3			1.00	0.25
2	2-50-1	*Crepis atribarba*	slender hawksbeard		7	12	10	17	22	26	2	21		1	8	10.50	0.83
2	2-50-1	*Descurainia pinnata*	western tansymustard			18										1.50	0.08
2	2-50-1	*Erigeron piperianus*	Piper's daisy	2			1									0.25	0.17
2	2-50-1	*Helianthus cusickii*	Cusick's sunflower				15	3					17			2.92	0.25
2	2-50-1	*Lactuca serriola*	prickly lettuce	2									1			0.25	0.17
2	2-50-1	*Litter*	Litter	87	48	10	3	5	7	4	3	2	14	5	1	15.75	1.00
2	2-50-1	*Lupinus sericeus*	silky lupine										1			0.08	0.08
2	2-50-1	*Oryzopsis hymenoides*	indian ricegrass					3		2						0.42	0.17
2	2-50-1	*Phlox longifolia*	longleaf phlox		6	2										0.67	0.17
2	2-50-1	*Poa sandbergii*	Sandberg's bluegrass	4	6	18	23	10	29	7	40	15	13	10	4	14.92	1.00
2	2-50-1	*Salsola kali*	Russian thistle	15	1	1				1			1	2	2	1.92	0.58
2	2-50-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard	3												0.25	0.08
2	2-50-1	*Stipa comata*	needle-and-thread grass						4				6			0.83	0.17
2	2-DS146-X	*Achillea millefolium*	yarrow												1	0.08	0.08

Table C.1. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Cover	Frequency
2	2-DS146-X	*Agropyron spicatum*	bluebunch wheatgrass	2		2	5	4	2	7	2	3	2	1	1	2.58	0.92
2	2-DS146-X	*Amsinckia lycopsoides*	fiddleneck	1		6	40					1	27		10	7.08	0.50
2	2-DS146-X	*Artemisia tridentata*	big sagebrush				1			4		4	6	6	4	2.08	0.50
2	2-DS146-X	*Astragalus caricinus*	buckwheat milkvetch		2											0.17	0.08
2	2-DS146-X	*Astragalus succumbens*	crouching milkvetch		3	5										0.67	0.17
2	2-DS146-X	*Bare Ground*	Bare Ground	90	75	60	30	35	62	70	50	45	40	75	65	58.08	1.00
2	2-DS146-X	*Bromus tectorum*	cheatgrass						1						2	0.25	0.17
2	2-DS146-X	*Chaenactis douglasii*	hoary falseyarrow		4	4										0.67	0.17
2	2-DS146-X	*Chenopodium leptophyllum*	slimleaf goosefoot		1		1									0.17	0.17
2	2-DS146-X	*Crepis atribarba*	slender hawksbeard	8	7											1.25	0.17
2	2-DS146-X	*Litter*	Litter	8					8	2	2	8	5	4	4	3.42	0.67
2	2-DS146-X	*Lupinus sericeus*	silky lupine			1			2							0.25	0.17
2	2-DS146-X	*Machaeranthera canescens*	hoary aster		18	4						2				2.00	0.25
2	2-DS146-X	*Poa sandbergii*	Sandberg's bluegrass	3		1	6	2		4	4	4	1	2	3	2.50	0.83
2	2-DS146-X	*Salsola kali*	Russian thistle	18	10	22	50	65	35	20	75	60	20	28	28	35.92	1.00
2	2-DS146-X	*Sisymbrium altissimum*	Jim Hill's tumblemustard	2		10	10	15		6	6	16	26	15	9	9.58	0.83
2	2-DS146-X	*Sitanion hystrix*	bottlebrush grass				1									0.08	0.08
2	2-DS60-Xa	*Achillea millefolium*	yarrow		1											0.08	0.08
2	2-DS60-Xa	*Agropyron spicatum*	bluebunch wheatgrass			2	4		2							0.67	0.25
2	2-DS60-Xa	*Ambrosia acanthicarpa*	bur ragweed				1									0.08	0.08
2	2-DS60-Xa	*Amsinckia tessellata*	devil's lettuce		6			1								0.58	0.17
2	2-DS60-Xa	*Artemisia tridentata*	big sagebrush	2	1	1										0.33	0.25
2	2-DS60-Xa	*Bare Ground*	Bare Ground	8	58	84	85	23	75							27.75	0.50
2	2-DS60-Xa	*Chenopodium leptophyllum*	slimleaf goosefoot				2	2								0.33	0.17
2	2-DS60-Xa	*Crepis atribarba*	slender hawksbeard	1		8	6		11							2.17	0.33
2	2-DS60-Xa	*Litter*	Litter	74	8	5	3	25	4							9.92	0.50
2	2-DS60-Xa	*Machaeranthera canescens*	hoary aster		2	1	1									0.33	0.25
2	2-DS60-Xa	*Poa ampla Merr.*	'Sherman' big bluegrass	1	1				1							0.25	0.25
2	2-DS60-Xa	*Poa sandbergii*	Sandberg's bluegrass	2	3		4	2	1							1.00	0.42
2	2-DS60-Xa	*Salsola kali*	Russian thistle				1									0.08	0.08

Table C.1. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Cover	Frequency
2	2-DS60-Xa	*Sisymbrium altissimum*	Jim Hill's tumblemustard	30	26	5	2	33	2							8.17	0.50
2	2-DS60-Xa	*Sitanion hystrix*	bottlebrush grass	10	18	3	1	11	8							4.25	0.50
2	2-DS60-Xb	*Agropyron spicatum*	bluebunch wheatgrass	10	4	2	2	1	4							1.92	0.50
2	2-DS60-Xb	*Ambrosia acanthicarpa*	bur ragweed	1	1				1							0.25	0.25
2	2-DS60-Xb	*Artemisia tridentata*	big sagebrush	6	1	3	1		3							1.17	0.42
2	2-DS60-Xb	*Astragalus succumbens*	crouching milkvetch		3											0.25	0.08
2	2-DS60-Xb	*Balsamorhiza careyana*	Carey's balsamroot	1												0.08	0.08
2	2-DS60-Xb	*Bare Ground*	Bare Ground	85	80	36	88	66	38							32.75	0.50
2	2-DS60-Xb	*Chenopodium leptophyllum*	slimleaf goosefoot	1	12		1		28							3.50	0.33
2	2-DS60-Xb	*Crepis atribarba*	slender hawksbeard						5							0.42	0.08
2	2-DS60-Xb	*Festuca octoflora*	slender sixweeks		1											0.08	0.08
2	2-DS60-Xb	*Litter*	Litter	2	8	50	1	8	40							9.08	0.50
2	2-DS60-Xb	*Machaeranthera canescens*	hoary aster	13	9	8	1	7								3.17	0.42
2	2-DS60-Xb	*Poa ampla Merr.*	'Sherman' big bluegrass		6	2	1	5								1.17	0.33
2	2-DS60-Xb	*Poa sandbergii*	Sandberg's bluegrass	6	48	4	2	2	1							5.25	0.50
2	2-DS60-Xb	*Sisymbrium altissimum*	Jim Hill's tumblemustard		4		3	18	5							2.50	0.33
2	2-DS60-Xb	*Sitanion hystrix*	bottlebrush grass		1	6	1	1								0.75	0.33
2	2-HQ-1	*Achillea millefolium*	yarrow			1	2	3							1	0.58	0.33
2	2-HQ-1	*Agropyron spicatum*	bluebunch wheatgrass	1	1		1	1			4	1	1	1		0.92	0.67
2	2-HQ-1	*Artemisia tridentata*	big sagebrush			4							1			0.42	0.17
2	2-HQ-1	*Bare Ground*	Bare Ground	10	10	6	4	18	45	60		40	7	90	20	25.83	0.92
2	2-HQ-1	*Erigeron piperianus*	Piper's daisy				1									0.08	0.08
2	2-HQ-1	*Litter*	Litter	85	90	90	95	65	45	45	75	54	70	10	72	66.33	1.00
2	2-HQ-1	*Melilotus sp.*					1	1								0.17	0.17
2	2-HQ-1	*Phlox longifolia*	longleaf phlox							1						0.08	0.08
2	2-HQ-1	*Poa sandbergii*	Sandberg's bluegrass	3	1	1	1	1	2	2	1	1		1	1	1.25	0.92
2	2-HQ-1	*Salsola kali*	Russian thistle	21	28	18	20	20	15	12	20	2	2	18	2	14.83	1.00
2	2-HQ-1	*Sitanion hystrix*	bottlebrush grass	2	5	8	69	10	12	10	7	10	12	4	4	12.75	1.00

Table C.1. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Cover	Frequency
2	2-HQ-2	*Achillea millefolium*	yarrow		1							1			1	0.25	0.25
2	2-HQ-2	*Agropyron spicatum*	bluebunch wheatgrass	1	2	2	2	2	2	2	2	2	1	2	2	1.83	1.00
2	2-HQ-2	*Bare Ground*	Bare Ground	2	20	20	16	8	6	55	75	24	65	16	35	28.50	1.00
2	2-HQ-2	*Lactuca serriola*	prickly lettuce									2		1		0.25	0.17
2	2-HQ-2	*Litter*	Litter	95	70	34	65	85	90	6	16	75	20	60	55	55.92	1.00
2	2-HQ-2	*Poa sandbergii*	Sandberg's bluegrass	1	3	6	3	2	2	3	2	2			3	2.25	0.83
2	2-HQ-2	*Salsola kali*	Russian thistle	1	3	7	14	18	8	35	2	6	15	32	2	11.92	1.00
2	2-HQ-2	*Sisymbrium altissimum*	Jim Hill's tumblemustard	1										6	1	0.67	0.25
2	2-HQ-2	*Sitanion hystrix*	bottlebrush grass	8	3	3	1	2	6	2	2	4	1	3	4	3.25	1.00
2	2-HQ-2	*Vulpia myuros (L.) C.C. Gmel*	rat-tail fescue								2			2		0.33	0.17
2	2-HQ-3	*Achillea millefolium*	yarrow			1		1			2					0.33	0.25
2	2-HQ-3	*Agropyron spicatum*	bluebunch wheatgrass	1	1	1	1		2	2	2	2	2	2	2	1.50	0.92
2	2-HQ-3	*Artemisia tridentata*	big sagebrush							1	1	1				0.25	0.25
2	2-HQ-3	*Balsamorhiza careyana*	Carey's balsamroot			1		1				1				0.25	0.25
2	2-HQ-3	*Bare Ground*	Bare Ground	5	3	75	60	30	50	50	4	6	2	10	54	29.08	1.00
2	2-HQ-3	*Bromus tectorum*	cheatgrass							1	1		1			0.25	0.25
2	2-HQ-3	*Chenopodium leptophyllum*	slimleaf goosefoot									1				0.08	0.08
2	2-HQ-3	*Festuca octoflora*	slender sixweeks			1		2								0.25	0.17
2	2-HQ-3	*Litter*	Litter	95	95	14	30	50	45	24	88	85	97	90	42	62.92	1.00
2	2-HQ-3	*Machaeranthera canescens*	hoary aster					1			3					0.33	0.17
2	2-HQ-3	*Melilotus alba*	white sweetclover			1										0.08	0.08
2	2-HQ-3	*Poa sandbergii*	Sandberg's bluegrass			1	2		2	1						0.50	0.33
2	2-HQ-3	*Salsola kali*	Russian thistle		24	14		26	8	22	9	10	6	4	6	10.75	0.83
2	2-HQ-3	*Sisymbrium altissimum*	Jim Hill's tumblemustard	1	2	15		2	5		8	16	1			4.17	0.67
2	2-HQ-3	*Sitanion hystrix*	bottlebrush grass	18	15	8	4	2	7	5	10	6	6	6	7	7.83	1.00
2	2-HQ-3	*Vulpia myuros (L.) C.C. Gmel*	rat-tail fescue		1						3	2				0.50	0.25
2	2-HW-1	*Agropyron spicatum*	bluebunch wheatgrass	2	1		1	2	5	5	2	2	5	4	3	2.67	0.92
2	2-HW-1	*Amsinckia lycopsoides*	fiddleneck	12	8	10	20	3	6	22	11	11	28	35		13.83	0.92
2	2-HW-1	*Artemisia tridentata*	big sagebrush						4						1	0.42	0.17
2	2-HW-1	*Balsamorhiza careyana*	Carey's balsamroot										1			0.08	0.08

Table C.1. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Cover	Frequency
2	2-HW-1	*Bare Ground*	Bare Ground	4	3	2	18	80	6	26	6	1	8	6	4	13.67	1.00
2	2-HW-1	*Bromus tectorum*	cheatgrass	2											3	0.42	0.17
2	2-HW-1	*Chenopodium leptophyllum*	slimleaf goosefoot	1	1	1	1	1			1	1		1	1	0.75	0.75
2	2-HW-1	*Crepis atribarba*	slender hawksbeard	6											33	3.25	0.17
2	2-HW-1	*Descurainia pinnata*	western tansymustard				6				4					0.83	0.17
2	2-HW-1	*Erodium cicutarium*	storksbill					1								0.08	0.08
2	2-HW-1	*Lactuca serriola*	prickly lettuce		1	2				3		1				0.58	0.33
2	2-HW-1	*Litter*	Litter	92	84	87	30	10	70	7	30	90	8	38	44	49.17	1.00
2	2-HW-1	*Poa sandbergii*	Sandberg's bluegrass	2	3		2	3	4	2	1	1	4	4	2	2.33	0.92
2	2-HW-1	*Salsola kali*	Russian thistle	1		14		1					8			2.00	0.33
2	2-HW-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard	20	84	20	65	20	60	95	92	74	96	22	15	55.25	1.00
2	2-HW-1	*Sitanion hystrix*	bottlebrush grass	20	5	10	12	4	24	8	5	13	22	25	14	13.50	1.00
2	2-HW-2	*Agropyron spicatum*	bluebunch wheatgrass	1	2	2		2	2	1	1	6	4	1		1.83	0.83
2	2-HW-2	*Amsinckia lycopsoides*	fiddleneck	10					4	4	10	1		6	30	5.42	0.58
2	2-HW-2	*Artemisia tridentata*	big sagebrush								2					0.17	0.08
2	2-HW-2	*Bare Ground*	Bare Ground	8	20	80		85	8		20	8	5	12	8	21.17	0.83
2	2-HW-2	*Bromus tectorum*	cheatgrass						2	22	4					2.33	0.25
2	2-HW-2	*Chenopodium leptophyllum*	slimleaf goosefoot			1						1			1	0.25	0.25
2	2-HW-2	*Descurainia pinnata*	western tansymustard									1				0.08	0.08
2	2-HW-2	*Lactuca serriola*	prickly lettuce	2	2	6	6		6	2		3	1		2	2.50	0.75
2	2-HW-2	*Litter*	Litter	75	60	20		8	40	95	42	80	78	50	45	49.42	0.92
2	2-HW-2	*Lupinus sericeus*	silky lupine		1											0.08	0.08
2	2-HW-2	*Machaeranthera canescens*	hoary aster	1							1	4			4	0.83	0.33
2	2-HW-2	*Poa sandbergii*	Sandberg's bluegrass			2		6			1	1		1		0.92	0.42
2	2-HW-2	*Salsola kali*	Russian thistle					3						8		0.92	0.17
2	2-HW-2	*Sisymbrium altissimum*	Jim Hill's tumblemustard	12	2	2	4	10	30	2	22		6	48	6	12.00	0.92
2	2-HW-2	*Sitanion hystrix*	bottlebrush grass	10	4	6			2	86	6	4	20	15	6	13.25	0.83
3	3-RT-1	*Agastache occidentalis*	western horsemint							1						0.08	0.08
3	3-RT-1	*Agropyron spicatum*	bluebunch wheatgrass	2	3	2	6	2	3	4	13	6	32	6	5	7.00	1.00
3	3-RT-1	*Bare Ground*	Bare Ground	97	90	92	90	80	95	78	80	83	83	86	84	86.50	1.00

Table C.1. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Cover	Frequency
3	3-RT-1	*Bromus tectorum*	cheatgrass			1	1	45	5	24	11	34		7	20	12.33	0.75
3	3-RT-1	*Chenopodium leptophyllum*	slimleaf goosefoot						2							0.17	0.08
3	3-RT-1	*Crepis atribarba*	slender hawksbeard					2								0.17	0.08
3	3-RT-1	*Festuca idahoensis*	Idaho fescue	1									13			1.17	0.17
3	3-RT-1	*Litter*	Litter		6		2	1	1	2		1		1	4	1.50	0.67
3	3-RT-1	*Lomatium grayi*	Gray's desertparsley						1							0.08	0.08
3	3-RT-1	*Phacelia hastata*	whiteleaf scorpionweed			1					2				1	0.33	0.25
3	3-RT-1	*Poa sandbergii*	Sandberg's bluegrass	6	2	4	2	4	2	3	12	1	4	4	2	3.83	1.00
3	3-RT-1	*Salsola kali*	Russian thistle	1												0.08	0.08
3	3-RT-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard					4	2				1	2	2	0.92	0.42
3	3-RT-2	*Agropyron spicatum*	bluebunch wheatgrass	3	4	2	4	6	2	6	4	2	1		1	2.92	0.92
3	3-RT-2	*Bare Ground*	Bare Ground	85	92	95	88	90	94	90	85	82	96	98	99	91.17	1.00
3	3-RT-2	*Bromus tectorum*	cheatgrass	14	6	2	4	1	2	2	34	1				5.50	0.75
3	3-RT-2	*Chenopodium leptophyllum*	slimleaf goosefoot	1	1		1	1								0.33	0.33
3	3-RT-2	*Festuca idahoensis*	Idaho fescue		1		1	1		1	1			1		0.50	0.50
3	3-RT-2	*Litter*	Litter				1			1						0.17	0.17
3	3-RT-2	*Lupinus sericeus*	silky lupine							1						0.08	0.08
3	3-RT-2	*Phacelia hastata*	whiteleaf scorpionweed		1			1	1	1						0.33	0.33
3	3-RT-2	*Poa sandbergii*	Sandberg's bluegrass	4	4	6	6	6	5	4	5	3	1	1	1	3.83	1.00
3	3-RT-2	*Salsola kali*	Russian thistle								10	2	1	1		1.17	0.33
3	3-RT-2	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1		1									0.17	0.17
3	3-RT-3	*Agropyron spicatum*	bluebunch wheatgrass	5	2	6	5	8	10	7	8	4	7	10	12	7.00	1.00
3	3-RT-3	*Bare Ground*	Bare Ground	90	98	92	98	96	95	97	96	98	95	92	93	95.00	1.00
3	3-RT-3	*Bromus japonicus*	Japanese brome								4					0.33	0.08
3	3-RT-3	*Bromus tectorum*	cheatgrass	2	2	2			2	3	1	6				1.50	0.58
3	3-RT-3	*Crepis modocensis*	low hawksbeard					1								0.08	0.08
3	3-RT-3	*Litter*	Litter	2		1	1		1	1	2		1		1	0.83	0.67
3	3-RT-3	*Phacelia hastata*	whiteleaf scorpionweed									1			1	0.17	0.17
3	3-RT-3	*Poa sandbergii*	Sandberg's bluegrass	6	1	2	1	2	1	2	3	1	5	2	3	2.42	1.00
3	3-RT-3	*Salsola kali*	Russian thistle						1	1		3		2	1	0.67	0.42

Table C.1. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Cover	Frequency
3	3-RT-3	*Sisymbrium altissimum*	Jim Hill's tumblemustard	2											2	0.33	0.17
4	4-623A-1	*Agropyron spicatum*	bluebunch wheatgrass			2										0.17	0.08
4	4-623A-1	*Bare Ground*	Bare Ground	100	98	99	99	100	98	99	98	100	100	100	99	99.17	1.00
4	4-623A-1	*Bromus tectorum*	cheatgrass						5		1					0.50	0.17
4	4-623A-1	*Litter*	Litter	1			4	3	2	1	4	3				1.50	0.58
4	4-623A-1	*Phacelia hastata*	whiteleaf scorpionweed			1										0.08	0.08
4	4-623A-1	*Poa sandbergii*	Sandberg's bluegrass	1			1	1		1	1		1	1	1	0.67	0.67
4	4-623A-1	*Polygonum aviculare*	doorweed							1						0.08	0.08
4	4-623A-1	*Salsola kali*	Russian thistle		10		2		2						1	1.25	0.33
4	4-623A-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard						1							0.08	0.08
4	4-623A-road	*Achillea millefolium*	yarrow				1									0.08	0.08
4	4-623A-road	*Agropyron spicatum*	bluebunch wheatgrass	1	1		1	3								0.50	0.33
4	4-623A-road	*Balsamorhiza careyana*	Carey's balsamroot					9								0.75	0.08
4	4-623A-road	*Balsamorhiza rosea*	rosy balsamroot				1									0.08	0.08
4	4-623A-road	*Bare Ground*	Bare Ground	95	90	88	85	80	97							44.58	0.50
4	4-623A-road	*Bromus tectorum*	cheatgrass	5	3	21	23	10								5.17	0.42
4	4-623A-road	*Litter*	Litter	1	4	2	2	4								1.08	0.42
4	4-623A-road	*Lupinus sericeus*	silky lupine		1			5	1							0.58	0.25
4	4-623A-road	*Phacelia hastata*	whiteleaf scorpionweed	4												0.33	0.08
4	4-623A-road	*Poa sandbergii*	Sandberg's bluegrass	3	1	7	10	12	5							3.17	0.50
4	4-623A-road	*Salsola kali*	Russian thistle	1	12		1	25	4							3.58	0.42
4	4-623A-road	*Sisymbrium altissimum*	Jim Hill's tumblemustard			7	5		1							1.08	0.25
4	4-623A-road	*Sitanion hystrix*	bottlebrush grass	5			2									0.58	0.17
4	4-C-1	*Agropyron spicatum*	bluebunch wheatgrass	4	1			1	1	1		4	2	2	2	1.50	0.75
4	4-C-1	*Bare Ground*	Bare Ground	92	90	99	98	97	97	98	93	92	97	85	90	94.00	1.00
4	4-C-1	*Festuca idahoensis*	Idaho fescue	1	1			1	1	1		4	2	2	4	1.42	0.75
4	4-C-1	*Litter*	Litter					1	1	1	1	1				0.42	0.42
4	4-C-1	*Phacelia hastata*	whiteleaf scorpionweed	2	2			1					1	2	2	0.83	0.50

Table C.1. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Cover	Frequency
4	4-C-1	*Poa sandbergii*	Sandberg's bluegrass	4	4	2	4	2	2	4	6	2	1	10	4	3.75	1.00
4	4-C-1	*Salsola kali*	Russian thistle	2	6						1	1	1			0.92	0.42
4	4-C-2	*Agropyron spicatum*	bluebunch wheatgrass	6	4	10	3	1	2	1	4	6	7	1	2	3.92	1.00
4	4-C-2	*Bare Ground*	Bare Ground	85	77	75	80	68	85	93	83	66	58	94	89	79.42	1.00
4	4-C-2	*Bromus tectorum*	cheatgrass		4	4	2	1	9	7	6		4			3.08	0.67
4	4-C-2	*Chenopodium leptophyllum*	slimleaf goosefoot	1												0.08	0.08
4	4-C-2	*Festuca idahoensis*	Idaho fescue		1	1	1				1		1		1	0.50	0.50
4	4-C-2	*Litter*	Litter	0	2	3	4	1	1	1	4	5	1		1	1.92	0.83
4	4-C-2	*Phacelia hastata*	whiteleaf scorpionweed	8	6		1	5	1	1		2	18	4	1	3.92	0.83
4	4-C-2	*Poa sandbergii*	Sandberg's bluegrass	6	4	8	2	10	5	4	5	11	12	2	5	6.17	1.00
4	4-C-2	*Salsola kali*	Russian thistle						1		9		2			1.00	0.25
4	4-C-2	*Sisymbrium altissimum*	Jim Hill's tumblemustard		17			5				6	16			3.67	0.33
4	4-C-3	*Agastache occidentalis*	western horsemint						2					1	3	0.50	0.25
4	4-C-3	*Agropyron spicatum*	bluebunch wheatgrass	12	8	8	10	16	6	12	12	3	2			7.42	0.83
4	4-C-3	*Bare Ground*	Bare Ground	65	85	67	65	55	50	50	90	85	60	85	90	70.58	1.00
4	4-C-3	*Bromus tectorum*	cheatgrass						8					2		0.83	0.17
4	4-C-3	*Erigeron linearis*	desert yellowdaisy								1					0.08	0.08
4	4-C-3	*Eriogonum sphaerocephalum*	rock buckwheat											1		0.08	0.08
4	4-C-3	*Festuca idahoensis*	Idaho fescue	3	1	2	2	13	1	2		1	2			2.25	0.75
4	4-C-3	*Lactuca serriola*	prickly lettuce							1			1			0.17	0.17
4	4-C-3	*Litter*	Litter		1	1	2	2	2		2	1				0.92	0.58
4	4-C-3	*Phacelia hastata*	whiteleaf scorpionweed	2	4	2	2		10	5	2	1	4	1	1	2.83	0.92
4	4-C-3	*Poa sandbergii*	Sandberg's bluegrass	16	3	10	20	24	14	28	8	10	12	10	6	13.42	1.00
4	4-C-3	*Salsola kali*	Russian thistle	4			4		8		1		10		4	2.58	0.50
4	4-C-3	*Salvia dorrii*	purple sage				1									0.08	0.08
4	4-C-3	*Sisymbrium altissimum*	Jim Hill's tumblemustard		6	10										1.33	0.17
4	4-CCF-1	*Achillea millefolium*	yarrow								13			1		1.17	0.17
4	4-CCF-1	*Agropyron spicatum*	bluebunch wheatgrass	4	2	8	5	7			38	10		5	7	7.17	0.75
4	4-CCF-1	*Astragalus purshii*	woolly-pod milkvetch	1												0.08	0.08
4	4-CCF-1	*Balsamorhiza rosea*	rosy balsamroot			3	1	7	28	8	5		2	5		4.92	0.67

Table C.1. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Cover	Frequency
4	4-CCF-1	*Bare Ground*	Bare Ground	66	86	72	86	67	65	80	50	70	64	62	69	69.75	1.00
4	4-CCF-1	*Bromus japonicus*	Japanese brome								2			1		0.25	0.17
4	4-CCF-1	*Bromus tectorum*	cheatgrass	17	13	14	13	4	11	8	15	40	33	35	30	19.42	1.00
4	4-CCF-1	*Chenopodium leptophyllum*	slimleaf goosefoot	4	1	1						2			1	0.75	0.42
4	4-CCF-1	*Crepis modocensis*	low hawksbeard				1	6	7	6			3	8		2.58	0.50
4	4-CCF-1	*Litter*	Litter	7	5	1	2	2	2	1	3	3	6	2	4	3.17	1.00
4	4-CCF-1	*Lomatium grayi*	Gray's desertparsley				1									0.08	0.08
4	4-CCF-1	*Phacelia hastata*	whiteleaf scorpionweed	1	1	1		1		1				2	16	1.92	0.58
4	4-CCF-1	*Phlox hoodii*	Hood's phlox						1	4				2		0.58	0.25
4	4-CCF-1	*Poa sandbergii*	Sandberg's bluegrass	40	30	39	27	35	29	29	18	9	7	22	36	26.75	1.00
4	4-CCF-1	*Polygonum aviculare*	doorweed	15	6	19									7	3.92	0.33
4	4-CCF-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard		23	1					1		7	2		2.83	0.42
4	4-CCF-Berm	*Agropyron spicatum*	bluebunch wheatgrass				1									0.08	0.08
4	4-CCF-Berm	*Bare Ground*	Bare Ground	100	97	100	89	68	100							46.17	0.50
4	4-CCF-Berm	*Bromus tectorum*	cheatgrass		7	1	15	17	8							4.00	0.42
4	4-CCF-Berm	*Litter*	Litter	1	2	5	8	2	1							1.58	0.50
4	4-CCF-Berm	*Phacelia hastata*	whiteleaf scorpionweed		3		19	52								6.17	0.25
4	4-CCF-Berm	*Sisymbrium altissimum*	Jim Hill's tumblemustard				3									0.25	0.08
4	4-CCF-Road	*Achillea millefolium*	yarrow	6												0.50	0.08
4	4-CCF-Road	*Balsamorhiza rosea*	rosy balsamroot		7	5	21									2.75	0.25
4	4-CCF-Road	*Bare Ground*	Bare Ground	87	90	90	85	53	88							41.08	0.50
4	4-CCF-Road	*Bromus japonicus*	Japanese brome	3												0.25	0.08
4	4-CCF-Road	*Bromus tectorum*	cheatgrass	40	18	8	17	56	16							12.92	0.50
4	4-CCF-Road	*Crepis modocensis*	low hawksbeard		1	3										0.33	0.17
4	4-CCF-Road	*Litter*	Litter	5		1		7								1.08	0.25
4	4-CCF-Road	*Lomatium grayi*	Gray's desertparsley	6			6	4	1							1.42	0.33
4	4-CCF-Road	*Lygodesmia juncea (Pursh) D. Don ex Hook.*	rush skeletonplant	7		3										0.83	0.17
4	4-CCF-Road	*Phacelia hastata*	whiteleaf scorpionweed				4	4	8							1.33	0.25

Table C.1. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Cover	Frequency
4	4-CCF-Road	*Poa sandbergii*	Sandberg's bluegrass	13	10	5										2.33	0.25
4	4-CCF-Road	*Salsola kali*	Russian thistle						4							0.33	0.08
4	4-CCF-Road	*Sisymbrium altissimum*	Jim Hill's tumblemustard				3									0.25	0.08
5	5-OB-1	*Agropyron spicatum*	bluebunch wheatgrass	2	1	2	2	1	1		2		5	2	2	1.67	0.83
5	5-OB-1	*Bare Ground*	Bare Ground	95	97	90	97	98	93	94	91	97	90	87	88	93.08	1.00
5	5-OB-1	*Bromus tectorum*	cheatgrass						1							0.08	0.08
5	5-OB-1	*Chenopodium leptophyllum*	slimleaf goosefoot									1				0.08	0.08
5	5-OB-1	*Litter*	Litter			2	1		1	2		2	1	2	2	1.08	0.67
5	5-OB-1	*Phacelia hastata*	whiteleaf scorpionweed	2		2				6	2			4	2	1.50	0.50
5	5-OB-1	*Poa sandbergii*	Sandberg's bluegrass	3	1	2		1	2		1	1	2	2	4	1.58	0.83
5	5-OB-2	*Agropyron spicatum*	bluebunch wheatgrass	4	1					1				1	6	1.08	0.42
5	5-OB-2	*Bare Ground*	Bare Ground	89	96	97	94	93	98	96	87	92	90	88	91	92.58	1.00
5	5-OB-2	*Litter*	Litter	1	1	1	1	1		2	2	1	3	2	4	1.58	0.92
5	5-OB-2	*Phacelia hastata*	whiteleaf scorpionweed	1									2			0.25	0.17
5	5-OB-2	*Poa sandbergii*	Sandberg's bluegrass	4	2	2	5	6	2		11	7	7	9	3	4.83	0.92
5	5-OB-2	*Salsola kali*	Russian thistle	1						1						0.17	0.17
6	6-6635-X	*Agastache occidentalis*	western horsemint				1									0.08	0.08
6	6-6635-X	*Agropyron spicatum*	bluebunch wheatgrass	10	16	12	6	16	2	5	11	15	1	27	9	10.83	1.00
6	6-6635-X	*Astragalus purshii*	woolly-pod milkvetch		1											0.08	0.08
6	6-6635-X	*Bare Ground*	Bare Ground	57	73	34	74	54	54	66	61	64	4	87	71	58.25	1.00
6	6-6635-X	*Bromus tectorum*	cheatgrass	2	1		1			5	9	10	1			2.42	0.58
6	6-6635-X	*Chenopodium leptophyllum*	slimleaf goosefoot		1	3				4	1	1	1			0.92	0.50
6	6-6635-X	*Descurainia pinnata*	western tansymustard										1			0.08	0.08
6	6-6635-X	*Descurainia sophia*	flixweed												1	0.08	0.08
6	6-6635-X	*Festuca idahoensis*	Idaho fescue										1			0.08	0.08
6	6-6635-X	*Litter*	Litter	5	3	1	2	3	1	3	1	5	80	6	0	9.17	0.92
6	6-6635-X	*Lomatium grayi*	Gray's desertparsley					2								0.17	0.08
6	6-6635-X	*Phacelia hastata*	whiteleaf scorpionweed	6	2	1	2	1		5	10	14	1		4	3.83	0.83
6	6-6635-X	*Poa sandbergii*	Sandberg's bluegrass										4			0.33	0.08
6	6-6635-X	*Polygonum aviculare*	doorweed	30	42	64	30	50	60	17	35	30	24	30	32	37.00	1.00

Table C.1. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Cover	Frequency
6	6-6635-X	*Salsola kali*	Russian thistle				1									0.08	0.08
6	6-6635-X	*Sisymbrium altissimum*	Jim Hill's tumblemustard	14	9	4	36	37	7	57	32	50	35	26	17	27.00	1.00
6	6-6636-1	*Achillea millefolium*	yarrow					1								0.08	0.08
6	6-6636-1	*Agropyron spicatum*	bluebunch wheatgrass	1	2	5	3	2	2	5	12	16	5	7	4	5.33	1.00
6	6-6636-1	*Astragalus purshii*	woolly-pod milkvetch									1		1		0.17	0.17
6	6-6636-1	*Balsamorhiza rosea*	rosy balsamroot	1	3	1										0.42	0.25
6	6-6636-1	*Bare Ground*	Bare Ground	76	76	74	73	80	85	93	80	75	91	73	84	80.00	1.00
6	6-6636-1	*Bromus tectorum*	cheatgrass	1	4				4	7					1	1.42	0.42
6	6-6636-1	*Crepis modocensis*	low hawksbeard	6	7	1	10	1	1				2	10	1	3.25	0.75
6	6-6636-1	*Descurainia pinnata*	western tansymustard						3							0.25	0.08
6	6-6636-1	*Erigeron linearis*	desert yellowdaisy									1				0.08	0.08
6	6-6636-1	*Eriogonum sphaerocephalum*	rock buckwheat											1		0.08	0.08
6	6-6636-1	*Haplopappus stenophylla*	narrowleaf goldenweed										1			0.08	0.08
6	6-6636-1	*Litter*	Litter	1	1	2	1	1	8					1		1.25	0.58
6	6-6636-1	*Lomatium grayi*	Gray's desertparsley			6			26							2.67	0.17
6	6-6636-1	*Phacelia hastata*	whiteleaf scorpionweed	5	2	2	4	2	6	2		1	1		1	2.17	0.83
6	6-6636-1	*Phlox hoodii*	Hood's phlox		1									5	8	1.17	0.25
6	6-6636-1	*Poa sandbergii*	Sandberg's bluegrass	6	1		2							13	1	1.92	0.42
6	6-6636-1	*Polygonum aviculare*	doorweed	11	20	20	2	2	1	12	11	15	11		7	9.33	0.92
6	6-6636-1	*Ribes aureum*	golden currant						1							0.08	0.08
6	6-6636-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard	10				28								3.17	0.17
6	6-6636-1	*Sitanion hystrix*	bottlebrush grass	1					1	1	1	1			1	0.50	0.50
7	7-PH-X	*Achillea millefolium*	yarrow	7	10	2	2	5	40			5	2	2	2	6.42	0.83
7	7-PH-X	*Agastache occidentalis*	western horsemint					3								0.25	0.08
7	7-PH-X	*Agropyron spicatum*	bluebunch wheatgrass	4	24	2	2			1	1	1	2			3.08	0.67
7	7-PH-X	*Artemisia tridentata*	big sagebrush									1	1		1	0.25	0.25
7	7-PH-X	*Bare Ground*	Bare Ground	21	2	44	29	3	17	96	97	96	33	23	67	44.00	1.00
7	7-PH-X	*Bromus tectorum*	cheatgrass	38	18	48	52	52	30	6	4	6	65	70	52	36.75	1.00
7	7-PH-X	*Chrysothamnus nauseosus*	gray rabbitbrush							4						0.33	0.08
7	7-PH-X	*Descurainia pinnata*	western tansymustard											27	7	2.83	0.17

Table C.1. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Cover	Frequency
7	7-PH-X	*Elymus cinereus*	giant wildrye			1				1						0.17	0.17
7	7-PH-X	*Litter*	Litter	14	78	8	5	15	9	4	3	4	13	2	1	13.00	1.00
7	7-PH-X	*Lomatium sp.*		5		2	2	6					6		1	1.83	0.50
7	7-PH-X	*Phacelia hastata*	whiteleaf scorpionweed		4	1				1						0.50	0.25
7	7-PH-X	*Poa bulbosa*	bulbous bluegrass		14											1.17	0.08
7	7-PH-X	*Poa sandbergii*	Sandberg's bluegrass	2		1	4	16	16	4	1	1			2	3.92	0.75
7	7-PH-X	*Ribes aureum*	golden currant		2											0.17	0.08
7	7-PH-X	*Sisymbrium altissimum*	Jim Hill's tumblemustard	22	12	7	7	45	14				9	12		10.67	0.67
7	7-PH-X	*Sitanion hystrix*	bottlebrush grass			1						1	1		1	0.33	0.33

Table C.2. Density of Plant Species Counted Within Modified Whittaker 100-m^2 Monitoring Plots

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Density
0	1200-REF-1	*Achillea millefolium*	yarrow	5	4	4	15	8	2	1	7		2			4.00
0	1200-REF-1	*Agropyron spicatum*	bluebunch wheatgrass		7	4	15	6	3	4	5	3	4	5	4	5.00
0	1200-REF-1	*Astragalus purshii*	woolly-pod milkvetch			1						1				0.17
0	1200-REF-1	*Bromus tectorum*	cheatgrass	3	1											0.33
0	1200-REF-1	*Calochortus macrocarpus*	sagebrush mariposa lily					1			1					0.17
0	1200-REF-1	*Crepis atribarba*	slender hawksbeard		2		1	1					3			0.58
0	1200-REF-1	*Erigeron filifolius*	threadleaf fleabane	4		2	2		2	11				1	12	2.83
0	1200-REF-1	*Holosteum umbellatum*	jagged chickweed				30	35	10							6.25
0	1200-REF-1	*Lomatium macrocarpum*	bigseed desertparsley		1	2					1			1	1	0.50
0	1200-REF-1	*Lupinus sericeus*	silky lupine				1									0.08
0	1200-REF-1	*Phlox longifolia*	longleaf phlox							1			1		1	0.25
0	1200-REF-1	*Poa sandbergii*	Sandberg's bluegrass	33	16	32	13	11	19	10	13	26	14	26	17	19.17
0	RR-1	*Achillea millefolium*	yarrow	2					1				2			0.42
0	RR-1	*Agropyron spicatum*	bluebunch wheatgrass	2	3	1		3		3		2		2		1.33
0	RR-1	*Antennaria dimorpha*	low pussytoes					3	2			1	5	1	1	1.08
0	RR-1	*Astragalus purshii*	woolly-pod milkvetch		1	2	1	1			2					0.58
0	RR-1	*Balsamorhiza rosea*	rosy balsamroot	3	1	6	2	1	1	2	18	2	7	1	4	4.00
0	RR-1	*Bromus tectorum*	cheatgrass						1	1	1	1				0.33
0	RR-1	*Crepis modocensis*	low hawksbeard	5	10	7		7	3	4	3	7	4	5	10	5.42
0	RR-1	*Erigeron linearis*	desert yellowdaisy					1						1		0.17
0	RR-1	*Eriogonum sphaerocephalum*	rock buckwheat	1			1	3		2						0.58
0	RR-1	*Eriogonum thymoides*	thymeleaf buckwheat		1		2	1	1	1					1	0.58
0	RR-1	*Festuca idahoensis*	Idaho fescue	5					1		2	1	5		3	1.42
0	RR-1	*Haplopappus stenophylla*	narrowleaf goldenweed		1		2		1				1			0.42
0	RR-1	*Lupinus sericeus*	silky lupine	1								1		3	1	0.50
0	RR-1	*Phlox hoodii*	Hood's phlox	5	9	8	10	4	12	8	9	4	1	3	2	6.25
0	RR-1	*Phoenicaulis cheiranthoides*	daggerpod								1					0.08
0	RR-1	*Poa sandbergii*	Sandberg's bluegrass	49	32	34	39	44	42	58	33	40	25	13	53	38.50
0	RR-1	*Sitanion hystrix*	bottlebrush grass			2										0.17
1	1-RS-1	*Kochia scoparia*	summer cypress			2						2				0.33

Table C.2. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Density
1	1-RS-1	*Salsola kali*	Russian thistle		2		18		2	3	3	6	6	3	1	3.67
1	1-RS-1	*Sitanion hystrix*	bottlebrush grass				16					7	13			3.00
1	1-RS-2	*Artemisia tridentata*	big sagebrush									1				0.08
1	1-RS-2	*Bromus tectorum*	cheatgrass		11											0.92
1	1-RS-2	*Distichlis stricta*	alkali saltgrass	2	16	12	10		1	13	9	2				5.42
1	1-RS-2	*Elymus cinereus*	giant wildrye				4									0.33
1	1-RS-2	*Salsola kali*	Russian thistle	13	54	12	6		3	8	9	4	9	2	3	10.25
1	1-RS-2	*Sitanion hystrix*	bottlebrush grass	34		15	7				35	34	1	1	6	11.08
1	1-RS-3	*Achillea millefolium*	yarrow									2				0.17
1	1-RS-3	*Artemisia tridentata*	big sagebrush		1											0.08
1	1-RS-3	*Bromus tectorum*	cheatgrass							1		9	3	5	5	1.92
1	1-RS-3	*Distichlis stricta*	alkali saltgrass	4		1				9				1		1.25
1	1-RS-3	*Elymus cinereus*	giant wildrye					1								0.08
1	1-RS-3	*Grayia spinosa*	spiny hopsage									1				0.08
1	1-RS-3	*Kochia scoparia*	summer cypress		1											0.08
1	1-RS-3	*Poa sandbergii*	Sandberg's bluegrass						1				5	34	18	4.83
1	1-RS-3	*Salsola kali*	Russian thistle	17	11	19	6	5	1	7	29	94	14	16	12	19.25
1	1-RS-3	*Sisymbrium altissimum*	Jim Hill's tumblemustard					1		2	4	2		1	1	0.92
1	1-RS-3	*Sitanion hystrix*	bottlebrush grass	28	19	15	26	23	11	7	9	9	18	16	35	18.00
2	2-109-1	*Achillea millefolium*	yarrow											1	1	0.17
2	2-109-1	*Achnatherum thurberianum*	thurber's needlegrass	1	3	2			3	4			2		3	1.50
2	2-109-1	*Agropyron spicatum*	bluebunch wheatgrass	2	4	10	2			0	1	14			3	3.00
2	2-109-1	*Amsinckia tessellata*	devil's lettuce	2	1							6	4			1.08
2	2-109-1	*Bromus tectorum*	cheatgrass	73	47	36	150	127	210	490	870	7	310	400	230	245.83
2	2-109-1	*Crepis atribarba*	slender hawksbeard				1		3		3	1				0.67
2	2-109-1	*Erodium cicutarium*	storksbill						1				2	1		0.33
2	2-109-1	*Lactuca serriola*	prickly lettuce			1	2		2		9	5	8		2	2.42
2	2-109-1	*Linum perenne*	wild blueflax							1						0.08
2	2-109-1	*Lupinus sericeus*	silky lupine			2	1	2	1	3	2	1			1	1.08
2	2-109-1	*Machaeranthera canescens*	hoary aster				2									0.17

Table C.2. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Density
2	2-109-1	*Poa bulbosa*	bulbous bluegrass		4	1	9	12	27	9	34		1	5	1	8.58
2	2-109-1	*Poa sandbergii*	Sandberg's bluegrass	2							1	16			1	1.67
2	2-109-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard	9	4	6		6	1			13		1		3.33
2	2-109-1	*Sitanion hystrix*	bottlebrush grass				2									0.17
2	2-109-2	*Agropyron spicatum*	bluebunch wheatgrass	12	14	5	5	10	9	3		28	32	12	13	11.92
2	2-109-2	*Astragalus caricinus*	buckwheat milkvetch		4	4	4	1	3	1		1				1.50
2	2-109-2	*Bromus tectorum*	cheatgrass	34	16	9	13	49	31	54	124	24	2	2	3	30.08
2	2-109-2	*Crepis atribarba*	slender hawksbeard	1		3	1	1	2			1	2	1	2	1.17
2	2-109-2	*Erigeron filifolius*	threadleaf fleabane					1								0.08
2	2-109-2	*Lupinus sericeus*	silky lupine													0.00
2	2-109-2	*Phlox longifolia*	longleaf phlox	1	12	2			20	8	8	1	5	13	7	6.42
2	2-109-2	*Poa bulbosa*	bulbous bluegrass	11	2	2	4	24	9	12	47		2	2	3	9.83
2	2-109-2	*Poa sandbergii*	Sandberg's bluegrass	9		4	1	22	15	12	3	16	7	2	13	8.67
2	2-109-2	*Stipa comata*	needle-and-thread grass	12		1		2	10		2					2.25
2	2-109-2	*Tragopogon dubius*	Yellow salsify				1									0.08
2	2-109-3	*Achillea millefolium*	yarrow	1		2			1	4	4	3				1.25
2	2-109-3	*Agropyron spicatum*	bluebunch wheatgrass	26	14	4	4	8	4	9	10	8	5	3	16	9.25
2	2-109-3	*Artemisia tridentata*	big sagebrush						1							0.08
2	2-109-3	*Astragalus caricinus*	buckwheat milkvetch							2		2				0.33
2	2-109-3	*Bromus tectorum*	cheatgrass			15	7	1	7			1		1	1	2.75
2	2-109-3	*Crepis atribarba*	slender hawksbeard	5	6	1	10	5				1		3	5	3.00
2	2-109-3	*Erigeron filifolius*	threadleaf fleabane		1				3						3	0.58
2	2-109-3	*Lactuca serriola*	prickly lettuce						1							0.08
2	2-109-3	*Lomatium macrocarpum*	bigseed biscuitroot										1		1	0.17
2	2-109-3	*Lupinus sericeus*	silky lupine	1	2	1		2				1				0.58
2	2-109-3	*Phlox longifolia*	longleaf phlox					3	5			2			1	0.92
2	2-109-3	*Poa bulbosa*	bulbous bluegrass	11	13	47	28	18	2		10				1	10.83
2	2-109-3	*Poa sandbergii*	Sandberg's bluegrass	5	12	4	7	14	6	15	12				13	7.33
2	2-109-3	*Sisymbrium altissimum*	Jim Hill's tumblemustard			1										0.08
2	2-109-3	*Stipa comata*	needle-and-thread grass						1							0.08

Table C.2. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Density
2	2-138-1	*Agropyron spicatum*	bluebunch wheatgrass	3	7	8	14									2.67
2	2-138-1	*Amsinckia tessellata*	devil's lettuce	2	2		1									0.42
2	2-138-1	*Artemisia tridentata*	big sagebrush	4	3	3	10									1.67
2	2-138-1	*Bromus tectorum*	cheatgrass	4		6	6									1.33
2	2-138-1	*Chenopodium leptophyllum*	slimleaf goosefoot	1	5	5	4									1.25
2	2-138-1	*Poa sandbergii*	Sandberg's bluegrass				35									2.92
2	2-138-1	*Salsola kali*	Russian thistle	21	14	24	13									6.00
2	2-138-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard	3	9	6	3									1.75
2	2-139-1	*Agropyron spicatum*	bluebunch wheatgrass					2	2	7						0.92
2	2-139-1	*Amsinckia tessellata*	devil's lettuce		2			1		1						0.33
2	2-139-1	*Artemisia tridentata*	big sagebrush	1		2	1		1							0.42
2	2-139-1	*Bromus tectorum*	cheatgrass	9		2	5	4								1.67
2	2-139-1	*Chenopodium leptophyllum*	slimleaf goosefoot	1	1		2	2	2	7						1.25
2	2-139-1	*Lactuca serriola*	prickly lettuce		1		1		2	1						0.42
2	2-139-1	*Salsola kali*	Russian thistle	8	16	41	28	15	9	4						10.08
2	2-139-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1		1		2	1						0.42
2	2-139-1	*Sitanion hystrix*	bottlebrush grass		6	4		5	3	15						2.75
2	2-50-1	*Agropyron spicatum*	bluebunch wheatgrass		14	6				2	2	3	12	19	10	5.67
2	2-50-1	*Amsinckia lycopsoides*	fiddleneck	4	1					2						0.58
2	2-50-1	*Bromus tectorum*	cheatgrass	10		1										0.92
2	2-50-1	*Calochortus macrocarpus*	sagebrush mariposa lily		1											0.08
2	2-50-1	*Chrysothamnus nauseosus*	gray rabbitbrush				1		1				1			0.25
2	2-50-1	*Crepis atribarba*	slender hawksbeard		6	3	4	2	3	4	1	5			1	2.42
2	2-50-1	*Descurainia pinnata*	western tansymustard			2										0.17
2	2-50-1	*Erigeron piperianus*	Piper's daisy													0.00
2	2-50-1	*Helianthus cusickii*	Cusick's sunflower				2	1					1			0.33
2	2-50-1	*Lactuca serriola*	prickly lettuce	1									1			0.17
2	2-50-1	*Lupinus sericeus*	silky lupine										1			0.08
2	2-50-1	*Oryzopsis hymenoides*	indian ricegrass							1						0.08
2	2-50-1	*Phlox longifolia*	longleaf phlox		2	1										0.25

Table C.2. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Density
2	2-50-1	*Poa sandbergii*	Sandberg's bluegrass	19	20	55	25	33	26	22	46	27	36	34	12	29.58
2	2-50-1	*Salsola kali*	Russian thistle	20	2	2				2			7	4	15	4.33
2	2-50-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard	1												0.08
2	2-50-1	*Stipa comata*	needle-and-thread grass										1			0.08
2	2-DS146-X	*Achillea millefolium*	yarrow												1	0.08
2	2-DS146-X	*Agropyron spicatum*	bluebunch wheatgrass	2		4	5	5	2	23	3	12	5	3	2	5.50
2	2-DS146-X	*Amsinckia lycopsoides*	fiddleneck	1		1	4					4	4		2	1.33
2	2-DS146-X	*Artemisia tridentata*	big sagebrush				1			4		11	6	17	6	3.75
2	2-DS146-X	*Astragalus caricinus*	buckwheat milkvetch		1											0.08
2	2-DS146-X	*Astragalus succumbens*	crouching milkvetch		2	2										0.33
2	2-DS146-X	*Bromus tectorum*	cheatgrass						3							0.25
2	2-DS146-X	*Chaenactis douglasii*	hoary falseyarrow		3	3										0.50
2	2-DS146-X	*Chenopodium leptophyllum*	slimleaf goosefoot				1									0.08
2	2-DS146-X	*Crepis atribarba*	slender hawksbeard	3												0.25
2	2-DS146-X	*Lupinus sericeus*	silky lupine			1			4							0.42
2	2-DS146-X	*Machaeranthera canescens*	hoary aster		17	4						1				1.83
2	2-DS146-X	*Poa sandbergii*	Sandberg's bluegrass	1		1	17	4		17	25	13	4	10	15	8.92
2	2-DS146-X	*Salsola kali*	Russian thistle	5	2	7	13	23	4	8	14	16	10	8	17	10.58
2	2-DS146-X	*Sisymbrium altissimum*	Jim Hill's tumblemustard	1			4	5		3		2	4	4	3	2.17
2	2-DS146-X	*Sitanion hystrix*	bottlebrush grass				1									0.08
2	2-DS60-Xa	*Achillea millefolium*	yarrow		1											0.08
2	2-DS60-Xa	*Agropyron spicatum*	bluebunch wheatgrass			11	11		5							2.25
2	2-DS60-Xa	*Ambrosia acanthicarpa*	bur ragweed				1									0.08
2	2-DS60-Xa	*Amsinckia tessellata*	devil's lettuce													0.00
2	2-DS60-Xa	*Artemisia tridentata*	big sagebrush	7	3	1										0.92
2	2-DS60-Xa	*Chenopodium leptophyllum*	slimleaf goosefoot				1	1								0.17
2	2-DS60-Xa	*Crepis atribarba*	slender hawksbeard			7	3		1							0.92
2	2-DS60-Xa	*Machaeranthera canescens*	hoary aster		2	1	1									0.33
2	2-DS60-Xa	*Poa ampla Merr.*	'Sherman' big bluegrass	2	1				2							0.42
2	2-DS60-Xa	*Poa sandbergii*	Sandberg's bluegrass	10	22		35	19	3							7.42

Table C.2. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Density
2	2-DS60-Xa	*Salsola kali*	Russian thistle				1									0.08
2	2-DS60-Xa	*Sisymbrium altissimum*	Jim Hill's tumblemustard	1	2	2	1	7	1							1.17
2	2-DS60-Xa	*Sitanion hystrix*	bottlebrush grass	41	49	10	3	21	18							11.83
2	2-DS60-Xb	*Agropyron spicatum*	bluebunch wheatgrass	44	11	7	16	1	8							7.25
2	2-DS60-Xb	*Ambrosia acanthicarpa*	bur ragweed	2	1				1							0.33
2	2-DS60-Xb	*Artemisia tridentata*	big sagebrush	11	2	3	2		1							1.58
2	2-DS60-Xb	*Astragalus succumbens*	crouching milkvetch		1											0.08
2	2-DS60-Xb	*Balsamorhiza careyana*	Carey's balsamroot	1												0.08
2	2-DS60-Xb	*Chenopodium leptophyllum*	slimleaf goosefoot	1	3		1		5							0.83
2	2-DS60-Xb	*Crepis atribarba*	slender hawksbeard						1							0.08
2	2-DS60-Xb	*Festuca octoflora*	slender sixweeks		1											0.08
2	2-DS60-Xb	*Machaeranthera canescens*	hoary aster	19	5	2	1	4								2.58
2	2-DS60-Xb	*Poa ampla Merr.*	'Sherman' big bluegrass	0	16	5	4	7								2.67
2	2-DS60-Xb	*Poa sandbergii*	Sandberg's bluegrass	52	6	16	21	16	3							9.50
2	2-DS60-Xb	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1			1	2							0.33
2	2-DS60-Xb	*Sitanion hystrix*	bottlebrush grass	0	2	9	1	2								1.17
2	2-HQ-1	*Achillea millefolium*	yarrow			1	2	1							2	0.50
2	2-HQ-1	*Agropyron spicatum*	bluebunch wheatgrass	1	1		3	3			15	2	2	4		2.58
2	2-HQ-1	*Artemisia tridentata*	big sagebrush			1							1			0.17
2	2-HQ-1	*Erigeron piperianus*	Piper's daisy				1									0.08
2	2-HQ-1	*Melilotus sp.*					3	3								0.50
2	2-HQ-1	*Phlox longifolia*	longleaf phlox							1						0.08
2	2-HQ-1	*Poa sandbergii*	Sandberg's bluegrass	24	8	7	9	2	6	12	4	3		5	7	7.25
2	2-HQ-1	*Salsola kali*	Russian thistle	1	4	5	3	2	1	1	3	1	1	2	3	2.25
2	2-HQ-1	*Sitanion hystrix*	bottlebrush grass	6	23	49	5	36	33	19	45	37	54	18	38	30.25
2	2-HQ-2	*Achillea millefolium*	yarrow		1							1			1	0.25
2	2-HQ-2	*Agropyron spicatum*	bluebunch wheatgrass	3	6	10	9	5	12	9	13	7	2	10	9	7.92
2	2-HQ-2	*Lactuca serriola*	prickly lettuce									1		1		0.17
2	2-HQ-2	*Poa sandbergii*	Sandberg's bluegrass	5	30	56	13	13	8	8	17	12			16	14.83
2	2-HQ-2	*Salsola kali*	Russian thistle	3	2	2	5	4	1	4	6	2	3	3	1	3.00

Table C.2. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Density
2	2-HQ-2	*Sisymbrium altissimum*	Jim Hill's tumblemustard	1										1	1	0.25
2	2-HQ-2	*Sitanion hystrix*	bottlebrush grass	58	15	13	5	9	31	15	12	15	2	19	25	18.25
2	2-HQ-2	*Vulpia myuros (L.) C.C. Gmel*	rat-tail fescue								1			1		0.17
2	2-HQ-3	*Achillea millefolium*	yarrow			1		2			2					0.42
2	2-HQ-3	*Agropyron spicatum*	bluebunch wheatgrass	2	2	2	9		14	13	9	10	3	8	8	6.67
2	2-HQ-3	*Artemisia tridentata*	big sagebrush							1	1	2				0.33
2	2-HQ-3	*Balsamorhiza careyana*	Carey's balsamroot			1		1			3					0.42
2	2-HQ-3	*Bromus tectorum*	cheatgrass							1	1		2			0.33
2	2-HQ-3	*Chenopodium leptophyllum*	slimleaf goosefoot									1				0.08
2	2-HQ-3	*Festuca octoflora*	slender sixweeks			2		1								0.25
2	2-HQ-3	*Machaeranthera canescens*	hoary aster					2			6					0.67
2	2-HQ-3	*Melilotus alba*	white sweetclover			1										0.08
2	2-HQ-3	*Poa sandbergii*	Sandberg's bluegrass			13	8		11	5						3.08
2	2-HQ-3	*Salsola kali*	Russian thistle		21	6		46	2	12	2	5	12	1	4	9.25
2	2-HQ-3	*Sisymbrium altissimum*	Jim Hill's tumblemustard	2	1	5	1	8	4		4	3	2			2.50
2	2-HQ-3	*Sitanion hystrix*	bottlebrush grass	68	51	54	28	29	36	23	79	49	51	53	65	48.83
2	2-HQ-3	*Vulpia myuros (L.) C.C. Gmel*	rat-tail fescue		3						8	3				1.17
2	2-HW-1	*Agropyron spicatum*	bluebunch wheatgrass	7	3		5	13	14	5	6	4	7	10	7	6.75
2	2-HW-1	*Amsinckia lycopsoides*	fiddleneck	1	1	2		4	2	4	2	1	4	2		1.92
2	2-HW-1	*Artemisia tridentata*	big sagebrush						1						1	0.17
2	2-HW-1	*Balsamorhiza careyana*	Carey's balsamroot										1			0.08
2	2-HW-1	*Bromus tectorum*	cheatgrass	1											1	0.17
2	2-HW-1	*Chenopodium leptophyllum*	slimleaf goosefoot	1	1	1	5	2			2	1		3	2	1.50
2	2-HW-1	*Crepis atribarba*	slender hawksbeard												2	0.17
2	2-HW-1	*Descurainia pinnata*	western tansymustard				1									0.08
2	2-HW-1	*Erodium cicutarium*	storksbill					1								0.08
2	2-HW-1	*Lactuca serriola*	prickly lettuce		1					1		1				0.25
2	2-HW-1	*Poa sandbergii*	Sandberg's bluegrass	3	1		4	11	24	5	1	4	17	9	5	7.00
2	2-HW-1	*Salsola kali*	Russian thistle			1		1					1			0.25
2	2-HW-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard	2	37	13	17	8	10	18	17	19	8	5	13	13.92

Table C.2. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Density
2	2-HW-1	*Sitanion hystrix*	bottlebrush grass	48	12	21	13	19	78	26	8	49	26	29	48	31.42
2	2-HW-2	*Agropyron spicatum*	bluebunch wheatgrass	1	5	9		10	5	9	2	16	10	8		6.25
2	2-HW-2	*Amsinckia lycopsoides*	fiddleneck	3							5	1			5	1.17
2	2-HW-2	*Artemisia tridentata*	big sagebrush								1					0.08
2	2-HW-2	*Bromus tectorum*	cheatgrass						51	5						4.67
2	2-HW-2	*Chenopodium leptophyllum*	slimleaf goosefoot			1						2			1	0.33
2	2-HW-2	*Descurainia pinnata*	western tansymustard													0.00
2	2-HW-2	*Elymus cinereus*	giant wildrye							1						0.08
2	2-HW-2	*Epilobium paniculatum*	tall willowherb							3						0.25
2	2-HW-2	*Lactuca serriola*	prickly lettuce	1	1	2	3		4	1		3	1		2	1.50
2	2-HW-2	*Lupinus sericeus*	silky lupine		65											5.42
2	2-HW-2	*Machaeranthera canescens*	hoary aster	1							1				5	0.58
2	2-HW-2	*Poa sandbergii*	Sandberg's bluegrass			7		32			3	2		4		4.00
2	2-HW-2	*Salsola kali*	Russian thistle													0.00
2	2-HW-2	*Sisymbrium altissimum*	Jim Hill's tumblemustard	2		3	3	51	6	6	20		5	2	9	8.92
2	2-HW-2	*Sitanion hystrix*	bottlebrush grass	71	45	68			22	91	50	146	103	73	46	59.58
3	3-RT-1	*Agastache occidentalis*	western horsemint							1						0.08
3	3-RT-1	*Agropyron spicatum*	bluebunch wheatgrass	30	8	18	34	7	6	15	19	33	50	35	12	22.25
3	3-RT-1	*Bromus tectorum*	cheatgrass					14	7	6	3	11	2	1	7	4.25
3	3-RT-1	*Chenopodium leptophyllum*	slimleaf goosefoot						3							0.25
3	3-RT-1	*Crepis atribarba*	slender hawksbeard					1								0.08
3	3-RT-1	*Festuca idahoensis*	Idaho fescue	14												1.17
3	3-RT-1	*Lomatium grayi*	Gray's desertparsley						1							0.08
3	3-RT-1	*Phacelia hastata*	whiteleaf scorpionweed			1					3			3	1	0.67
3	3-RT-1	*Poa sandbergii*	Sandberg's bluegrass	85	16	50	21	31	12	14	9	6	11	15	8	23.17
3	3-RT-1	*Salsola kali*	Russian thistle	1												0.08
3	3-RT-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard					2	1				1		2	0.50
3	3-RT-2	*Agropyron spicatum*	bluebunch wheatgrass	22	31	12	25	31	26	52	13	10	4	5	1	19.33
3	3-RT-2	*Bromus tectorum*	cheatgrass	8	2		2	2		1	21	1				3.08
3	3-RT-2	*Chenopodium leptophyllum*	slimleaf goosefoot	1	1		2	2								0.50

Table C.2. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Density
3	3-RT-2	*Festuca idahoensis*	Idaho fescue		2		2	2	2	2	3					1.08
3	3-RT-2	*Lupinus sericeus*	silky lupine							1						0.08
3	3-RT-2	*Phacelia hastata*	whiteleaf scorpionweed		1			3	1	3	1					0.75
3	3-RT-2	*Poa sandbergii*	Sandberg's bluegrass	102	92	87	83	106	72	55	40	15	24	15	6	58.08
3	3-RT-2	*Salsola kali*	Russian thistle								2	22	1	1		2.17
3	3-RT-2	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1		1				1					0.25
3	3-RT-3	*Agropyron spicatum*	bluebunch wheatgrass	22	9	22	19	22	31	17	17	13	20	24	23	19.92
3	3-RT-3	*Bromus japonicus*	Japanese brome								1					0.08
3	3-RT-3	*Bromus tectorum*	cheatgrass	1	2	1			1	2		1				0.67
3	3-RT-3	*Crepis modocensis*	low hawksbeard					1								0.08
3	3-RT-3	*Phacelia hastata*	whiteleaf scorpionweed									1			1	0.17
3	3-RT-3	*Poa sandbergii*	Sandberg's bluegrass	31	6	8	6	10	5	12	16	4	15	16	17	12.17
3	3-RT-3	*Salsola kali*	Russian thistle						1	1		2		1	2	0.58
4	4-623A-1	*Agropyron spicatum*	bluebunch wheatgrass			7										0.58
4	4-623A-1	*Bromus tectorum*	cheatgrass						2		1					0.25
4	4-623A-1	*Phacelia hastata*	whiteleaf scorpionweed			1										0.08
4	4-623A-1	*Poa sandbergii*	Sandberg's bluegrass	1			2	3		2	3		8	3	1	1.92
4	4-623A-1	*Polygonum aviculare*	doorweed							1						0.08
4	4-623A-1	*Salsola kali*	Russian thistle		3		1		3						1	0.67
4	4-623A-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard						1							0.08
4	4-623A-road	*Achillea millefolium*	yarrow				2									0.17
4	4-623A-road	*Agropyron spicatum*	bluebunch wheatgrass	2	2		1	1								0.50
4	4-623A-road	*Balsamorhiza careyana*	Carey's balsamroot					1								0.08
4	4-623A-road	*Balsamorhiza rosea*	rosy balsamroot				1									0.08
4	4-623A-road	*Bromus tectorum*	cheatgrass	1		7	9	6								1.92
4	4-623A-road	*Lupinus sericeus*	silky lupine		1			2	1							0.33
4	4-623A-road	*Phacelia hastata*	whiteleaf scorpionweed	1												0.08
4	4-623A-road	*Poa sandbergii*	Sandberg's bluegrass	5	4	11	8	10	7							3.75
4	4-623A-road	*Salsola kali*	Russian thistle		7		2	21	2							2.67
4	4-623A-road	*Sisymbrium altissimum*	Jim Hill's tumblemustard			1	3		1							0.42

Table C.2. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Density
4	4-623A-road	*Sitanion hystrix*	bottlebrush grass	11			3									1.17
4	4-C-1	*Agropyron spicatum*	bluebunch wheatgrass	29	3			1	11	6		28	7	25	25	11.25
4	4-C-1	*Festuca idahoensis*	Idaho fescue	2	1							2		7	4	1.33
4	4-C-1	*Phacelia hastata*	whiteleaf scorpionweed	4	3			1					1	9	24	3.50
4	4-C-1	*Poa sandbergii*	Sandberg's bluegrass	74	37	25	91	473	71	41	120	22	5	165	73	99.75
4	4-C-1	*Salsola kali*	Russian thistle	4	13						2	1	1			1.75
4	4-C-3	*Agastache occidentalis*	western horsemint						1					1	2	0.33
4	4-C-3	*Agropyron spicatum*	bluebunch wheatgrass	46	30	28	38	53	40	56	29	54	57	33	41	42.08
4	4-C-3	*Bromus tectorum*	cheatgrass				1		1					1		0.25
4	4-C-3	*Erigeron linearis*	desert yellowdaisy								1					0.08
4	4-C-3	*Eriogonum sphaerocephalum*	rock buckwheat											1		0.08
4	4-C-3	*Festuca idahoensis*	Idaho fescue	8	2	5	5	13	1	7		3	6			4.17
4	4-C-3	*Lactuca serriola*	prickly lettuce										1			0.08
4	4-C-3	*Phacelia hastata*	whiteleaf scorpionweed	1	4	3	2		10	7	2	1	4	3	1	3.17
4	4-C-3	*Poa sandbergii*	Sandberg's bluegrass	77	20	54	128	142	55	144	70	109	79	109	58	87.08
4	4-C-3	*Salsola kali*	Russian thistle	2			1		4		2		2		2	1.08
4	4-C-3	*Salvia dorrii*	grayball sage				1									0.08
4	4-C-3	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	1										0.17
4	4-CCF-1	*Achillea millefolium*	yarrow								10			1		0.92
4	4-CCF-1	*Agropyron spicatum*	bluebunch wheatgrass	6	6	14	10	11			16	29		3	18	9.42
4	4-CCF-1	*Astragalus purshii*	woolly-pod milkvetch	2												0.17
4	4-CCF-1	*Balsamorhiza rosea*	rosy balsamroot			2	1	2	8	4	3		3	3		2.17
4	4-CCF-1	*Bromus japonicus*	Japanese brome								1					0.08
4	4-CCF-1	*Bromus tectorum*	cheatgrass	2	3	3	6	1	7	3	4	10	18	17	4	6.50
4	4-CCF-1	*Chenopodium leptophyllum*	slimleaf goosefoot		1							4			6	0.92
4	4-CCF-1	*Crepis modocensis*	low hawksbeard				1	2	4	5			2	5		1.58
4	4-CCF-1	*Lomatium grayi*	Gray's desertparsley				1									0.08
4	4-CCF-1	*Phacelia hastata*	whiteleaf scorpionweed	2	2	2		1		1				1	1	0.83
4	4-CCF-1	*Phlox hoodii*	Hood's phlox						2	3				2		0.58
4	4-CCF-1	*Poa sandbergii*	Sandberg's bluegrass	26	25	61	53	54	33	23	21	17	6	17	52	32.33

Table C.2. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Density
4	4-CCF-1	*Polygonum aviculare*	doorweed	3	2	4									1	0.83
4	4-CCF-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	1					1		1	2		0.50
4	4-CCF-Berm	*Agropyron spicatum*	bluebunch wheatgrass				1									0.08
4	4-CCF-Berm	*Bromus tectorum*	cheatgrass		6	1	22	12	5							3.83
4	4-CCF-Berm	*Phacelia hastata*	whiteleaf scorpionweed		2		14	5								1.75
4	4-CCF-Berm	*Sisymbrium altissimum*	Jim Hill's tumblemustard				2									0.17
4	4-CCF-Road	*Achillea millefolium*	yarrow	4												0.33
4	4-CCF-Road	*Balsamorhiza rosea*	rosy balsamroot		7	3	14									2.00
4	4-CCF-Road	*Bromus japonicus*	Japanese brome	2												0.17
4	4-CCF-Road	*Bromus tectorum*	cheatgrass	23	4	14	10	32	3							7.17
4	4-CCF-Road	*Crepis modocensis*	low hawksbeard		1	3										0.33
4	4-CCF-Road	*Lomatium grayi*	Gray's desertparsley	3			2	1								0.50
4	4-CCF-Road	*Lygodesmia juncea (Pursh) D. Don ex Hook.*	rush skeletonplant	4		1										0.42
4	4-CCF-Road	*Phacelia hastata*	whiteleaf scorpionweed				4		4							0.67
4	4-CCF-Road	*Poa sandbergii*	Sandberg's bluegrass	14	9	7										2.50
4	4-CCF-Road	*Salsola kali*	Russian thistle													0.00
4	4-CCF-Road	*Sisymbrium altissimum*	Jim Hill's tumblemustard				1									0.08
5	5-OB-1	*Agropyron spicatum*	bluebunch wheatgrass	3	1	4	4		3		5		3	3	6	2.67
5	5-OB-1	*Bromus tectorum*	cheatgrass						1							0.08
5	5-OB-1	*Chenopodium leptophyllum*	slimleaf goosefoot										1			0.08
5	5-OB-1	*Phacelia hastata*	whiteleaf scorpionweed	1		1				2	1			2	2	0.75
5	5-OB-1	*Poa sandbergii*	Sandberg's bluegrass	11	2	8		1	7		1	1	2	3	29	5.42
5	5-OB-2	*Agropyron spicatum*	bluebunch wheatgrass	10	1					1				1	18	2.58
5	5-OB-2	*Phacelia hastata*	whiteleaf scorpionweed	1												0.08
5	5-OB-2	*Poa sandbergii*	Sandberg's bluegrass	44	5	7	35	45	3		69	53	54	75	23	34.42
5	5-OB-2	*Salsola kali*	Russian thistle	2						1			1			0.33
6	6-6635-X	*Agastache occidentalis*	western horsemint				1									0.08
6	6-6635-X	*Agropyron spicatum*	bluebunch wheatgrass	27	46	29	17	31	6	9	26	36	5	49	23	25.33
6	6-6635-X	*Astragalus purshii*	woolly-pod milkvetch		1											0.08
6	6-6635-X	*Bromus tectorum*	cheatgrass	1			1			2	1	3				0.67

Table C.2. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Density
6	6-6635-X	*Chenopodium leptophyllum*	slimleaf goosefoot		1	3				4	1	2	1			1.00
6	6-6635-X	*Descurainia pinnata*	western tansymustard										1			0.08
6	6-6635-X	*Descurainia sophia*	flixweed													0.00
6	6-6635-X	*Festuca idahoensis*	Idaho fescue										3			0.25
6	6-6635-X	*Lomatium grayi*	Gray's desertparsley					1								0.08
6	6-6635-X	*Phacelia hastata*	whiteleaf scorpionweed	9		2	3	2		12	44	30	1		3	8.83
6	6-6635-X	*Poa sandbergii*	Sandberg's bluegrass										15			1.25
6	6-6635-X	*Polygonum aviculare*	doorweed	17	25	37	22	43	44	20	10	20	8	8	6	21.67
6	6-6635-X	*Salsola kali*	Russian thistle				1									0.08
6	6-6635-X	*Sisymbrium altissimum*	Jim Hill's tumblemustard	6	1	2	19	26	3	11	10	25	6		3	9.33
6	6-6636-1	*Achillea millefolium*	yarrow					1								0.08
6	6-6636-1	*Agropyron spicatum*	bluebunch wheatgrass	2	11	11	17	6	3	5	52	45	16	5	21	16.17
6	6-6636-1	*Astragalus purshii*	woolly-pod milkvetch									2		1		0.25
6	6-6636-1	*Balsamorhiza rosea*	rosy balsamroot	3	6	1										0.83
6	6-6636-1	*Bromus tectorum*	cheatgrass	1	3				10	2					1	1.42
6	6-6636-1	*Crepis modocensis*	low hawksbeard	5	13	1	28	1	2				1	10	1	5.17
6	6-6636-1	*Descurainia pinnata*	western tansymustard						1							0.08
6	6-6636-1	*Erigeron linearis*	desert yellowdaisy									1				0.08
6	6-6636-1	*Eriogonum sphaerocephalum*	rock buckwheat											1		0.08
6	6-6636-1	*Haplopappus stenophylla*	narrowleaf goldenweed										1			0.08
6	6-6636-1	*Lomatium sp.*				2			5							0.58
6	6-6636-1	*Phacelia hastata*	whiteleaf scorpionweed	4	2	3	4	4	7	2		1	1		4	2.67
6	6-6636-1	*Phlox hoodii*	Hood's phlox		5									3	5	1.08
6	6-6636-1	*Poa sandbergii*	Sandberg's bluegrass	16	2		5							16	3	3.50
6	6-6636-1	*Polygonum aviculare*	doorweed	8	8	8	3	1	1	3	2	5	6		7	4.33
6	6-6636-1	*Ribes aureum*	golden currant						1							0.08
6	6-6636-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard	2				3								0.42
6	6-6636-1	*Sitanion hystrix*	bottlebrush grass	1					1	1	4	1			1	0.75
7	7-PH-X	*Achillea millefolium*	yarrow	9	2	0	1	2	6			2	1	1	6	2.50
7	7-PH-X	*Agastache occidentalis*	western horsemint				2									0.17

Table C.2. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1 m	5 m	10 m	15 m	18 m	22 m	26 m	30 m	35 m	40 m	44 m	48 m	Mean Density
7	7-PH-X	*Agropyron spicatum*	bluebunch wheatgrass	5	5	6	4			3	3	2	5			2.75
7	7-PH-X	*Artemisia tridentata*	big sagebrush									1	1		1	0.25
7	7-PH-X	*Bromus tectorum*	cheatgrass	27	17	70	35	65	75	2	2	5	25	55	65	36.92
7	7-PH-X	*Chrysothamnus nauseosus*	gray rabbitbrush						1							0.08
7	7-PH-X	*Descurainia pinnata*	western tansymustard											1	1	0.17
7	7-PH-X	*Elymus cinereus*	giant wildrye			1				1						0.17
7	7-PH-X	*Lomatium sp.*		2		1	1	4					1		1	0.83
7	7-PH-X	*Phacelia hastata*	whiteleaf scorpionweed		1	1										0.17
7	7-PH-X	*Poa bulbosa*	bulbous bluegrass		28											2.33
7	7-PH-X	*Poa sandbergii*	Sandberg's bluegrass	7		3	11	19	28	9	1	2			4	7.00
7	7-PH-X	*Ribes aureum*	golden currant		1											0.08
7	7-PH-X	*Sisymbrium altissimum*	Jim Hill's tumblemustard	3	3	0	3	10	4				0	2		2.08
7	7-PH-X	*Sitanion hystrix*	bottlebrush grass				1				2	3			1	0.58

Table C.3. Species Found on 10-m^2 and 100-m^2 and 1000-m^2 Modified Whittaker Monitoring Plots

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
0	1200-REF-1	*Achillea millefolium*	yarrow	1		
0	1200-REF-1	*Agropyron spicatum*	bluebunch wheatgrass	1	1	1
0	1200-REF-1	*Amsinckia lycopsoides*	fiddleneck	1	1	1
0	1200-REF-1	*Artemisia tridentata*	big sagebrush	1	1	
0	1200-REF-1	*Astragalus purshii*	woolly-pod milkvetch	1		
0	1200-REF-1	*Bromus tectorum*	cheatgrass	1	1	1
0	1200-REF-1	*Calochortus macrocarpus*	sagebrush mariposa lily	1		
0	1200-REF-1	*Crepis atribarba*	slender hawksbeard	1	1	1
0	1200-REF-1	*Epilobium paniculatum*	tall willowherb	1	1	1
0	1200-REF-1	*Erigeron filifolius*	threadleaf fleabane	1	1	1
0	1200-REF-1	*Festuca octoflora*	slender sixweeks	1	1	1
0	1200-REF-1	*Holosteum umbellatum*	jagged chickweed	1		
0	1200-REF-1	*Lactuca serriola*	prickly lettuce	1		
0	1200-REF-1	*Lomatium macrocarpum*	bigseed desertparsley	1	1	1
0	1200-REF-1	*Lupinus sericeus*	silky lupine	1	1	1
0	1200-REF-1	*Phlox longifolia*	longleaf phlox	1	1	1
0	1200-REF-1	*Plantago patagonica*	indian wheat	1	1	1
0	1200-REF-1	*Poa cusickii*	Cusick's bluegrass	1	1	
0	1200-REF-1	*Poa sandbergii*	Sandberg's bluegrass	1	1	1
0	1200-REF-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard	1	1	1
0	1200-REF-1	*Stipa comata*	needle-and-thread grass	1	1	1
0	1200-REF-1	*Tragopogon dubius*	Yellow salsify	1	1	
1	1-RS-1	*Artemisia tridentata*	big sagebrush		1	
1	1-RS-1	*Astragalus caricinus*	buckwheat milkvetch		1	
1	1-RS-1	*Elymus cinereus*	giant wildrye		1	1
1	1-RS-1	*Grayia spinosa*	spiny hopsage		1	1

Table C.3. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
1	1-RS-1	*Kochia scoparia*	summer cypress		1	1
1	1-RS-1	*Poa sandbergii*	Sandberg's bluegrass		1	1
1	1-RS-1	*Salsola kali*	Russian thistle		1	1
1	1-RS-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
1	1-RS-1	*Sitanion hystrix*	bottlebrush grass		1	1
1	1-RS-2	*Artemisia tridentata*	big sagebrush		1	
1	1-RS-2	*Balsamorhiza careyana*	Carey's balsamroot		1	1
1	1-RS-2	*Bromus tectorum*	cheatgrass		1	1
1	1-RS-2	*Distichlis stricta*	alkali saltgrass		1	
1	1-RS-2	*Elymus cinereus*	giant wildrye		1	1
1	1-RS-2	*Grayia spinosa*	spiny hopsage		1	
1	1-RS-2	*Kochia scoparia*	summer cypress		1	1
1	1-RS-2	*Oryzopsis hymenoides*	indian ricegrass		1	
1	1-RS-2	*Salsola kali*	Russian thistle		1	1
1	1-RS-2	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
1	1-RS-2	*Sitanion hystrix*	bottlebrush grass		1	1
1	1-RS-3	*Achillea millefolium*	yarrow		1	1
1	1-RS-3	*Amsinckia lycopsoides*	fiddleneck		1	1
1	1-RS-3	*Artemisia tridentata*	big sagebrush		1	1
1	1-RS-3	*Balsamorhiza careyana*	Carey's balsamroot		1	1
1	1-RS-3	*Bromus tectorum*	cheatgrass		1	
1	1-RS-3	*Chenopodium leptophyllum*	slimleaf goosefoot		1	1
1	1-RS-3	*Distichlis stricta*	alkali saltgrass		1	1
1	1-RS-3	*Elymus cinereus*	giant wildrye		1	1
1	1-RS-3	*Grayia spinosa*	spiny hopsage		1	1
1	1-RS-3	*Kochia scoparia*	summer cypress		1	1

Table C.3. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
1	1-RS-3	*Machaeranthera canescens*	hoary aster		1	1
1	1-RS-3	*Poa sandbergii*	Sandberg's bluegrass		1	
1	1-RS-3	*Salsola kali*	Russian thistle		1	
1	1-RS-3	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	1
1	1-RS-3	*Sitanion hystrix*	bottlebrush grass		1	
2	2-109-1	*Achillea millefolium*	yarrow			
2	2-109-1	*Achillea millefolium*	yarrow		1	1
2	2-109-1	*Agropyron spicatum*	bluebunch wheatgrass		1	1
2	2-109-1	*Amsinckia tessellata*	devil's lettuce		1	
2	2-109-1	*Brodiaea douglasii*	Douglas' clusterlily		1	1
2	2-109-1	*Bromus tectorum*	cheatgrass		1	1
2	2-109-1	*Calochortus macrocarpus*	sagebrush mariposa lily		1	
2	2-109-1	*Chenopodium leptophyllum*	slimleaf goosefoot		1	1
2	2-109-1	*Crepis atribarba*	slender hawksbeard		1	1
2	2-109-1	*Erodium cicutarium*	storksbill		1	1
2	2-109-1	*Lactuca serriola*	prickly lettuce		1	1
2	2-109-1	*Linum perenne*	wild blueflax		1	1
2	2-109-1	*Lupinus sericeus*	silky lupine		1	1
2	2-109-1	*Machaeranthera canescens*	hoary aster		1	1
2	2-109-1	*Phlox longifolia*	longleaf phlox		1	1
2	2-109-1	*Poa bulbosa*	bulbous bluegrass		1	1
2	2-109-1	*Poa sandbergii*	Sandberg's bluegrass		1	1
2	2-109-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
2	2-109-1	*Sitanion hystrix*	bottlebrush grass		1	
2	2-109-1	*Stipa comata*	needle-and-thread grass		1	1
2	2-109-1	*Tragopogon dubius*	Yellow salsify		1	1

Table C.3. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
2	2-109-2	*Achillea millefolium*	yarrow		1	1
2	2-109-2	*Agropyron spicatum*	bluebunch wheatgrass		1	
2	2-109-2	*Astragalus caricinus*	buckwheat milkvetch		1	1
2	2-109-2	*Astragalus purshii*	woolly-pod milkvetch		1	
2	2-109-2	*Bromus tectorum*	cheatgrass		1	1
2	2-109-2	*Calochortus macrocarpus*	sagebrush mariposa lily		1	
2	2-109-2	*Crepis atribarba*	slender hawksbeard		1	
2	2-109-2	*Erigeron filifolius*	threadleaf fleabane		1	
2	2-109-2	*Festuca microstachys*	small sixweeks		1	1
2	2-109-2	*Lomatium macrocarpum*	bigseed desertparsley		1	1
2	2-109-2	*Lupinus sericeus*	silky lupine		1	1
2	2-109-2	*Phlox longifolia*	longleaf phlox		1	
2	2-109-2	*Poa bulbosa*	bulbous bluegrass		1	
2	2-109-2	*Poa sandbergii*	Sandberg's bluegrass		1	
2	2-109-2	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
2	2-109-2	*Stipa comata*	needle-and-thread grass		1	
2	2-109-3	*Achillea millefolium*	yarrow		1	1
2	2-109-3	*Agropyron spicatum*	bluebunch wheatgrass		1	
2	2-109-3	*Astragalus caricinus*	buckwheat milkvetch		1	1
2	2-109-3	*Astragalus purshii*	woolly-pod milkvetch		1	1
2	2-109-3	*Balsamorhiza careyana*	Carey's balsamroot		1	1
2	2-109-3	*Bromus tectorum*	cheatgrass		1	
2	2-109-3	*Calochortus macrocarpus*	sagebrush mariposa lily		1	
2	2-109-3	*Crepis atribarba*	slender hawksbeard		1	
2	2-109-3	*Epilobium paniculatum*	tall willowherb		1	1
2	2-109-3	*Erigeron filifolius*	threadleaf fleabane		1	1

Table C.3. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
2	2-109-3	*Erodium cicutarium*	storksbill		1	1
2	2-109-3	*Festuca microstachys*	small sixweeks		1	
2	2-109-3	*Lactuca serriola*	prickly lettuce		1	1
2	2-109-3	*Linum perenne*	wild blueflax		1	
2	2-109-3	*Lomatium macrocarpum*	bigseed desertparsley		1	1
2	2-109-3	*Lupinus sericeus*	silky lupine		1	
2	2-109-3	*Phlox longifolia*	longleaf phlox		1	
2	2-109-3	*Poa bulbosa*	bulbous bluegrass		1	1
2	2-109-3	*Poa sandbergii*	Sandberg's bluegrass		1	
2	2-109-3	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
2	2-109-3	*Stipa comata*	needle-and-thread grass		1	1
2	2-138-1	*Amsinckia tessellata*	devil's lettuce		1	
2	2-138-1	*Artemisia tridentata*	big sagebrush		1	
2	2-138-1	*Bromus tectorum*	cheatgrass		1	
2	2-138-1	*Chenopodium leptophyllum*	slimleaf goosefoot		1	
2	2-138-1	*Crepis atribarba*	slender hawksbeard		1	1
2	2-138-1	*Lactuca serriola*	prickly lettuce		1	
2	2-138-1	*Salsola kali*	Russian thistle		1	1
2	2-138-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
2	2-139-1	*Achillea millefolium*	yarrow		1	1
2	2-139-1	*Agropyron spicatum*	bluebunch wheatgrass		1	
2	2-139-1	*Amsinckia tessellata*	devil's lettuce		1	
2	2-139-1	*Artemisia tridentata*	big sagebrush		1	
2	2-139-1	*Bromus tectorum*	cheatgrass		1	
2	2-139-1	*Chaenactis douglasii*	hoary falseyarrow		1	1
2	2-139-1	*Chenopodium leptophyllum*	slimleaf goosefoot		1	

Table C.3. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
2	2-139-1	*Lactuca serriola*	prickly lettuce		1	
2	2-139-1	*Poa sandbergii*	Sandberg's bluegrass		1	
2	2-139-1	*Salsola kali*	Russian thistle		1	
2	2-139-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
2	2-139-1	*Sitanion hystrix*	bottlebrush grass		1	
2	2-50-1	*Achillea millefolium*	yarrow		1	
2	2-50-1	*Agropyron spicatum*	bluebunch wheatgrass		1	
2	2-50-1	*Amsinckia tessellata*	devil's lettuce		1	1
2	2-50-1	*Artemisia tridentata*	big sagebrush		1	1
2	2-50-1	*Bromus tectorum*	cheatgrass		1	1
2	2-50-1	*Calochortus macrocarpus*	sagebrush mariposa lily		1	1
2	2-50-1	*Chenopodium leptophyllum*	slimleaf goosefoot		1	
2	2-50-1	*Chrysothamnus nauseosus*	gray rabbitbrush		1	
2	2-50-1	*Crepis atribarba*	slender hawksbeard		1	1
2	2-50-1	*Descurainia pinnata*	western tansymustard		1	
2	2-50-1	*Erigeron filifolius*	threadleaf fleabane		1	
2	2-50-1	*Helianthus cusickii*	Cusick's sunflower		1	1
2	2-50-1	*Lactuca serriola*	prickly lettuce		1	1
2	2-50-1	*Linum perenne*	wild blueflax		1	
2	2-50-1	*Lupinus sericeus*	silky lupine		1	1
2	2-50-1	*Machaeranthera canescens*	hoary aster		1	1
2	2-50-1	*Oryzopsis hymenoides*	indian ricegrass		1	1
2	2-50-1	*Phlox longifolia*	longleaf phlox		1	
2	2-50-1	*Poa sandbergii*	Sandberg's bluegrass		1	
2	2-50-1	*Salsola kali*	Russian thistle		1	
2	2-50-1	*Sitanion hystrix*	bottlebrush grass		1	1

Table C.3. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
2	2-50-1	*Stipa comata*	needle-and-thread grass		1	1
2	2-DS146-X	*Achillea millefolium*	yarrow		1	
2	2-DS146-X	*Agropyron spicatum*	bluebunch wheatgrass		1	
2	2-DS146-X	*Amsinckia lycopsoides*	fiddleneck		1	1
2	2-DS146-X	*Amsinckia tessellata*	devil's lettuce		1	1
2	2-DS146-X	*Artemisia tridentata*	big sagebrush		1	
2	2-DS146-X	*Astragalus caricinus*	buckwheat milkvetch		1	1
2	2-DS146-X	*Astragalus succumbens*	crouching milkvetch		1	
2	2-DS146-X	*Bromus tectorum*	cheatgrass		1	
2	2-DS146-X	*Chaenactis douglasii*	hoary falseyarrow		1	1
2	2-DS146-X	*Chenopodium leptophyllum*	slimleaf goosefoot		1	1
2	2-DS146-X	*Crepis atribarba*	slender hawksbeard		1	1
2	2-DS146-X	*Kochia scoparia*	summer cypress		1	
2	2-DS146-X	*Lactuca serriola*	prickly lettuce		1	1
2	2-DS146-X	*Lupinus sericeus*	silky lupine		1	1
2	2-DS146-X	*Machaeranthera canescens*	hoary aster		1	1
2	2-DS146-X	*Phlox longifolia*	longleaf phlox		1	
2	2-DS146-X	*Poa sandbergii*	Sandberg's bluegrass		1	
2	2-DS146-X	*Salsola kali*	Russian thistle		1	1
2	2-DS146-X	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
2	2-DS146-X	*Sitanion hystrix*	bottlebrush grass		1	
2	2-DS60-Xa	*Achillea millefolium*	yarrow		1	
2	2-DS60-Xa	*Agropyron spicatum*	bluebunch wheatgrass		1	
2	2-DS60-Xa	*Ambrosia acanthicarpa*	bur ragweed		1	
2	2-DS60-Xa	*Amsinckia tessellata*	devil's lettuce		1	
2	2-DS60-Xa	*Artemisia tridentata*	big sagebrush		1	1

Table C.3. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
2	2-DS60-Xa	*Chenopodium leptophyllum*	slimleaf goosefoot		1	
2	2-DS60-Xa	*Crepis atribarba*	slender hawksbeard		1	1
2	2-DS60-Xa	*Lactuca serriola*	prickly lettuce		1	1
2	2-DS60-Xa	*Machaeranthera canescens*	hoary aster		1	
2	2-DS60-Xa	*Phlox longifolia*	longleaf phlox		1	1
2	2-DS60-Xa	*Poa ampla Merr.*	'Sherman' big bluegrass		1	1
2	2-DS60-Xa	*Poa sandbergii*	Sandberg's bluegrass		1	1
2	2-DS60-Xa	*Salsola kali*	Russian thistle		1	
2	2-DS60-Xa	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
2	2-DS60-Xa	*Sitanion hystrix*	bottlebrush grass		1	1
2	2-DS60-Xb	*Agropyron spicatum*	bluebunch wheatgrass		1	
2	2-DS60-Xb	*Ambrosia acanthicarpa*	bur ragweed		1	
2	2-DS60-Xb	*Artemisia tridentata*	big sagebrush		1	1
2	2-DS60-Xb	*Astragalus succumbens*	crouching milkvetch		1	1
2	2-DS60-Xb	*Balsamorhiza careyana*	Carey's balsamroot		1	1
2	2-DS60-Xb	*Chenopodium leptophyllum*	slimleaf goosefoot		1	
2	2-DS60-Xb	*Crepis atribarba*	slender hawksbeard		1	1
2	2-DS60-Xb	*Erigeron piperianus*	Piper's daisy		1	1
2	2-DS60-Xb	*Festuca octoflora*	slender sixweeks		1	
2	2-DS60-Xb	*Helianthus cusickii*	Cusick's sunflower		1	1
2	2-DS60-Xb	*Lactuca serriola*	prickly lettuce		1	1
2	2-DS60-Xb	*Lupinus sericeus*	silky lupine		1	
2	2-DS60-Xb	*Machaeranthera canescens*	hoary aster		1	1
2	2-DS60-Xb	*Poa ampla Merr.*	'Sherman' big bluegrass		1	1
2	2-DS60-Xb	*Poa sandbergii*	Sandberg's bluegrass		1	1
2	2-DS60-Xb	*Salsola kali*	Russian thistle		1	

Table C.3. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
2	2-DS60-Xb	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	1
2	2-DS60-Xb	*Sitanion hystrix*	bottlebrush grass		1	1
2	2-HQ-1	*Achillea millefolium*	yarrow		1	1
2	2-HQ-1	*Agoseris grandiflora*	showy mountain dandelion		1	
2	2-HQ-1	*Agropyron spicatum*	bluebunch wheatgrass		1	1
2	2-HQ-1	*Amsinckia lycopsoides*	fiddleneck		1	1
2	2-HQ-1	*Artemisia tridentata*	big sagebrush		1	1
2	2-HQ-1	*Astragalus caricinus*	buckwheat milkvetch		1	
2	2-HQ-1	*Astragalus succumbens*	crouching milkvetch		1	
2	2-HQ-1	*Balsamorhiza careyana*	Carey's balsamroot		1	
2	2-HQ-1	*Bromus tectorum*	cheatgrass		1	
2	2-HQ-1	*Chaenactis douglasii*	hoary falseyarrow		1	
2	2-HQ-1	*Chrysothamnus nauseosus*	gray rabbitbrush		1	
2	2-HQ-1	*Erigeron piperianus*	Piper's daisy		1	
2	2-HQ-1	*Helianthus cusickii*	Cusick's sunflower		1	
2	2-HQ-1	*Kochia scoparia*	summer cypress		1	1
2	2-HQ-1	*Lactuca serriola*	prickly lettuce		1	1
2	2-HQ-1	*Lupinus sericeus*	silky lupine		1	1
2	2-HQ-1	*Machaeranthera canescens*	hoary aster		1	
2	2-HQ-1	*Matricaria matricarioides*	pineapple weed		1	
2	2-HQ-1	*Melilotus alba*	white sweetclover		1	
2	2-HQ-1	*Phlox longifolia*	longleaf phlox		1	1
2	2-HQ-1	*Poa sandbergii*	Sandberg's bluegrass		1	
2	2-HQ-1	*Salsola kali*	Russian thistle		1	1
2	2-HQ-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	1
2	2-HQ-1	*Sitanion hystrix*	bottlebrush grass		1	1

Table C.3. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
2	2-HQ-1	*Sporobolus cryptandrus*	sand dropseed		1	
2	2-HQ-1	*Tragopogon dubius*	Yellow salsify		1	
2	2-HQ-1	*Vulpia myuros (L.) C.C. Gmel*	rat-tail fescue		1	
2	2-HQ-2	*Achillea millefolium*	yarrow		1	
2	2-HQ-2	*Agropyron spicatum*	bluebunch wheatgrass		1	
2	2-HQ-2	*Amsinckia lycopsoides*	fiddleneck		1	
2	2-HQ-2	*Artemisia tridentata*	big sagebrush		1	
2	2-HQ-2	*Astragalus caricinus*	buckwheat milkvetch		1	
2	2-HQ-2	*Balsamorhiza careyana*	Carey's balsamroot		1	
2	2-HQ-2	*Bromus tectorum*	cheatgrass		1	
2	2-HQ-2	*Chorispora tenella*	blue mustard		1	
2	2-HQ-2	*Lactuca serriola*	prickly lettuce		1	
2	2-HQ-2	*Melilotus alba*	white sweetclover		1	
2	2-HQ-2	*Poa sandbergii*	Sandberg's bluegrass		1	
2	2-HQ-2	*Salsola kali*	Russian thistle		1	
2	2-HQ-2	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
2	2-HQ-2	*Sitanion hystrix*	bottlebrush grass		1	
2	2-HQ-2	*Vulpia myuros (L.) C.C. Gmel*	rat-tail fescue		1	
2	2-HQ-2	*Unknown bunchgrass*	Unknown bunchgrass		1	
2	2-HQ-3	*Achillea millefolium*	yarrow		1	
2	2-HQ-3	*Agropyron spicatum*	bluebunch wheatgrass		1	
2	2-HQ-3	*Amsinckia tessellata*	devil's lettuce		1	
2	2-HQ-3	*Astragalus caricinus*	buckwheat milkvetch		1	
2	2-HQ-3	*Balsamorhiza careyana*	Carey's balsamroot		1	
2	2-HQ-3	*Bromus tectorum*	cheatgrass		1	
2	2-HQ-3	*Chaenactis douglasii*	hoary falseyarrow		1	

Table C.3. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
2	2-HQ-3	*Chenopodium leptophyllum*	slimleaf goosefoot		1	
2	2-HQ-3	*Chorispora tenella*	blue mustard		1	
2	2-HQ-3	*Lactuca serriola*	prickly lettuce		1	
2	2-HQ-3	*Lupinus sericeus*	silky lupine		1	
2	2-HQ-3	*Machaeranthera canescens*	hoary aster		1	
2	2-HQ-3	*Melilotus alba*	white sweetclover		1	
2	2-HQ-3	*Poa sandbergii*	Sandberg's bluegrass		1	
2	2-HQ-3	*Salsola kali*	Russian thistle		1	
2	2-HQ-3	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
2	2-HQ-3	*Sitanion hystrix*	bottlebrush grass		1	
2	2-HQ-3	*Triticum L.*	wheat		1	
2	2-HQ-3	*Vulpia myuros (L.) C.C. Gmel*	rat-tail fescue		1	
2	2-HW-1	*Agropyron spicatum*	bluebunch wheatgrass		1	
2	2-HW-1	*Amsinckia lycopsoides*	fiddleneck		1	
2	2-HW-1	*Artemisia tridentata*	big sagebrush		1	
2	2-HW-1	*Bromus tectorum*	cheatgrass		1	
2	2-HW-1	*Chenopodium leptophyllum*	slimleaf goosefoot		1	
2	2-HW-1	*Chondrilla juncea*	Rush skeletonweed		1	
2	2-HW-1	*Crepis atribarba*	slender hawksbeard		1	
2	2-HW-1	*Kochia scoparia*	summer cypress		1	
2	2-HW-1	*Lactuca serriola*	prickly lettuce		1	
2	2-HW-1	*Machaeranthera canescens*	hoary aster		1	
2	2-HW-1	*Salsola kali*	Russian thistle		1	
2	2-HW-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
2	2-HW-1	*Sitanion hystrix*	bottlebrush grass		1	
2	2-HW-1	*Tetradymia canescens*	gray horsebrush		1	

Table C.3. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
2	2-HW-1	*Tragopogon dubius*	Yellow salsify		1	
2	2-HW-2	*Achillea millefolium*	yarrow		1	1
2	2-HW-2	*Agropyron spicatum*	bluebunch wheatgrass		1	1
2	2-HW-2	*Amsinckia lycopsoides*	fiddleneck		1	
2	2-HW-2	*Artemisia tridentata*	big sagebrush		1	
2	2-HW-2	*Astragalus succumbens*	crouching milkvetch		1	1
2	2-HW-2	*Bromus tectorum*	cheatgrass		1	1
2	2-HW-2	*Chenopodium leptophyllum*	slimleaf goosefoot		1	1
2	2-HW-2	*Chondrilla juncea*	Rush skeletonweed		1	1
2	2-HW-2	*Crepis atribarba*	slender hawksbeard		1	1
2	2-HW-2	*Epilobium paniculatum*	tall willowherb		1	1
2	2-HW-2	*Erodium cicutarium*	storksbill		1	1
2	2-HW-2	*Lactuca serriola*	prickly lettuce		1	1
2	2-HW-2	*Lupinus sericeus*	silky lupine		1	1
2	2-HW-2	*Machaeranthera canescens*	hoary aster		1	
2	2-HW-2	*Poa sandbergii*	Sandberg's bluegrass		1	
2	2-HW-2	*Salsola kali*	Russian thistle		1	1
2	2-HW-2	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	1
2	2-HW-2	*Sitanion hystrix*	bottlebrush grass		1	1
2	2-HW-2	*Tragopogon dubius*	Yellow salsify		1	1
3	3-RT-1	*Agastache occidentalis*	western horsemint		1	
3	3-RT-1	*Agropyron spicatum*	bluebunch wheatgrass		1	
3	3-RT-1	*Astragalus purshii*	woolly-pod milkvetch		1	
3	3-RT-1	*Bromus tectorum*	cheatgrass		1	
3	3-RT-1	*Chenopodium leptophyllum*	slimleaf goosefoot		1	
3	3-RT-1	*Crepis modocensis*	low hawksbeard		1	

Table C.3. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
3	3-RT-1	*Festuca idahoensis*	Idaho fescue		1	
3	3-RT-1	*Lactuca serriola*	prickly lettuce		1	
3	3-RT-1	*Lomatium grayi*	Gray's desertparsley		1	
3	3-RT-1	*Lupinus sericeus*	silky lupine		1	
3	3-RT-1	*Phacelia hastata*	whiteleaf scorpionweed		1	
3	3-RT-1	*Poa sandbergii*	Sandberg's bluegrass		1	
3	3-RT-1	*Salsola kali*	Russian thistle		1	
3	3-RT-1	*Erigeron Sp.*	Erigeron Sp.		1	
3	3-RT-1	*Agastache occidentalis*	western giant hyssop		1	
3	3-RT-2	*Achillea millefolium*	yarrow		1	
3	3-RT-2	*Agropyron spicatum*	bluebunch wheatgrass		1	
3	3-RT-2	*Bromus tectorum*	cheatgrass		1	
3	3-RT-2	*Chaenactis douglasii*	hoary falseyarrow		1	1
3	3-RT-2	*Chenopodium leptophyllum*	slimleaf goosefoot		1	
3	3-RT-2	*Chrysothamnus nauseosus*	gray rabbitbrush		1	
3	3-RT-2	*Erigeron filifolius*	threadleaf fleabane		1	
3	3-RT-2	*Erysimum asperum*	rough wallflower		1	
3	3-RT-2	*Festuca idahoensis*	Idaho fescue		1	
3	3-RT-2	*Lactuca serriola*	prickly lettuce		1	1
3	3-RT-2	*Lomatium grayi*	Gray's desertparsley		1	1
3	3-RT-2	*Lupinus sericeus*	silky lupine		1	
3	3-RT-2	*Phacelia hastata*	whiteleaf scorpionweed		1	
3	3-RT-2	*Poa sandbergii*	Sandberg's bluegrass		1	
3	3-RT-2	*Salsola kali*	Russian thistle		1	1
3	3-RT-2	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
3	3-RT-2	*Sitanion hystrix*	bottlebrush grass		1	1

Table C.3. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
3	3-RT-2	*Vulpia octoflora (Walter) Rydb.*	sixweeks fescue		1	1
3	3-RT-3	*Achillea millefolium*	yarrow		1	
3	3-RT-3	*Agropyron spicatum*	bluebunch wheatgrass		1	
3	3-RT-3	*Balsamorhiza rosea*	rosy balsamroot		1	1
3	3-RT-3	*Bromus japonicus*	Japanese brome		1	
3	3-RT-3	*Bromus tectorum*	cheatgrass		1	1
3	3-RT-3	*Crepis modocensis*	low hawksbeard		1	
3	3-RT-3	*Erysimum asperum*	rough wallflower		1	
3	3-RT-3	*Festuca idahoensis*	Idaho fescue		1	1
3	3-RT-3	*Lomatium grayi*	Gray's desertparsley		1	
3	3-RT-3	*Phacelia hastata*	whiteleaf scorpionweed		1	
3	3-RT-3	*Poa sandbergii*	Sandberg's bluegrass		1	
3	3-RT-3	*Salsola kali*	Russian thistle		1	1
3	3-RT-3	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
4	4-623A-1	*Agropyron spicatum*	bluebunch wheatgrass		1	
4	4-623A-1	*Bromus tectorum*	cheatgrass		1	1
4	4-623A-1	*Festuca idahoensis*	Idaho fescue		1	1
4	4-623A-1	*Lupinus sericeus*	silky lupine		1	1
4	4-623A-1	*Phacelia hastata*	whiteleaf scorpionweed		1	1
4	4-623A-1	*Poa sandbergii*	Sandberg's bluegrass		1	
4	4-623A-1	*Polygonum aviculare*	doorweed		1	1
4	4-623A-1	*Salsola kali*	Russian thistle		1	1
4	4-623A-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	1
4	4-623A-1	*Chenopodium leptophyllum*	slimleaf goosefoot		1	1
4	4-C-1	*Agropyron spicatum*	bluebunch wheatgrass		1	1
4	4-C-1	*Astragalus purshii*	woolly-pod milkvetch		1	1

Table C.3. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
4	4-C-1	*Erigeron filifolius*	threadleaf fleabane		1	1
4	4-C-1	*Festuca idahoensis*	Idaho fescue		1	1
4	4-C-1	*Penstemon acuminatus*	sand beardtongue		1	1
4	4-C-1	*Phacelia hastata*	whiteleaf scorpionweed		1	1
4	4-C-1	*Poa sandbergii*	Sandberg's bluegrass		1	
4	4-C-1	*Salsola kali*	Russian thistle		1	
4	4-C-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
4	4-C-2	*Achillea millefolium*	yarrow		1	
4	4-C-2	*Agropyron spicatum*	bluebunch wheatgrass		1	
4	4-C-2	*Astragalus purshii*	woolly-pod milkvetch		1	1
4	4-C-2	*Bromus tectorum*	cheatgrass		1	1
4	4-C-2	*Chenopodium leptophyllum*	slimleaf goosefoot		1	1
4	4-C-2	*Festuca idahoensis*	Idaho fescue		1	
4	4-C-2	*Lactuca serriola*	prickly lettuce		1	
4	4-C-2	*Phacelia hastata*	whiteleaf scorpionweed		1	
4	4-C-2	*Poa sandbergii*	Sandberg's bluegrass		1	
4	4-C-2	*Salsola kali*	Russian thistle		1	1
4	4-C-2	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
4	4-C-3	*Agastache occidentalis*	western horsemint		1	1
4	4-C-3	*Agropyron spicatum*	bluebunch wheatgrass		1	1
4	4-C-3	*Astragalus purshii*	woolly-pod milkvetch		1	1
4	4-C-3	*Bromus tectorum*	cheatgrass		1	
4	4-C-3	*Chenopodium leptophyllum*	slimleaf goosefoot		1	
4	4-C-3	*Erigeron filifolius*	threadleaf fleabane		1	1
4	4-C-3	*Erigeron poliospermus*	cushion fleabane		1	
4	4-C-3	*Eriogonum sphaerocephalum*	rock buckwheat		1	

Table C.3. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
4	4-C-3	*Festuca idahoensis*	Idaho fescue		1	1
4	4-C-3	*Lactuca serriola*	prickly lettuce		1	1
4	4-C-3	*Phacelia hastata*	whiteleaf scorpionweed		1	1
4	4-C-3	*Phlox hoodii*	Hood's phlox		1	
4	4-C-3	*Poa sandbergii*	Sandberg's bluegrass		1	1
4	4-C-3	*Salsola kali*	Russian thistle		1	1
4	4-C-3	*Salvia dorrii*	grayball sage		1	
4	4-C-3	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	1
4	4-CCF-1	*Achillea millefolium*	yarrow		1	
4	4-CCF-1	*Arenaria franklinii*	Franklin's sandwort		1	
4	4-CCF-1	*Astragalus purshii*	woolly-pod milkvetch		1	1
4	4-CCF-1	*Balsamorhiza rosea*	rosy balsamroot		1	
4	4-CCF-1	*Bromus japonicus*	Japanese brome		1	
4	4-CCF-1	*Bromus tectorum*	cheatgrass		1	
4	4-CCF-1	*Crepis atribarba*	slender hawksbeard		1	
4	4-CCF-1	*Crepis modocensis*	low hawksbeard		1	
4	4-CCF-1	*Eriogonum sphaerocephalum*	rock buckwheat		1	
4	4-CCF-1	*Eriogonum thymoides*	thymeleaf buckwheat		1	
4	4-CCF-1	*Lactuca serriola*	prickly lettuce		1	
4	4-CCF-1	*Lomatium grayi*	Gray's desertparsley		1	1
4	4-CCF-1	*Lomatium macrocarpum*	bigseed desertparsley		1	1
4	4-CCF-1	*Lomatium triternatum*	nineleaf desertparsley		1	
4	4-CCF-1	*Lupinus sericeus*	silky lupine		1	
4	4-CCF-1	*Phlox hoodii*	Hood's phlox		1	
4	4-CCF-1	*Poa sandbergii*	Sandberg's bluegrass		1	
4	4-CCF-1	*Salsola kali*	Russian thistle		1	

Table C.3. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
4	4-CCF-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
4	4-CCF-1	*Tragopogon dubius*	Yellow salsify		1	
4	4-CCF-Berm	*Achillea millefolium*	yarrow		1	
4	4-CCF-Berm	*Agropyron spicatum*	bluebunch wheatgrass		1	
4	4-CCF-Berm	*Bromus tectorum*	cheatgrass		1	
4	4-CCF-Berm	*Eriogonum niveum*	snow buckwheat		1	
4	4-CCF-Berm	*Eriophyllum lanatum*	woolly sunflower		1	
4	4-CCF-Berm	*Helianthus cusickii*	Cusick's sunflower		1	
4	4-CCF-Berm	*Lomatium grayi*	Gray's desertparsley		1	
4	4-CCF-Berm	*Melilotus alba*	white sweetclover		1	
4	4-CCF-Berm	*Phacelia hastata*	whiteleaf scorpionweed		1	
4	4-CCF-Berm	*Poa sandbergii*	Sandberg's bluegrass		1	
4	4-CCF-Berm	*Salsola kali*	Russian thistle		1	
4	4-CCF-Berm	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
4	4-CCF-Berm	*Chenopodium leptophyllum*	slimleaf goosefoot		1	
4	4-CCF-road	*Achillea millefolium*	yarrow		1	1
4	4-CCF-road	*Agropyron spicatum*	bluebunch wheatgrass		1	1
4	4-CCF-road	*Antennaria dimorpha*	low pussytoes		1	
4	4-CCF-road	*Balsamorhiza rosea*	rosy balsamroot		1	1
4	4-CCF-road	*Bromus japonicus*	Japanese brome		1	
4	4-CCF-road	*Bromus tectorum*	cheatgrass		1	1
4	4-CCF-road	*Crepis modocensis*	low hawksbeard		1	
4	4-CCF-road	*Descurainia pinnata*	western tansymustard		1	
4	4-CCF-road	*Eriogonum ovalifolium var. celsum*	cushion buckwheat		1	1
4	4-CCF-road	*Eriophyllum lanatum*	woolly sunflower		1	
4	4-CCF-road	*Lomatium grayi*	Gray's desertparsley		1	1

Table C.3. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
4	4-CCF-road	*Lupinus sericeus*	silky lupine		1	
4	4-CCF-road	*Lygodesmia juncea (Pursh) D. Don ex Hook.*	rush skeletonplant		1	1
4	4-CCF-road	*Phacelia hastata*	whiteleaf scorpionweed		1	1
4	4-CCF-road	*Poa sandbergii*	Sandberg's bluegrass		1	
4	4-CCF-road	*Polygonum aviculare*	doorweed		1	1
4	4-CCF-road	*Salsola kali*	Russian thistle		1	
4	4-CCF-road	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	1
5	5-OB-1	*Agropyron spicatum*	bluebunch wheatgrass		1	1
5	5-OB-1	*Bromus tectorum*	cheatgrass		1	1
5	5-OB-1	*Chenopodium leptophyllum*	slimleaf goosefoot		1	1
5	5-OB-1	*Phacelia hastata*	whiteleaf scorpionweed		1	1
5	5-OB-1	*Phlox longifolia*	longleaf phlox		1	1
5	5-OB-1	*Poa sandbergii*	Sandberg's bluegrass		1	1
5	5-OB-1	*Polygonum aviculare*	doorweed		1	1
5	5-OB-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	1
5	5-OB-2	*Agropyron spicatum*	bluebunch wheatgrass		1	1
5	5-OB-2	*Bromus tectorum*	cheatgrass		1	
5	5-OB-2	*Lomatium grayi*	Gray's desertparsley		1	1
5	5-OB-2	*Phacelia hastata*	whiteleaf scorpionweed		1	1
5	5-OB-2	*Poa sandbergii*	Sandberg's bluegrass		1	1
5	5-OB-2	*Salsola kali*	Russian thistle		1	
5	5-OB-2	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
6	6-6635-X	*Achillea millefolium*	yarrow		1	1
6	6-6635-X	*Agastache occidentalis*	western horsemint		1	
6	6-6635-X	*Agropyron spicatum*	bluebunch wheatgrass		1	
6	6-6635-X	*Astragalus purshii*	woolly-pod milkvetch		1	1

Table C.3. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
6	6-6635-X	*Bromus tectorum*	cheatgrass		1	1
6	6-6635-X	*Chenopodium leptophyllum*	slimleaf goosefoot		1	1
6	6-6635-X	*Crepis atribarba*	slender hawksbeard		1	1
6	6-6635-X	*Crepis modocensis*	low hawksbeard		1	
6	6-6635-X	*Descurainia pinnata*	western tansymustard		1	1
6	6-6635-X	*Descurainia sophia*	flixweed		1	1
6	6-6635-X	*Erigeron linearis*	desert yellowdaisy		1	
6	6-6635-X	*Eriophyllum lanatum*	woolly sunflower		1	
6	6-6635-X	*Festuca idahoensis*	Idaho fescue		1	
6	6-6635-X	*Lactuca serriola*	prickly lettuce		1	1
6	6-6635-X	*Lomatium grayi*	Gray's desertparsley		1	1
6	6-6635-X	*Lupinus sericeus*	silky lupine		1	
6	6-6635-X	*Phacelia hastata*	whiteleaf scorpionweed		1	
6	6-6635-X	*Poa sandbergii*	Sandberg's bluegrass		1	1
6	6-6635-X	*Polygonum aviculare*	doorweed		1	
6	6-6635-X	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
6	6-6635-X	*Tragopogon dubius*	Yellow salsify		1	
6	6-6635-X	*Lomatium sp.*	Lomatium sp.		1	
6	6-6636-1	*Achillea millefolium*	Kochia scoparia		1	
6	6-6636-1	*Agastache occidentalis*	Lomatium sp.		1	
6	6-6636-1	*Agropyron spicatum*	bluebunch wheatgrass		1	
6	6-6636-1	*Astragalus purshii*	woolly-pod milkvetch		1	
6	6-6636-1	*Balsamorhiza rosea*	rosy balsamroot		1	1
6	6-6636-1	*Bromus tectorum*	cheatgrass		1	
6	6-6636-1	*Chenopodium leptophyllum*	slimleaf goosefoot		1	
6	6-6636-1	*Crepis modocensis*	low hawksbeard		1	

Table C.3. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
6	6-6636-1	*Cymopterus terebithinus*	turpentine springparsley		1	1
6	6-6636-1	*Descurainia pinnata*	western tansymustard		1	1
6	6-6636-1	*Erigeron linearis*	desert yellowdaisy		1	1
6	6-6636-1	*Erigeron poliospermus*	cushion fleabane		1	1
6	6-6636-1	*Eriogonum sphaerocephalum*	rock buckwheat		1	1
6	6-6636-1	*Festuca idahoensis*	Idaho fescue		1	
6	6-6636-1	*Haplopappus stenophylla*	narrowleaf goldenweed		1	
6	6-6636-1	*Lupinus sericeus*	silky lupine		1	
6	6-6636-1	*Phacelia hastata*	whiteleaf scorpionweed		1	
6	6-6636-1	*Poa sandbergii*	Sandberg's bluegrass		1	
6	6-6636-1	*Ribes aureum*	golden currant		1	
6	6-6636-1	*Salvia dorrii*	grayball sage		1	1
6	6-6636-1	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
6	6-6636-1	*Sitanion hystrix*	bottlebrush grass		1	1
6	6-6636-1	*Kochia scoparia*	Kochia scoparia		1	
7	7-PH-X	*Achillea millefolium*	yarrow		1	
7	7-PH-X	*Agastache occidentalis*	western horsemint		1	1
7	7-PH-X	*Agropyron spicatum*	bluebunch wheatgrass		1	1
7	7-PH-X	*Artemisia tridentata*	big sagebrush		1	1
7	7-PH-X	*Astragalus purshii*	woolly-pod milkvetch		1	1
7	7-PH-X	*Bromus tectorum*	cheatgrass		1	
7	7-PH-X	*Chenopodium leptophyllum*	slimleaf goosefoot		1	1
7	7-PH-X	*Chrysothamnus nauseosus*	gray rabbitbrush		1	1
7	7-PH-X	*Clematis ligustifolia*	western virginsbower		1	1
7	7-PH-X	*Descurainia pinnata*	western tansymustard		1	1
7	7-PH-X	*Elymus cinereus*	giant wildrye		1	1

Table C.3. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
7	7-PH-X	*Lactuca serriola*	prickly lettuce		1	
7	7-PH-X	*Phacelia hastata*	whiteleaf scorpionweed		1	
7	7-PH-X	*Poa sandbergii*	Sandberg's bluegrass		1	1
7	7-PH-X	*Polygonum aviculare*	doorweed		1	1
7	7-PH-X	*Prunus virginiana*	chokecherry		1	1
7	7-PH-X	*Ribes aureum*	golden currant		1	1
7	7-PH-X	*Sisymbrium altissimum*	Jim Hill's tumblemustard		1	
7	7-PH-X	*Sitanion hystrix*	bottlebrush grass		1	1
7	7-PH-X	*Tragopogon dubius*	Yellow salsify		1	
7	7-PH-X	*Verbascum thapsus*	common mullein		1	1
7	7-PH-X	*Lomatium sp.*	Lomatium sp.		1	1
7	7-PH-X	*Verbena bracteata*	bigbract verbena		1	1
0	RR-1	*Achillea millefolium*	yarrow	1	1	1
0	RR-1	*Agropyron spicatum*	bluebunch wheatgrass	1	1	1
0	RR-1	*Antennaria dimorpha*	low pussytoes	1	1	
0	RR-1	*Astragalus purshii*	woolly-pod milkvetch	1	1	
0	RR-1	*Balsamorhiza rosea*	rosy balsamroot	1	1	
0	RR-1	*Bromus tectorum*	cheatgrass	1	1	
0	RR-1	*Castilleja thompsonii*	Thompson's paintbrush	1	1	
0	RR-1	*Crepis modocensis*	low hawksbeard	1	1	1
0	RR-1	*Erigeron linearis*	desert yellowdaisy	1	1	1
0	RR-1	*Erigeron poliospermus*	cushion fleabane	1	1	1
0	RR-1	*Eriogonum sphaerocephalum*	rock buckwheat	1	1	1
0	RR-1	*Eriogonum thymoides*	thymeleaf buckwheat	1	1	1
0	RR-1	*Festuca idahoensis*	Idaho fescue	1	1	1
0	RR-1	*Haplopappus stenophylla*	narrowleaf goldenweed	1	1	1

Table C.3. (contd)

Reveg Unit	Site Name	Genus/Species	Common Name	1000-m^2 Species	100-m^2 Species	10-m^2 Species
0	RR-1	*Lupinus sericeus*	silky lupine	1	1	
0	RR-1	*Phacelia hastata*	whiteleaf scorpionweed	1	1	
0	RR-1	*Phlox hoodii*	Hood's phlox	1	1	
0	RR-1	*Poa sandbergii*	Sandberg's bluegrass	1	1	
0	RR-1	*Salvia dorrii*	grayball sage	1	1	

Table C.4. Initial Results Measured in Summer 2011 for Percent Survival of Plants Seeded and Transplanted by the Confederated Tribes of the Umatilla Indian Reservation on ALE Revegetation Units

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
2	280	*Achnatherum thurberianum*	Thurber's needlegrass	p	7	42.86
2	281	*Achnatherum thurberianum*	Thurber's needlegrass	p	7	14.29
2	283	*Achnatherum thurberianum*	Thurber's needlegrass	p	7	57.14
3	65	*Agastache occidentalis*	western horsemint	p	24	95.83
3	1589	*Agastache occidentalis*	western horsemint	s	517	1.161
4	64	*Agastache occidentalis*	western horsemint	p	24	50
4	260	*Agastache occidentalis*	western horsemint	s	50	0
4	261	*Agastache occidentalis*	western horsemint	s	50	0
4	262	*Agastache occidentalis*	western horsemint	s	50	0
4	263	*Agastache occidentalis*	western horsemint	s	50	0
4	264	*Agastache occidentalis*	western horsemint	s	50	0
4	265	*Agastache occidentalis*	western horsemint	s	50	0
4	269	*Agastache occidentalis*	western horsemint	s	50	0
4	270	*Agastache occidentalis*	western horsemint	s	50	0
4	272	*Agastache occidentalis*	western horsemint	s	50	0
4	273	*Agastache occidentalis*	western horsemint	s	50	0
4	274	*Agastache occidentalis*	western horsemint	s	50	0
4	275	*Agastache occidentalis*	western horsemint	s	50	0
4	276	*Agastache occidentalis*	western horsemint	s	50	0
4	284	*Agastache occidentalis*	western horsemint	p	24	75
4	285	*Agastache occidentalis*	western horsemint	p	24	83.33
4	286	*Agastache occidentalis*	western horsemint	p	24	70.83
4	287	*Agastache occidentalis*	western horsemint	p	24	95.83
5	266	*Agastache occidentalis*	western horsemint	s	50	0
5	267	*Agastache occidentalis*	western horsemint	s	50	0
5	268	*Agastache occidentalis*	western horsemint	s	50	0

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
5	1798	*Agastache occidentalis*	western horsemint	p	24	50
6	66	*Agastache occidentalis*	western horsemint	p	24	91.67
6	277	*Agastache occidentalis*	western horsemint	s	50	0
6	278	*Agastache occidentalis*	western horsemint	s	50	0
6	279	*Agastache occidentalis*	western horsemint	s	50	0
6	1590	*Agastache occidentalis*	western horsemint	p	24	91.67
6	1591	*Agastache occidentalis*	western horsemint	p	27	88.89
7	288	*Agastache occidentalis*	western horsemint	p	32	87.5
1	Circle	*Agoseris grandiflora*	showy mountain dandelion	p	12	91.67
1	Road	*Agoseris grandiflora*	showy mountain dandelion	p	13	76.92
2	280	*Agoseris grandiflora*	showy mountain dandelion	p	21	71.43
2	281	*Agoseris grandiflora*	showy mountain dandelion	p	21	80.95
2	282	*Agoseris grandiflora*	showy mountain dandelion	p	21	90.48
2	283	*Agoseris grandiflora*	showy mountain dandelion	p	21	71.43
2	1697	*Agoseris grandiflora*	showy mountain dandelion	p	21	104.8
2	1697	*Agoseris grandiflora*	showy mountain dandelion	p	21	100
2	1698	*Agoseris grandiflora*	showy mountain dandelion	p	21	104.8
1	1581	*Artemisia tridentata*	big sagebrush	s	1000	0
1	1582	*Artemisia tridentata*	big sagebrush	s	882	0
1	1583	*Artemisia tridentata*	big sagebrush	s	824	0
2	gas well rd	*Artemisia tridentata*	big sagebrush	p	134	47.76
3	1589	*Artemisia tridentata*	big sagebrush	s	929	0.108
1	Circle	*Astragalus caricinus*	buckwheat milkvetch	p	12	16.67
1	Road	*Astragalus caricinus*	buckwheat milkvetch	p	13	92.31
2	280	*Astragalus caricinus*	buckwheat milkvetch	p	25	56
2	281	*Astragalus caricinus*	buckwheat milkvetch	p	25	56
2	282	*Astragalus caricinus*	buckwheat milkvetch	p	25	88
2	283	*Astragalus caricinus*	buckwheat milkvetch	p	25	60

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
3	65	*Astragalus purshii*	woolly-pod milkvetch	p	35	71.43
3	1589	*Astragalus purshii*	woolly-pod milkvetch	s	794	0
4	64	*Astragalus purshii*	woolly-pod milkvetch	p	35	80
4	260	*Astragalus purshii*	woolly-pod milkvetch	s	50	0
4	261	*Astragalus purshii*	woolly-pod milkvetch	s	50	0
4	262	*Astragalus purshii*	woolly-pod milkvetch	s	50	0
4	263	*Astragalus purshii*	woolly-pod milkvetch	s	50	0
4	264	*Astragalus purshii*	woolly-pod milkvetch	s	50	0
4	265	*Astragalus purshii*	woolly-pod milkvetch	s	50	0
4	269	*Astragalus purshii*	woolly-pod milkvetch	s	50	0
4	270	*Astragalus purshii*	woolly-pod milkvetch	s	50	0
4	272	*Astragalus purshii*	woolly-pod milkvetch	s	50	0
4	273	*Astragalus purshii*	woolly-pod milkvetch	s	50	0
4	274	*Astragalus purshii*	woolly-pod milkvetch	s	50	2
4	275	*Astragalus purshii*	woolly-pod milkvetch	s	50	0
4	276	*Astragalus purshii*	woolly-pod milkvetch	s	50	0
4	284	*Astragalus purshii*	woolly-pod milkvetch	p	29	79.31
4	285	*Astragalus purshii*	woolly-pod milkvetch	p	29	68.97
4	286	*Astragalus purshii*	woolly-pod milkvetch	p	35	74.29
4	287	*Astragalus purshii*	woolly-pod milkvetch	p	35	51.43
4	1592	*Astragalus purshii*	woolly-pod milkvetch	p	12	83.33
5	266	*Astragalus purshii*	woolly-pod milkvetch	s	50	0
5	267	*Astragalus purshii*	woolly-pod milkvetch	s	50	0
5	268	*Astragalus purshii*	woolly-pod milkvetch	s	50	0
5	1798	*Astragalus purshii*	woolly-pod milkvetch	p	33	30.3
6	66	*Astragalus purshii*	woolly-pod milkvetch	p	35	80
6	277	*Astragalus purshii*	woolly-pod milkvetch	s	50	0
6	278	*Astragalus purshii*	woolly-pod milkvetch	s	50	0

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
6	279	*Astragalus purshii*	woolly-pod milkvetch	s	50	0
6	1590	*Astragalus purshii*	woolly-pod milkvetch	p	35	77.14
6	1591	*Astragalus purshii*	woolly-pod milkvetch	p	37	89.19
7	288	*Astragalus purshii*	woolly-pod milkvetch	p	12	41.67
1	1581	*Astragalus succumbens*	crouching milkvetch	s	1094	0
1	1582	*Astragalus succumbens*	crouching milkvetch	s	988	0
1	1583	*Astragalus succumbens*	crouching milkvetch	s	1074	0.466
2	1568	*Astragalus succumbens*	crouching milkvetch	s	467	0.214
2	1569	*Astragalus succumbens*	crouching milkvetch	s	463	6.695
3	65	*Balsamorhiza rosea*	rosy balsamroot	p	2	0
4	64	*Balsamorhiza rosea*	rosy balsamroot	p	2	0
4	260	*Balsamorhiza rosea*	rosy balsamroot	s	50	0
4	261	*Balsamorhiza rosea*	rosy balsamroot	s	50	0
4	262	*Balsamorhiza rosea*	rosy balsamroot	s	50	0
4	263	*Balsamorhiza rosea*	rosy balsamroot	s	50	2
4	264	*Balsamorhiza rosea*	rosy balsamroot	s	50	0
4	265	*Balsamorhiza rosea*	rosy balsamroot	s	50	0
4	269	*Balsamorhiza rosea*	rosy balsamroot	s	50	0
4	270	*Balsamorhiza rosea*	rosy balsamroot	s	50	0
4	274	*Balsamorhiza rosea*	rosy balsamroot	s	50	2
4	284	*Balsamorhiza rosea*	rosy balsamroot	p	2	100
4	285	*Balsamorhiza rosea*	rosy balsamroot	p	2	100
4	286	*Balsamorhiza rosea*	rosy balsamroot	p	2	0
4	287	*Balsamorhiza rosea*	rosy balsamroot	p	2	50
5	266	*Balsamorhiza rosea*	rosy balsamroot	s	50	2
5	267	*Balsamorhiza rosea*	rosy balsamroot	s	50	0
5	268	*Balsamorhiza rosea*	rosy balsamroot	s	50	2
5	1798	*Balsamorhiza rosea*	rosy balsamroot	p	2	50

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
6	66	*Balsamorhiza rosea*	rosy balsamroot	p	1	0
6	1590	*Balsamorhiza rosea*	rosy balsamroot	p	1	0
6	1591	*Balsamorhiza rosea*	rosy balsamroot	p	2	100
2	1568	*Calochortus macrocarpus*	sagebrush mariposa lily	s	997	0
2	1569	*Calochortus macrocarpus*	sagebrush mariposa lily	s	1046	0
2	1571	*Calochortus macrocarpus*	sagebrush mariposa lily	s	1364	0
2	1572	*Calochortus macrocarpus*	sagebrush mariposa lily	s	1233	0
2	1573	*Calochortus macrocarpus*	sagebrush mariposa lily	s	1253	0
2	1574	*Calochortus macrocarpus*	sagebrush mariposa lily	s	1247	0
2	1575	*Calochortus macrocarpus*	sagebrush mariposa lily	s	1309	0
2	1576	*Calochortus macrocarpus*	sagebrush mariposa lily	s	1316	0
2	1577	*Calochortus macrocarpus*	sagebrush mariposa lily	s	1316	0
2	1578	*Calochortus macrocarpus*	sagebrush mariposa lily	s	1281	0
2	1579	*Calochortus macrocarpus*	sagebrush mariposa lily	s	1330	0
2	1580	*Calochortus macrocarpus*	sagebrush mariposa lily	s	1399	0
2	1584	*Calochortus macrocarpus*	sagebrush mariposa lily	s	1157	0
2	1585	*Calochortus macrocarpus*	sagebrush mariposa lily	s	1489	0
2	1586	*Calochortus macrocarpus*	sagebrush mariposa lily	s	1558	0
2	1587	*Calochortus macrocarpus*	sagebrush mariposa lily	s	1259	0
2	1588	*Calochortus macrocarpus*	sagebrush mariposa lily	s	1316	0
1	1581	*Chaenactis douglasii*	hoary falseyarrow	s	914	0
1	1582	*Chaenactis douglasii*	hoary falseyarrow	s	820	0.366
1	1583	*Chaenactis douglasii*	hoary falseyarrow	s	755	1.325
2	1568	*Chaenactis douglasii*	hoary falseyarrow	s	260	5
2	1569	*Chaenactis douglasii*	hoary falseyarrow	s	190	11.05
2	1571	*Chaenactis douglasii*	hoary falseyarrow	s	176	17.05
2	1572	*Chaenactis douglasii*	hoary falseyarrow	s	256	7.812
2	1573	*Chaenactis douglasii*	hoary falseyarrow	s	251	9.562

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
2	1574	*Chaenactis douglasii*	hoary falseyarrow	s	216	9.722
2	1575	*Chaenactis douglasii*	hoary falseyarrow	s	348	0.575
2	1576	*Chaenactis douglasii*	hoary falseyarrow	s	696	1.724
2	1577	*Chaenactis douglasii*	hoary falseyarrow	s	736	2.038
2	1578	*Chaenactis douglasii*	hoary falseyarrow	s	767	3.52
2	1579	*Chaenactis douglasii*	hoary falseyarrow	s	767	3.651
2	1580	*Chaenactis douglasii*	hoary falseyarrow	s	754	6.631
2	1584	*Chaenactis douglasii*	hoary falseyarrow	s	754	0.663
2	1585	*Chaenactis douglasii*	hoary falseyarrow	s	705	4.681
2	1586	*Chaenactis douglasii*	hoary falseyarrow	s	890	2.584
2	1588	*Chaenactis douglasii*	hoary falseyarrow	s	802	0
1	1581	*Clematis ligustifolia*	western virginsbower	s	92	0
1	1582	*Clematis ligustifolia*	western virginsbower	s	92	0
1	1583	*Clematis ligustifolia*	western virginsbower	s	92	0
7	288	*Clematis ligustifolia*	western virginsbower	p	6	0
1	1581	*Crepis atribarba*	slender hawksbeard	s	2985	0
1	1582	*Crepis atribarba*	slender hawksbeard	s	2941	0
1	1583	*Crepis atribarba*	slender hawksbeard	s	2956	0
2	1568	*Crepis atribarba*	slender hawksbeard	s	500	0
2	1569	*Crepis atribarba*	slender hawksbeard	s	544	0
2	1571	*Crepis atribarba*	slender hawksbeard	s	662	0
2	1572	*Crepis atribarba*	slender hawksbeard	s	691	0
2	1573	*Crepis atribarba*	slender hawksbeard	s	706	0
2	1574	*Crepis atribarba*	slender hawksbeard	s	647	0
2	1575	*Crepis atribarba*	slender hawksbeard	s	721	0
2	1576	*Crepis atribarba*	slender hawksbeard	s	662	0
2	1577	*Crepis atribarba*	slender hawksbeard	s	735	0
2	1578	*Crepis atribarba*	slender hawksbeard	s	647	0

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
2	1579	*Crepis atribarba*	slender hawksbeard	s	691	0
2	1580	*Crepis atribarba*	slender hawksbeard	s	677	0
2	1584	*Crepis atribarba*	slender hawksbeard	s	632	0
2	1585	*Crepis atribarba*	slender hawksbeard	s	691	0
2	1586	*Crepis atribarba*	slender hawksbeard	s	715	0
2	1587	*Crepis atribarba*	slender hawksbeard	s	823	5.711
2	1588	*Crepis atribarba*	slender hawksbeard	s	824	0.243
3	65	*Crepis modocensis*	low hawksbeard	p	0	
4	284	*Crepis modocensis*	low hawksbeard	p	1	0
4	285	*Crepis modocensis*	low hawksbeard	p	1	0
4	286	*Crepis modocensis*	low hawksbeard	p	1	0
4	287	*Crepis modocensis*	low hawksbeard	p	1	0
2	1568	*Erigeron filifolius*	threadleaf fleabane	s	835	0
2	1569	*Erigeron filifolius*	threadleaf fleabane	s	859	0
2	1571	*Erigeron filifolius*	threadleaf fleabane	s	516	0
2	1572	*Erigeron filifolius*	threadleaf fleabane	s	2284	0
2	1573	*Erigeron filifolius*	threadleaf fleabane	s	503	0
2	1574	*Erigeron filifolius*	threadleaf fleabane	s	540	0
2	1575	*Erigeron filifolius*	threadleaf fleabane	s	823	0
2	1576	*Erigeron filifolius*	threadleaf fleabane	s	712	0
2	1577	*Erigeron filifolius*	threadleaf fleabane	s	479	0
2	1578	*Erigeron filifolius*	threadleaf fleabane	s	467	0
2	1579	*Erigeron filifolius*	threadleaf fleabane	s	467	0
2	1580	*Erigeron filifolius*	threadleaf fleabane	s	442	0
2	1584	*Erigeron filifolius*	threadleaf fleabane	s	528	0
2	1585	*Erigeron filifolius*	threadleaf fleabane	s	454	0
2	1586	*Erigeron filifolius*	threadleaf fleabane	s	786	0.127
2	1587	*Erigeron filifolius*	threadleaf fleabane	s	487	0

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
2	1588	*Erigeron filifolius*	threadleaf fleabane	s	540	0
3	65	*Erigeron linearis*	desert yellowdaisy	p	43	48.84
4	64	*Erigeron linearis*	desert yellowdaisy	p	43	72.09
4	260	*Erigeron linearis*	desert yellowdaisy	s	50	0
4	261	*Erigeron linearis*	desert yellowdaisy	s	50	0
4	262	*Erigeron linearis*	desert yellowdaisy	s	50	0
4	263	*Erigeron linearis*	desert yellowdaisy	s	50	0
4	264	*Erigeron linearis*	desert yellowdaisy	s	50	0
4	265	*Erigeron linearis*	desert yellowdaisy	s	50	0
4	269	*Erigeron linearis*	desert yellowdaisy	s	50	0
4	270	*Erigeron linearis*	desert yellowdaisy	s	50	0
4	272	*Erigeron linearis*	desert yellowdaisy	s	50	0
4	273	*Erigeron linearis*	desert yellowdaisy	s	50	0
4	274	*Erigeron linearis*	desert yellowdaisy	s	50	0
4	275	*Erigeron linearis*	desert yellowdaisy	s	50	0
4	276	*Erigeron linearis*	desert yellowdaisy	s	50	0
4	284	*Erigeron linearis*	desert yellowdaisy	p	43	90.7
4	285	*Erigeron linearis*	desert yellowdaisy	p	43	79.07
4	286	*Erigeron linearis*	desert yellowdaisy	p	43	72.09
4	287	*Erigeron linearis*	desert yellowdaisy	p	43	86.05
5	266	*Erigeron linearis*	desert yellowdaisy	s	50	0
5	267	*Erigeron linearis*	desert yellowdaisy	s	50	0
5	268	*Erigeron linearis*	desert yellowdaisy	s	50	0
5	1798	*Erigeron linearis*	desert yellowdaisy	p	43	51.16
6	66	*Erigeron linearis*	desert yellowdaisy	p	43	72.09
6	277	*Erigeron linearis*	desert yellowdaisy	s	50	0
6	278	*Erigeron linearis*	desert yellowdaisy	s	50	0
6	279	*Erigeron linearis*	desert yellowdaisy	s	50	0

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
6	1590	*Erigeron linearis*	desert yellowdaisy	p	44	68.18
6	1591	*Erigeron linearis*	desert yellowdaisy	p	43	65.12
2	280	*Erigeron piperianus*	Piper's daisy	p	39	87.18
2	281	*Erigeron piperianus*	Piper's daisy	p	39	82.05
2	282	*Erigeron piperianus*	Piper's daisy	p	39	89.74
2	283	*Erigeron piperianus*	Piper's daisy	p	39	100
2	1568	*Erigeron piperianus*	Piper's daisy	s	233	0
2	1569	*Erigeron piperianus*	Piper's daisy	s	233	0
2	1571	*Erigeron piperianus*	Piper's daisy	s	247	0
2	1572	*Erigeron piperianus*	Piper's daisy	s	246	0
2	1573	*Erigeron piperianus*	Piper's daisy	s	289	1.038
2	1574	*Erigeron piperianus*	Piper's daisy	s	251	0
2	1575	*Erigeron piperianus*	Piper's daisy	s	215	0
2	1576	*Erigeron piperianus*	Piper's daisy	s	34	0
2	1577	*Erigeron piperianus*	Piper's daisy	s	293	0
2	1578	*Erigeron piperianus*	Piper's daisy	s	213	0
2	1579	*Erigeron piperianus*	Piper's daisy	s	129	0
2	1580	*Erigeron piperianus*	Piper's daisy	s	191	0
2	1584	*Erigeron piperianus*	Piper's daisy	s	175	0
2	1585	*Erigeron piperianus*	Piper's daisy	s	215	0
2	1586	*Erigeron piperianus*	Piper's daisy	s	177	0
2	1587	*Erigeron piperianus*	Piper's daisy	s	292	0
2	1588	*Erigeron piperianus*	Piper's daisy	s	241	0.415
2	1697	*Erigeron piperianus*	Piper's daisy	p	39	105.1
2	1697	*Erigeron piperianus*	Piper's daisy	p	39	92.31
2	1698	*Erigeron piperianus*	Piper's daisy	p	39	89.74
3	65	*Erigeron poliospermus*	cushion fleabane	p	3	100
4	64	*Erigeron poliospermus*	cushion fleabane	p	3	0

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
4	260	*Erigeron poliospermus*	cushion fleabane	s	50	0
4	261	*Erigeron poliospermus*	cushion fleabane	s	50	0
4	262	*Erigeron poliospermus*	cushion fleabane	s	50	0
4	263	*Erigeron poliospermus*	cushion fleabane	s	50	0
4	264	*Erigeron poliospermus*	cushion fleabane	s	50	0
4	265	*Erigeron poliospermus*	cushion fleabane	s	50	0
4	269	*Erigeron poliospermus*	cushion fleabane	s	50	0
4	270	*Erigeron poliospermus*	cushion fleabane	s	50	0
4	272	*Erigeron poliospermus*	cushion fleabane	s	50	0
4	273	*Erigeron poliospermus*	cushion fleabane	s	50	0
4	274	*Erigeron poliospermus*	cushion fleabane	s	50	0
4	275	*Erigeron poliospermus*	cushion fleabane	s	50	0
4	276	*Erigeron poliospermus*	cushion fleabane	s	50	0
4	284	*Erigeron poliospermus*	cushion fleabane	p	3	100
4	285	*Erigeron poliospermus*	cushion fleabane	p	3	100
4	286	*Erigeron poliospermus*	cushion fleabane	p	3	66.67
4	287	*Erigeron poliospermus*	cushion fleabane	p	3	33.33
5	266	*Erigeron poliospermus*	cushion fleabane	s	50	0
5	267	*Erigeron poliospermus*	cushion fleabane	s	50	0
5	268	*Erigeron poliospermus*	cushion fleabane	s	50	0
5	1798	*Erigeron poliospermus*	cushion fleabane	p	3	100
6	66	*Erigeron poliospermus*	cushion fleabane	p	3	0
6	277	*Erigeron poliospermus*	cushion fleabane	s	50	0
6	279	*Erigeron poliospermus*	cushion fleabane	s	50	0
6	1590	*Erigeron poliospermus*	cushion fleabane	p	3	100
6	1591	*Erigeron poliospermus*	cushion fleabane	p	6	83.33
3	65	*Eriogonum sphaerocephalum*	rock buckwheat	p	4	25
3	1589	*Eriogonum sphaerocephalum*	rock buckwheat	s	76	0

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
4	64	*Eriogonum sphaerocephalum*	rock buckwheat	p	4	25
4	260	*Eriogonum sphaerocephalum*	rock buckwheat	s	50	0
4	261	*Eriogonum sphaerocephalum*	rock buckwheat	s	50	0
4	262	*Eriogonum sphaerocephalum*	rock buckwheat	s	50	0
4	263	*Eriogonum sphaerocephalum*	rock buckwheat	s	50	0
4	264	*Eriogonum sphaerocephalum*	rock buckwheat	s	50	0
4	265	*Eriogonum sphaerocephalum*	rock buckwheat	s	50	0
4	269	*Eriogonum sphaerocephalum*	rock buckwheat	s	50	0
4	270	*Eriogonum sphaerocephalum*	rock buckwheat	s	50	0
4	272	*Eriogonum sphaerocephalum*	rock buckwheat	s	50	0
4	273	*Eriogonum sphaerocephalum*	rock buckwheat	s	50	0
4	274	*Eriogonum sphaerocephalum*	rock buckwheat	s	50	0
4	275	*Eriogonum sphaerocephalum*	rock buckwheat	s	50	0
4	276	*Eriogonum sphaerocephalum*	rock buckwheat	s	50	0
4	284	*Eriogonum sphaerocephalum*	rock buckwheat	p	3	0
4	285	*Eriogonum sphaerocephalum*	rock buckwheat	p	3	66.67
4	286	*Eriogonum sphaerocephalum*	rock buckwheat	p	3	66.67
4	287	*Eriogonum sphaerocephalum*	rock buckwheat	p	3	100
5	266	*Eriogonum sphaerocephalum*	rock buckwheat	s	50	0
5	267	*Eriogonum sphaerocephalum*	rock buckwheat	s	50	0
5	268	*Eriogonum sphaerocephalum*	rock buckwheat	s	50	0
6	66	*Eriogonum sphaerocephalum*	rock buckwheat	p	4	50
6	277	*Eriogonum sphaerocephalum*	rock buckwheat	s	50	0
6	278	*Eriogonum sphaerocephalum*	rock buckwheat	s	50	0
6	279	*Eriogonum sphaerocephalum*	rock buckwheat	s	50	0
6	1590	*Eriogonum sphaerocephalum*	rock buckwheat	p	4	100
6	1591	*Eriogonum sphaerocephalum*	rock buckwheat	p	6	50
3	65	*Eriogonum thymoides*	thymeleaf buckwheat	p	3	66.67

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
4	64	*Eriogonum thymoides*	thymeleaf buckwheat	p	3	66.67
4	284	*Eriogonum thymoides*	thymeleaf buckwheat	p	2	50
4	285	*Eriogonum thymoides*	thymeleaf buckwheat	p	3	33.33
4	286	*Eriogonum thymoides*	thymeleaf buckwheat	p	3	100
4	287	*Eriogonum thymoides*	thymeleaf buckwheat	p	3	100
6	66	*Eriogonum thymoides*	thymeleaf buckwheat	p	2	50
6	1590	*Eriogonum thymoides*	thymeleaf buckwheat	p	2	50
6	1591	*Eriogonum thymoides*	thymeleaf buckwheat	p	2	0
4	260	*Eriophyllum lanatum*	woolly sunflower	s	50	0
4	261	*Eriophyllum lanatum*	woolly sunflower	s	50	0
4	262	*Eriophyllum lanatum*	woolly sunflower	s	50	0
4	263	*Eriophyllum lanatum*	woolly sunflower	s	50	0
4	264	*Eriophyllum lanatum*	woolly sunflower	s	50	0
4	265	*Eriophyllum lanatum*	woolly sunflower	s	50	0
4	269	*Eriophyllum lanatum*	woolly sunflower	s	50	0
4	270	*Eriophyllum lanatum*	woolly sunflower	s	50	0
4	272	*Eriophyllum lanatum*	woolly sunflower	s	50	0
4	273	*Eriophyllum lanatum*	woolly sunflower	s	50	0
4	274	*Eriophyllum lanatum*	woolly sunflower	s	50	0
4	275	*Eriophyllum lanatum*	woolly sunflower	s	50	0
4	276	*Eriophyllum lanatum*	woolly sunflower	s	50	0
5	266	*Eriophyllum lanatum*	woolly sunflower	s	50	0
5	267	*Eriophyllum lanatum*	woolly sunflower	s	50	0
5	268	*Eriophyllum lanatum*	woolly sunflower	s	50	0
6	277	*Eriophyllum lanatum*	woolly sunflower	s	50	0
6	278	*Eriophyllum lanatum*	woolly sunflower	s	50	0
6	279	*Eriophyllum lanatum*	woolly sunflower	s	50	0
1	1581	*Grayia spinosa*	spiny hopsage	s	1638	0

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
1	1582	*Grayia spinosa*	spiny hopsage	s	1646	0
1	1583	*Grayia spinosa*	spiny hopsage	s	1650	0
1	Circle	*Grayia spinosa*	spiny hopsage	p	150	9.333
1	Road	*Grayia spinosa*	spiny hopsage	p	150	25.33
2	1568	*Helianthus cusickii*	Cusicks sunflower	s	587	0.511
2	1584	*Helianthus cusickii*	Cusicks sunflower	s	443	0
2	1586	*Helianthus cusickii*	Cusicks sunflower	s	435	1.149
4	260	*Lomatium grayi*	Gray's desertparsley	s	50	0
4	261	*Lomatium grayi*	Gray's desertparsley	s	50	0
4	262	*Lomatium grayi*	Gray's desertparsley	s	50	0
4	263	*Lomatium grayi*	Gray's desertparsley	s	50	0
4	264	*Lomatium grayi*	Gray's desertparsley	s	50	0
4	265	*Lomatium grayi*	Gray's desertparsley	s	50	0
4	269	*Lomatium grayi*	Gray's desertparsley	s	50	0
4	270	*Lomatium grayi*	Gray's desertparsley	s	50	0
4	272	*Lomatium grayi*	Gray's desertparsley	s	50	0
4	273	*Lomatium grayi*	Gray's desertparsley	s	50	0
4	274	*Lomatium grayi*	Gray's desertparsley	s	50	0
4	275	*Lomatium grayi*	Gray's desertparsley	s	50	0
4	276	*Lomatium grayi*	Gray's desertparsley	s	50	0
5	266	*Lomatium grayi*	Gray's desertparsley	s	50	0
5	267	*Lomatium grayi*	Gray's desertparsley	s	50	0
5	268	*Lomatium grayi*	Gray's desertparsley	s	50	0
6	277	*Lomatium grayi*	Gray's desertparsley	s	50	0
6	278	*Lomatium grayi*	Gray's desertparsley	s	50	0
6	279	*Lomatium grayi*	Gray's desertparsley	s	50	0
3	1589	*Lomatium macrocarpum*	bigseed desertparsley	s	400	0
4	269	*Lomatium triternatum*	nineleaf desertparsley	s	50	0

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
4	270	*Lomatium triternatum*	nineleaf desertparsley	s	50	0
4	272	*Lomatium triternatum*	nineleaf desertparsley	s	50	0
4	273	*Lomatium triternatum*	nineleaf desertparsley	s	50	0
5	268	*Lomatium triternatum*	nineleaf desertparsley	s	50	0
2	280	*Lupinus sericeus*	silky lupine	p	6	83.33
2	281	*Lupinus sericeus*	silky lupine	p	6	100
2	282	*Lupinus sericeus*	silky lupine	p	6	100
2	283	*Lupinus sericeus*	silky lupine	p	6	83.33
2	1568	*Lupinus sericeus*	silky lupine	s	92	2.174
2	1569	*Lupinus sericeus*	silky lupine	s	77	1.299
2	1571	*Lupinus sericeus*	silky lupine	s	85	5.882
2	1572	*Lupinus sericeus*	silky lupine	s	81	0
2	1573	*Lupinus sericeus*	silky lupine	s	87	6.897
2	1574	*Lupinus sericeus*	silky lupine	s	86	4.651
2	1575	*Lupinus sericeus*	silky lupine	s	83	2.41
2	1576	*Lupinus sericeus*	silky lupine	s	91	3.297
2	1577	*Lupinus sericeus*	silky lupine	s	62	0
2	1578	*Lupinus sericeus*	silky lupine	s	78	1.282
2	1579	*Lupinus sericeus*	silky lupine	s	82	2.439
2	1580	*Lupinus sericeus*	silky lupine	s	82	2.439
2	1584	*Lupinus sericeus*	silky lupine	s	79	0
2	1585	*Lupinus sericeus*	silky lupine	s	83	9.639
2	1586	*Lupinus sericeus*	silky lupine	s	68	0
2	1587	*Lupinus sericeus*	silky lupine	s	87	2.299
2	1588	*Lupinus sericeus*	silky lupine	s	76	2.632
2	1697	*Lupinus sericeus*	silky lupine	p	6	83.33
2	1697	*Lupinus sericeus*	silky lupine	p	6	83.33
2	1698	*Lupinus sericeus*	silky lupine	p	6	100

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
3	1589	*Lupinus sericeus*	silky lupine	s	402	0.995
1	1581	*Machaeranthera canescens*	hoary aster	s	2264	0
1	1582	*Machaeranthera canescens*	hoary aster	s	3278	0
1	1583	*Machaeranthera canescens*	hoary aster	s	4135	0.048
2	1568	*Machaeranthera canescens*	hoary aster	s	3192	0.439
2	1569	*Machaeranthera canescens*	hoary aster	s	2838	3.242
2	1571	*Machaeranthera canescens*	hoary aster	s	2539	2.639
2	1572	*Machaeranthera canescens*	hoary aster	s	2476	3.554
2	1573	*Machaeranthera canescens*	hoary aster	s	2901	5.619
2	1574	*Machaeranthera canescens*	hoary aster	s	4096	3.833
2	1575	*Machaeranthera canescens*	hoary aster	s	2767	1.662
2	1576	*Machaeranthera canescens*	hoary aster	s	4277	3.04
2	1577	*Machaeranthera canescens*	hoary aster	s	2728	1.65
2	1578	*Machaeranthera canescens*	hoary aster	s	2846	3.725
2	1579	*Machaeranthera canescens*	hoary aster	s	2626	5.56
2	1580	*Machaeranthera canescens*	hoary aster	s	1926	7.736
2	1584	*Machaeranthera canescens*	hoary aster	s	2838	1.339
2	1585	*Machaeranthera canescens*	hoary aster	s	3451	5.911
2	1586	*Machaeranthera canescens*	hoary aster	s	2610	7.088
2	1587	*Machaeranthera canescens*	hoary aster	s	2311	8.351
2	1588	*Machaeranthera canescens*	hoary aster	s	2508	9.37
3	65	*Penstemon speciosus*	showy beardtongue	p	1	100
4	64	*Penstemon speciosus*	showy beardtongue	p	1	0
4	260	*Penstemon speciosus*	showy beardtongue	s	50	0
4	261	*Penstemon speciosus*	showy beardtongue	s	50	0
4	262	*Penstemon speciosus*	showy beardtongue	s	50	0
4	263	*Penstemon speciosus*	showy beardtongue	s	50	0
4	264	*Penstemon speciosus*	showy beardtongue	s	50	0

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
4	265	*Penstemon speciosus*	showy beardtongue	s	50	0
4	284	*Penstemon speciosus*	showy beardtongue	p	1	100
4	285	*Penstemon speciosus*	showy beardtongue	p	1	100
4	286	*Penstemon speciosus*	showy beardtongue	p	1	100
4	287	*Penstemon speciosus*	showy beardtongue	p	2	100
5	266	*Penstemon speciosus*	showy beardtongue	s	50	0
5	267	*Penstemon speciosus*	showy beardtongue	s	50	0
5	1798	*Penstemon speciosus*	showy beardtongue	p	1	0
6	66	*Penstemon speciosus*	showy beardtongue	p	1	100
6	1590	*Penstemon speciosus*	showy beardtongue	p	1	0
6	1591	*Penstemon speciosus*	showy beardtongue	p	2	100
3	65	*Phlox hoodii*	Hood's phlox	p	1	100
4	64	*Phlox hoodii*	Hood's phlox	p	1	0
4	284	*Phlox hoodii*	Hood's phlox	p	1	100
4	285	*Phlox hoodii*	Hood's phlox	p	1	100
4	286	*Phlox hoodii*	Hood's phlox	p	1	100
4	287	*Phlox hoodii*	Hood's phlox	p	1	100
5	1798	*Phlox hoodii*	Hood's phlox	p	1	100
6	66	*Phlox hoodii*	Hood's phlox	p	1	100
6	1590	*Phlox hoodii*	Hood's phlox	p	2	100
6	1591	*Phlox hoodii*	Hood's phlox	p	3	0
2	280	*Phlox longifolia*	longleaf phlox	p	16	75
2	281	*Phlox longifolia*	longleaf phlox	p	16	56.25
2	282	*Phlox longifolia*	longleaf phlox	p	16	75
2	283	*Phlox longifolia*	longleaf phlox	p	16	75
2	1697	*Phlox longifolia*	longleaf phlox	p	16	75
2	1697	*Phlox longifolia*	longleaf phlox	p	16	81.25
2	1698	*Phlox longifolia*	longleaf phlox	p	16	93.75

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
3	65	*Phlox speciosa*	showy phlox	p	15	0
4	64	*Phlox speciosa*	showy phlox	p	15	6.667
4	260	*Phlox speciosa*	showy phlox	s	50	0
4	261	*Phlox speciosa*	showy phlox	s	50	0
4	262	*Phlox speciosa*	showy phlox	s	50	0
4	263	*Phlox speciosa*	showy phlox	s	50	0
4	264	*Phlox speciosa*	showy phlox	s	50	0
4	265	*Phlox speciosa*	showy phlox	s	50	0
4	285	*Phlox speciosa*	showy phlox	p	15	0
4	286	*Phlox speciosa*	showy phlox	p	15	13.33
4	287	*Phlox speciosa*	showy phlox	p	15	6.667
5	266	*Phlox speciosa*	showy phlox	s	50	0
5	267	*Phlox speciosa*	showy phlox	s	50	0
5	268	*Phlox speciosa*	showy phlox	s	50	0
5	1798	*Phlox speciosa*	showy phlox	p	15	6.667
6	66	*Phlox speciosa*	showy phlox	p	15	6.667
6	1590	*Phlox speciosa*	showy phlox	p	15	13.33
6	1591	*Phlox speciosa*	showy phlox	p	8	0
3	65	*Salvia dorrii*	grayball sage	p	5	80
4	64	*Salvia dorrii*	grayball sage	p	5	100
4	260	*Salvia dorrii*	grayball sage	s	50	0
4	261	*Salvia dorrii*	grayball sage	s	50	0
4	262	*Salvia dorrii*	grayball sage	s	50	0
4	263	*Salvia dorrii*	grayball sage	s	50	0
4	264	*Salvia dorrii*	grayball sage	s	50	0
4	265	*Salvia dorrii*	grayball sage	s	50	0
4	284	*Salvia dorrii*	grayball sage	p	5	100
4	285	*Salvia dorrii*	grayball sage	p	5	80

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
4	286	*Salvia dorrii*	grayball sage	p	5	100
4	287	*Salvia dorrii*	grayball sage	p	5	100
4	1592	*Salvia dorrii*	grayball sage	p	3	66.67
5	266	*Salvia dorrii*	grayball sage	s	50	2
5	267	*Salvia dorrii*	grayball sage	s	50	0
5	268	*Salvia dorrii*	grayball sage	s	50	0
5	1798	*Salvia dorrii*	grayball sage	p	5	20
6	66	*Salvia dorrii*	grayball sage	p	3	100
6	1590	*Salvia dorrii*	grayball sage	p	5	100
6	1591	*Salvia dorrii*	grayball sage	p	5	100
3	65	*Sedum leibergii*	Leiberg's stonecrop	p	1	0
4	64	*Sedum leibergii*	Leiberg's stonecrop	p	1	0
4	260	*Sedum leibergii*	Leiberg's stonecrop	s	50	0
4	261	*Sedum leibergii*	Leiberg's stonecrop	s	50	0
4	262	*Sedum leibergii*	Leiberg's stonecrop	s	50	0
4	263	*Sedum leibergii*	Leiberg's stonecrop	s	50	0
4	264	*Sedum leibergii*	Leiberg's stonecrop	s	50	0
4	265	*Sedum leibergii*	Leiberg's stonecrop	s	50	0
4	269	*Sedum leibergii*	Leiberg's stonecrop	s	50	0
4	270	*Sedum leibergii*	Leiberg's stonecrop	s	50	0
4	272	*Sedum leibergii*	Leiberg's stonecrop	s	50	0
4	273	*Sedum leibergii*	Leiberg's stonecrop	s	50	0
4	274	*Sedum leibergii*	Leiberg's stonecrop	s	50	0
4	275	*Sedum leibergii*	Leiberg's stonecrop	s	50	0
4	276	*Sedum leibergii*	Leiberg's stonecrop	s	50	0
4	284	*Sedum leibergii*	Leiberg's stonecrop	p	4	0
4	285	*Sedum leibergii*	Leiberg's stonecrop	p	1	0
4	286	*Sedum leibergii*	Leiberg's stonecrop	p	1	0

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
4	287	*Sedum leibergii*	Leiberg's stonecrop	p	1	0
5	266	*Sedum leibergii*	Leiberg's stonecrop	s	50	0
5	267	*Sedum leibergii*	Leiberg's stonecrop	s	50	0
5	268	*Sedum leibergii*	Leiberg's stonecrop	s	50	0
5	1798	*Sedum leibergii*	Leiberg's stonecrop	p	1	0
6	66	*Sedum leibergii*	Leiberg's stonecrop	p	1	0
6	277	*Sedum leibergii*	Leiberg's stonecrop	s	50	0
6	278	*Sedum leibergii*	Leiberg's stonecrop	s	50	0
6	279	*Sedum leibergii*	Leiberg's stonecrop	s	50	0
6	1590	*Sedum leibergii*	Leiberg's stonecrop	p	1	0
4	260	*Tetradymia canescens*	gray horsebrush	s	50	0
4	261	*Tetradymia canescens*	gray horsebrush	s	50	0
4	262	*Tetradymia canescens*	gray horsebrush	s	50	0
4	263	*Tetradymia canescens*	gray horsebrush	s	50	0
4	264	*Tetradymia canescens*	gray horsebrush	s	50	0
4	265	*Tetradymia canescens*	gray horsebrush	s	50	0
4	269	*Tetradymia canescens*	gray horsebrush	s	50	0
4	270	*Tetradymia canescens*	gray horsebrush	s	50	0
4	272	*Tetradymia canescens*	gray horsebrush	s	50	0
4	273	*Tetradymia canescens*	gray horsebrush	s	50	0
4	274	*Tetradymia canescens*	gray horsebrush	s	50	0
4	275	*Tetradymia canescens*	gray horsebrush	s	50	0
4	276	*Tetradymia canescens*	gray horsebrush	s	50	0
5	266	*Tetradymia canescens*	gray horsebrush	s	50	0
5	267	*Tetradymia canescens*	gray horsebrush	s	50	0
5	268	*Tetradymia canescens*	gray horsebrush	s	50	0
6	277	*Tetradymia canescens*	gray horsebrush	s	50	0
6	278	*Tetradymia canescens*	gray horsebrush	s	50	0

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
6	279	*Tetradymia canescens*	gray horsebrush	s	50	0
2	282	*Achnatherum thurberianum*	Thurber's needlegrass	p	7	0
2	1568	*Ericameria nauseosa*	gray rabbitbrush	s	1080	0.185
2	1569	*Ericameria nauseosa*	gray rabbitbrush	s	1128	0
2	1569	*Helianthus cusickii*	Cusicks sunflower	s	463	3.888
2	1571	*Astragalus succumbens*	crouching milkvetch	s	475	3.789
2	1571	*Ericameria nauseosa*	gray rabbitbrush	s	876	0.342
2	1571	*Helianthus cusickii*	Cusicks sunflower	s	461	2.603
2	1572	*Astragalus succumbens*	crouching milkvetch	s	475	1.895
2	1572	*Ericameria nauseosa*	gray rabbitbrush	s	1186	0.675
2	1572	*Helianthus cusickii*	Cusicks sunflower	s	484	1.033
2	1573	*Astragalus succumbens*	crouching milkvetch	s	471	6.582
2	1573	*Ericameria nauseosa*	gray rabbitbrush	s	1100	0.636
2	1573	*Helianthus cusickii*	Cusicks sunflower	s	566	4.594
2	1574	*Astragalus succumbens*	crouching milkvetch	s	471	1.486
2	1574	*Ericameria nauseosa*	gray rabbitbrush	s	1421	0.141
2	1574	*Helianthus cusickii*	Cusicks sunflower	s	518	1.351
2	1575	*Astragalus succumbens*	crouching milkvetch	s	471	0
2	1575	*Ericameria nauseosa*	gray rabbitbrush	s	1128	0.089
2	1575	*Helianthus cusickii*	Cusicks sunflower	s	597	1.34
2	1576	*Astragalus succumbens*	crouching milkvetch	s	500	1.6
2	1576	*Ericameria nauseosa*	gray rabbitbrush	s	1102	0
2	1576	*Helianthus cusickii*	Cusicks sunflower	s	500	2.6
2	1577	*Astragalus succumbens*	crouching milkvetch	s	525	0.381
2	1577	*Ericameria nauseosa*	gray rabbitbrush	s	1114	0
2	1577	*Helianthus cusickii*	Cusicks sunflower	s	536	0.373
2	1578	*Astragalus succumbens*	crouching milkvetch	s	459	1.961
2	1578	*Ericameria nauseosa*	gray rabbitbrush	s	1107	0.181

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
2	1578	*Helianthus cusickii*	Cusicks sunflower	s	597	6.365
2	1579	*Astragalus succumbens*	crouching milkvetch	s	484	1.446
2	1579	*Ericameria nauseosa*	gray rabbitbrush	s	1316	0.152
2	1579	*Helianthus cusickii*	Cusicks sunflower	s	546	2.564
2	1580	*Astragalus succumbens*	crouching milkvetch	s	496	3.831
2	1580	*Ericameria nauseosa*	gray rabbitbrush	s	1424	0.07
2	1580	*Helianthus cusickii*	Cusicks sunflower	s	566	1.237
2	1584	*Astragalus succumbens*	crouching milkvetch	s	463	0.432
2	1584	*Ericameria nauseosa*	gray rabbitbrush	s	1061	0
2	1585	*Astragalus succumbens*	crouching milkvetch	s	594	5.219
2	1585	*Ericameria nauseosa*	gray rabbitbrush	s	977	0.512
2	1585	*Helianthus cusickii*	Cusicks sunflower	s	482	0.207
2	1586	*Astragalus succumbens*	crouching milkvetch	s	533	0.563
2	1586	*Ericameria nauseosa*	gray rabbitbrush	s	881	0.114
2	1587	*Astragalus caricinus*	buckwheat milkvetch	s	200	3
2	1587	*Ericameria nauseosa*	gray rabbitbrush	s	652	0
2	1587	*Helianthus cusickii*	Cusicks sunflower	s	390	0
2	1588	*Astragalus succumbens*	crouching milkvetch	s	484	2.686
2	1588	*Ericameria nauseosa*	gray rabbitbrush	s	1071	0.093
2	1588	*Helianthus cusickii*	Cusicks sunflower	s	422	0.237
2	1697	*Achnatherum thurberianum*	Thurber's needlegrass	p	7	57.14
2	1697	*Achnatherum thurberianum*	Thurber's needlegrass	p	7	42.86
2	1697	*Astragalus caricinus*	buckwheat milkvetch	p	25	44
2	1697	*Astragalus caricinus*	buckwheat milkvetch	p	25	60
2	1698	*Achnatherum thurberianum*	Thurber's needlegrass	p	7	28.57
2	1698	*Astragalus caricinus*	buckwheat milkvetch	p	25	52
3	65	*Nestotus stenophyllus*	narrowleaf mock goldenweed	p	1	0
3	1589	*Ericameria nauseosa*	gray rabbitbrush	s	169	0

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
4	64	*Nestotus stenophyllus*	narrowleaf mock goldenweed	p	1	0
4	260	*Astragalus conjunctus var. rickardii**	Dr. Bills locoweed	s	50	0
4	260	*Nestotus stenophyllus*	narrowleaf mock goldenweed	s	50	0
4	261	*Astragalus conjunctus var. rickardii**	Dr. Bills locoweed	s	50	0
4	261	*Nestotus stenophyllus*	narrowleaf mock goldenweed	s	50	0
4	262	*Astragalus conjunctus var. rickardii**	Dr. Bills locoweed	s	50	0
4	262	*Nestotus stenophyllus*	narrowleaf mock goldenweed	s	50	0
4	263	*Astragalus conjunctus var. rickardii**	Dr. Bills locoweed	s	50	0
4	263	*Nestotus stenophyllus*	narrowleaf mock goldenweed	s	50	0
4	264	*Astragalus conjunctus var. rickardii**	Dr. Bills locoweed	s	50	0
4	264	*Nestotus stenophyllus*	narrowleaf mock goldenweed	s	50	0
4	265	*Astragalus conjunctus var. rickardii**	Dr. Bills locoweed	s	50	0
4	265	*Nestotus stenophyllus*	narrowleaf mock goldenweed	s	50	0
4	269	*Nestotus stenophyllus*	narrowleaf mock goldenweed	s	50	0
4	270	*Nestotus stenophyllus*	narrowleaf mock goldenweed	s	50	0
4	272	*Nestotus stenophyllus*	narrowleaf mock goldenweed	s	50	0
4	273	*Nestotus stenophyllus*	narrowleaf mock goldenweed	s	50	0
4	274	*Nestotus stenophyllus*	narrowleaf mock goldenweed	s	50	0
4	275	*Nestotus stenophyllus*	narrowleaf mock goldenweed	s	50	0
4	276	*Nestotus stenophyllus*	narrowleaf mock goldenweed	s	50	0
4	284	*Nestotus stenophyllus*	narrowleaf mock goldenweed	p	1	0
4	285	*Nestotus stenophyllus*	narrowleaf mock goldenweed	p	1	0
4	286	*Nestotus stenophyllus*	narrowleaf mock goldenweed	p	1	0
4	287	*Nestotus stenophyllus*	narrowleaf mock goldenweed	p	1	0
5	266	*Astragalus conjunctus var. rickardii**	Dr. Bills locoweed	s	50	0
5	266	*Nestotus stenophyllus*	narrowleaf mock goldenweed	s	50	0
5	267	*Astragalus conjunctus var. rickardii**	Dr. Bills locoweed	s	50	0
5	267	*Nestotus stenophyllus*	narrowleaf mock goldenweed	s	50	0

Table C.4. (contd)

Revegetation Unit	Plot ID	Genus and Species	Common Name	Plant (p) or Seed (s)	Number Planted	% Survival
5	268	*Nestotus stenophyllus*	narrowleaf mock goldenweed	s	50	0
5	1798	*Nestotus stenophyllus*	narrowleaf mock goldenweed	p	1	0
6	66	*Nestotus stenophyllus*	narrowleaf mock goldenweed	p	1	0
6	277	*Nestotus stenophyllus*	narrowleaf mock goldenweed	s	50	0
6	278	*Nestotus stenophyllus*	narrowleaf mock goldenweed	s	50	0
6	279	*Nestotus stenophyllus*	narrowleaf mock goldenweed	s	50	0
6	1590	*Nestotus stenophyllus*	narrowleaf mock goldenweed	p	1	0
6	1591	*Nestotus stenophyllus*	narrowleaf mock goldenweed	p	1	0

Appendix D

Restoration After Construction Disturbance on the Arid Lands Ecology Reserve

Appendix D

Restoration After Construction Disturbance on the Arid Lands Ecology Reserve

Steven Link and Rico Cruz
Department of Science and Engineering
Confederated Tribes of the Umatilla Indian Reservation
46411 Timine Way
Pendleton, OR 97801
stevenlink@ctuir.org
stevenlink123@yahoo.com
509-948-0054

D.1 Introduction

The Confederated Tribes of the Umatilla Indian Reservation (CTUIR) assisted the Pacific Northwest National Laboratory (PNNL) with revegetation of areas of the Fitzner/Eberhardt Arid Lands Ecology (ALE) Reserve affected by decommissioning of buildings and infrastructure and debris cleanup actions. The CTUIR provided technical services to assist in planting, seeding, watering, and monitoring revegetation actions performed during FY 2011 on the Arid Lands Ecology Reserve. We accomplished the following:

1. Propagated approximately 2600 selected native forb and shrub plants from locally collected seeds in a greenhouse setting for transplant as described in the ALE revegetation plan.
2. Transplanted plant material grown by the CTUIR into the revegetation units in February through early April 2011.
3. Conducted one watering of transplanted materials at Rattlesnake Springs.
4. Transplanted 134 additional shrub (sagebrush) seedlings into the Gas well road.
5. Performed weed and weed seed removal along a linear strip at the top of Rattlesnake Ridge.
6. Performed hand broadcasting of selected native forb/shrub seeds in coordination with the PNNL ecologists and WildLands, Inc.
7. Assisted in the development of a monitoring strategy and methods for the revegetation units.
8. Assisted in monitoring success of the revegetation efforts.

D.2 Methods

D.2.1 Study Area

The study area is on the ALE Reserve of the Hanford National Monument in south-central Washington. The average annual precipitation is 16 cm, occurring mostly in the autumn and winter (Stone et al. 1983). The soil is classified as a Warden Silt Loam more than 1 m deep (Hajek 1966).

D.2.2 Seed Collection and Processing

Seeds were collected by hand in and near the restoration areas from 2005 through summer 2010. Seeds were placed in paper bags and stored at room temperature, dry, and in the dark until cleaned. Seeds that were being predated by insects or that may be predated were frozen before cleaning. Seed cleaning was done by hand separating debris from the seed. This was done using screens, tools to rub the flower heads and seed against the screens, fans, and tweezers.

D.2.3 Plant Propagation

Plants were grown in a climate-controlled glasshouse. Lighting was supplemented with 1000W metal halide grow lights. Seeds were sown in 164 ml Ray Leach Cone-tainer cells that were filled with a mixture of 46.1% potting soil with slow release fertilizer (Miracle Grow potting mix), 46.1% sand, 3.8% perlite, and 3.8% vermiculite. Seeds were sown between November 2, 2010 and January 31, 2011. Tubes filled with wetted soil were planted with seeds just below the surface. The number of seeds planted in each pot ranged from 1 to 10 depending on the species and the amount of available seed. Each 98-cell rack was an experimental unit. Irrigation was automated with frequency and amount changes during the growth period to optimize germination and growth. Irrigation was more frequent during seed germination and less frequent during growth. Plants were further fertilized using Scott Miracle-Gro Nursery Select (20N-20P-20K). Fertilizer was dissolved as 10 ml solid in 7.6 l water and applied by pouring over about 800 cells. Fertilizer was applied four times from December 22, 2010 to January 27, 2011. Date of planting, observation date, and the number of seedlings were recorded. Twenty-six hundred seedlings were grown for planting in the late winter and early spring of 2011.

D.2.4 Plant Installation and Seeding

Plants were installed in 21 plots and areas across the 7 site units. Installation occurred from March 7 to April 7, 2011, proceeding from low to high elevation in time. Installation at Rattlesnake Springs (Unit 1) was done throughout the area with 300 spiny hopsage (*Grayia spinosa*). Installation of snowy mountain dandelion (*Agoseris grandiflora*) and buckwheat milkvetch (*Astragalus caricinus*) occurred in two small patches for each species. The patches are approximately 4 m^2. Installation at the Gas well road (Unit 2) was done for approximately 120 m along the road with 134 Big sagebrush (*Artemisia tridentata*). Plots in Unit 2 were circular with a radius of 5 m. Each plot was marked at the center with a spike or rebar with a numbered aluminum tag that was wired into the ground. Plots in Units 3 through 6 were circular with a radius of 4 m except where circumstances required planting in other irregular patterns. All plots were marked at the center with a spike or rebar with a numbered aluminum tag that was wired into the ground. Plants in Unit 7 were planted in three locations. Western horsemint (*Agastache occidentalis*)

and woolly-pod milkvetch (*Astragalus purshii*) were installed in one marked irregular plot. Western white clematis (*Clematis ligusticifolia*) were planted in two locations and marked with flagging. Planting was done with dibbles and hand tools in the softer soils at low elevation. Planting was done with pry bars and dibbles in the lithosols at high elevation. The dibble is 91 cm long, the planting blade is 30 cm long, and the width of the planting is 7.6 cm. Plants were well watered just before installation. Planting was done by separating the seedling from the pot, immediately placing the seedling in the hole, and packing soil into the hole. Separation of the soil and plant from the pot was done by tapping on the top of the plastic tube. Care was taken to place the entire root system linearly in the hole without turning root tips up. Soils were packed around the seedlings to eliminate air pockets near roots. The upper soil surface of seedlings in tubes was placed below the surface of site soil upon planting and covered with site soil. In the lithosols at high elevation, rocks were used to create a protected space for the seedlings. Rocks were circled around the plant especially on the upwind side of the seedling. Soils were wet throughout the planting profile. Plants were not given supplemental water except at Rattlesnake Springs where watering was done on April 18. Each plant was watered by opening a hole next to a seedling with a spike and pouring approximately 250 ml water into the hole. The number of each species installed in each plot is noted in Appendix C. Pictures were taken of each plot.

Seeding was done in 42 plots across 6 of the 7 units. Seeding occurred from January 19 through February 11, 2011, proceeding from low to high elevation in time. Plots were circles with varying radii. Plots at low elevation had radii ranging from 2.6 to 1.96 m depending on the number of seed for each plot. Plots at higher elevation had radii ranging from 1.39 to 0.544 m depending on the number of seed available (Appendix C). Seed plots were marked in the center with a numbered metal tag wired into the ground. Some plots also have a spike or rebar at the center. Seeding was done by roughing the surface with shoes, hand broadcasting the seed, covering the seed with soil, walking on the surface to push the seed in, and then applying mulch when available. Pictures were taken of each plot.

D.2.5 Cheatgrass Control at High Elevation

As a result of re-contouring a road along the northeast face of Rattlesnake Mountain, there has been an invasion of significant numbers of cheatgrass (*B. tectorum*). The population was documented and seed removal attempted by mechanical means and by hand. Documentation of plant communities on the disturbance was done on June 14, 2011, by determining cover of each species along with other surface characters. Cover was determined using a tape measure (Bonham 1989; Elmore et al. 2003; Link et al. 2006) and identifying the first observed (tallest) cover type at each 0.1-m hash mark on the tape. The tape was stretched tightly between two pieces of rebar metal stakes in the ground at the ends of any transect. Six locations along the road were documented. Each transect was marked with numbered metal tags wired into the ground. Each transect crosses the disturbance at a right angle to the long dimension of the disturbance (Figure D.1). There are 77 observations in each transect.

Control of the population was initiated on June 15 and finished on August 2, 2011. Plants were cut with a gasoline-powered Honda weed eater or pulled by hand. Plants and seed were picked up using a Stihl vacuum along with rakes and hand picking. Trash bags were filled with the material and removed from the area. The bags were counted. Up to four people conducted control for several days.

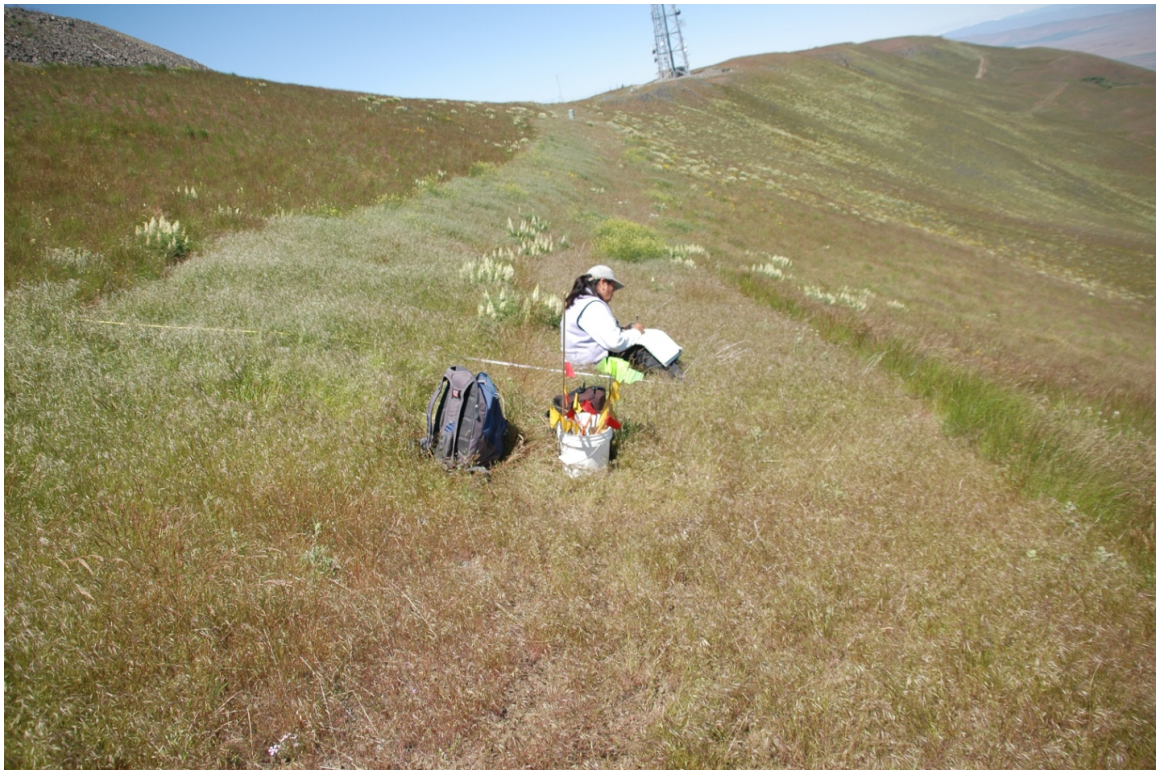

Figure D.1. Cover Observations in the Cheatgrass Invasion Area on June 14, 2011

D.2.6 Monitoring

Field monitoring occurred between June 17 and July 14, 2011. In the planted plots, all individuals of all species were counted and condition noted (green and growing, stressed, dead, flowering status). In the seeded plots, all seedlings of applied species were counted and condition noted. Enumeration was done by sectioning a plot into small parcels to facilitate accurate counts. Percent cover of each species and that of litter, soil, soil cryptogams, and rocks was estimated for each plot. Two observers were used for every plot. Pictures were taken of each plot after assessment.

D.2.7 Data analysis

Percent germination in the greenhouse was computed by dividing the number of live seedlings by the number of seeds sown and multiplying by 100. Survivorship in the field was determined by counting the number of live seedlings within each plot and computing percent survival based the number of individuals planted in each plot. Percent establishment for seeded species was determined by dividing the observed number of individuals of each species by the number of seed applied. Percent of plants in each condition class was also computed. Data were analyzed using JMP software (SAS Institute 2002) to compute means and one standard error of the mean. Survival data are presented in Appendix C (Table C.4).

D.3 Results

Table D.1. Mean Maximal Germination (± 1 standard error of the mean [sem]) and sample size (n) of Perennial Native Species Used for Transplanting

Family *Species*	Common Name	Life Form	Mean Maximum Germination (%)	1 sem	n
Asteraceae					
Agoseris grandiflora	Large-flowered agoseris	herb	25.5	7.92	6
Artemisia tridentata	Big sagebrush	shrub	6.02	2.97	5
Balsamorhiza rosea	Rosy balsamroot	herb	6.12	1.02	3
Crepis modocensis	Low hawksbeard	herb	31.3		1
Ericameria nauseosa	Gray rabbitbrush	shrub	1.02		1
Erigeron linearis	Desert yellow daisy	herb	20.8	1.09	3
Erigeron piperianus	Piper's daisy	herb	55.9	9.68	10
Erigeron poliospermus	Cushion fleabane	herb	4.42	1.97	2
Eriophyllum lanatum var. *Integrifolum*	Woolly sunflower	herb	0		1
Nestotus stenophyllus	narrowleaf mock goldenweed	herb	78.4		1
Tetradymia canescens	gray horsebrush	shrub	0		1
Chenopodiaceae					
Grayia spinosa	Hopsage	shrub	35.0	1.96	3
Crassulaceae					
Sedum leibergii	Leiberg's sedum		17.9		1
Cruciferae					
Phoenicaulis cheiranthoides	Daggerpod	herb	0		1
Grossulariaceae					
Ribes cereum	squaw currant	shrub	0		1
Laminaceae					
Agastache occidentalis	western horsemint	herb	58.2		1
Salvia dorrii	Purple sage	shrub	12.6	4.42	3
Leguminosae					
Astragalus caricinus	Buckwheat milkvetch	herb	63.9	3.27	5
Astragalus conjunctus var. *rick*	Dr. Bill's locoweed	herb	0		1
Astragalus purshii	Woolly-pod milkvetch	herb	61.9	8.66	5
Lupinus sericeus	Silky lupine	herb	31.47	4.28	4
Poaceae					
Achnatherum thurberianum	Thurber's needlegrass	bunchgrass	61.9		1
Leymus cinereus	Giant wildrye	bunchgrass	0		1
Polemoniaceae					
Phlox hoodii	Hood's phlox	subshrub	5.56		1
Phlox longifolia	Longleaf phlox	subshrub	55.9		1

Table D.1. (contd)

Family *Species*	Common Name	Life Form	Mean Maximum Germination (%)	1 sem	n
Polygonaceae					
Eriogonum sphaerocephalum	rock buckwheat	shrub	10.7	6.50	3
Eriogonum thymoides	Thyme buckwheat	shrub	9.95	1.69	4
Portulacaceae					
Phemeranthus spinescens	spiny fameflower	herb	78.4		1
Ranunculaceae					
Clematis ligusticifolia	western white clematis	vine	13.3		1
Scrophulariaceae					
Penstemon speciosus	showy beardtongue	herb	5.37		1
Crassulaceae					
Sedum leibergii	Leiberg's stonecrop	herb	17.9		1

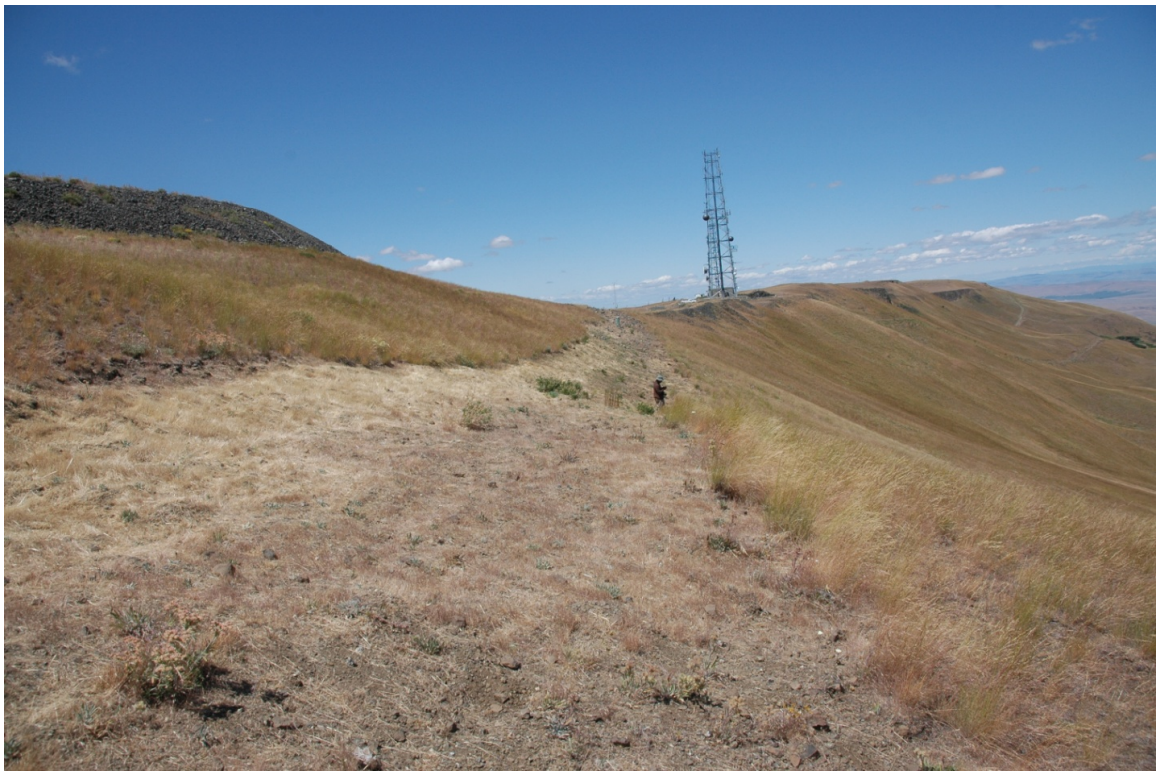

Figure D.2. Partially Controlled Cheatgrass Population on July 13, 2011

D.4 References

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