

April 16, 1998

Ms. Robyn Currier
DynCorp Tri-Cities Services
P. O. Box 1400, MSIN G3-26
Richland, WA 99352



Dear Ms. Currier:

BIOLOGICAL REVIEW OF THE 1100 AREA LAND TRANSFER, ECR #97-1100-003.

Project Description:

- The DOE proposes to transfer the 1100 Area and the portion of the Hanford Rail system between Horn Rapids Road and Columbia Center Boulevard to non-federal ownership. This ecological review is in support of the Environmental Assessment in preparation for such transfer, and this review does not address any specific disturbance activities other than the transfer of the property within the scope of the review.

Survey Objectives:

- To determine the occurrence in the project area of plant and animal species protected under the Endangered Species Act (ESA), candidates for such protection, and species listed as threatened, endangered, candidate, sensitive, or monitor by the state of Washington, and species protected under the Migratory Bird Treaty Act.
- To evaluate the potential impacts of disturbance on priority habitats and protected plant and animal species identified in the survey.

Survey Methods:

- Pedestrian and ocular reconnaissance were conducted by C. A. Duberstein, J. M. Becker, and M. R. Sackschewsky. The rail line from the 1100 area to Columbia Center Boulevard was surveyed on 26 March 1998. The area within the 1100 area boundaries was surveyed on 27 March, 30 March, 31 March, and 2 April, 1998.
- Priority habitats and species of concern are documented as such in the following: Washington Department of Fish and Wildlife (1994, 1996), Washington State Department of Natural Resources (1997), and for migratory birds, U.S. Fish and Wildlife Service (1985). Lists of animal and plant species considered Endangered, Threatened, Proposed, or Candidate by the USFWS are maintained at 50 CFR 17.11 and 50 CFR 17.12.

Survey Results:

Rail Line:

- The majority of the railroad corridor consists of disturbed habitat, except for some remnant habitat along the margins of the corridor. The west side of the corridor from Highway 240 to Interstate 182 has been disturbed by the installation of a gas line, and has since been re-planted. The east side of the corridor in that area has some sagebrush and other native species present, but the general quality of the habitat is low and of limited utility to wildlife because it is located between the disturbed rail line and the Highway. The habitat within the corridor between I-182 and the Yakima River is highly disturbed. From the Yakima River to Columbia Center Boulevard the corridor is narrower (70 feet compared to 100 feet). From the Yakima River to Columbia Drive (through the Yakima Delta) the railroad berm appears to occupy the entire right of way and is colonized by sparse grasses and rabbitbrush. From Columbia Drive to Columbia Center Boulevard the corridor is highly disturbed, with vegetation consisting primarily of cheatgrass and other weedy species.
- A total of 69 plant species were observed within the railroad corridor between the south end of the 1100 area and Columbia Center Boulevard (Table 1). None of the species observed are listed as species of concern by the State or Federal governments. Thirty of these species are non-native to our area, and seven are on the Washington State Noxious Weed list, most significant of these are 3 species of *Centaurea*: *Centaurea diffusa* (Diffuse knapweed), *C. solstitialis* (Yellow starthistle) and *C. (Acroptilon) repens* (Russian knapweed), and *Lepidium latifolium* (broadleaf pepperweed).
- No migratory bird species were observed nesting in the vicinity of the rail corridor. A list of all animal species observed along the railroad corridor is provided in Table 2.

1100 Area:

- The predominant plant communities within the 1100 Area include Snow buckwheat, cheatgrass-Sandberg's bluegrass, Sagebrush, and Rabbitbrush, communities (Figure 1). Minor community types include sand dunes and disturbed cheatgrass communities. The sagebrush communities are for the most part degraded with large proportions of cheatgrass in the herbaceous layer. However, there are scattered patches of relatively high quality sagebrush habitat with significant amounts of native bunchgrasses in the understory including Sandberg's bluegrass, Needle-and-thread, and bluebunch wheatgrass.
- A total of 96 plant species were observed within the 1100 Area (Table 3), 33 of which are not native to South Central Washington State. This represents a remarkable degree of species richness considering that approximately 600 plant species have been documented on the entire Hanford reservation (Sackschewsky et al. 1992). The majority of the overall Hanford plant species richness is due to the presence of diverse habitats such as the riparian zone of the Columbia River and the higher elevations on Rattlesnake Mountain. Approximately 1/6 of all of the species known from Hanford were observed within the boundaries of the 1100 area. The only plant species of concern observed in the area was the stalked-pod milk-vetch (*Astragalus sclerocarpus*) which is on the Washington Natural Heritage Program Watch List, the lowest level of listing by the State of Washington.

- Nine species observed in the 1100 area are on the Washington State noxious weed list, most significantly Yellow starthistle, Russian knapweed, diffuse knapweed, broadleaf pepperweed, and Rush skeletonweed (*Chondrilla juncea*). Most of these species occur in small isolated populations, but several areas of over one acre each are fully infested with Russian knapweed.
- No migratory birds were observed nesting within the 1100 Area at the time of the field survey. However, the survey was conducted prior to the spring arrival for many species and numerous species would be expected to nest in the area. A list of the animal species observed within the 1100 Area is provided in Table 4. Other species expected to utilize habitats in the 1100 Area include Loggerhead shrike, Sage sparrow, and Burrowing owl.

Considerations and Recommendations:

- No plant and animal species protected under the ESA, candidates for such protection, or species listed by the Washington state government as threatened or endangered were observed either within the 1100 area or the railroad right-of-way between the 1100 Area and Columbia Center Boulevard.
- Threatened or endangered species that were not observed during the field surveys that should be considered include the Bald eagle and Yakima River steelhead trout. Bald eagles are occasionally sighted during winter months in the Yakima River Delta but are not known to use the area for nesting. Steelhead trout in the Yakima River basin have been recently proposed for listing as threatened by the National Marine Fisheries Service (NMFS) (63 FR 11798 – 11809, 10 March 1998). All of these steelhead would pass beneath the railroad bridge over the Yakima River during their migrations to and from the Pacific Ocean. For both the Bald eagle and the Yakima Basin Steelhead the continued use of the railroad corridor for rail traffic will not alter the current conditions and is not likely to adversely affect the continued existence of either of these species.
- The USFWS and NMFS have been contacted for information about the bald eagles, Yakima Basin Steelhead, and any other species that these agencies may be concerned about along the rail line or within the 1100 area. Other federally listed endangered, threatened, proposed, or candidate species known, or potentially occurring, near the Hanford Site include Columbia River Steelhead, Peregrine falcon, Aleutian Canada goose, and Bull trout. These species are not likely to be affected by the transfer of the 1100 area or rail line.
- Therefore, no adverse impacts to species, habitats, or other biological resources are expected to result from the proposed transfer of the 1100 area and Hanford south rail line.

Sincerely,

CA Brandt, Ph.D.

Project Manager
Ecological Compliance Assessment

CAB:mrs

REFERENCES

- Sackschewsky, M. R., D. S. Landeen, G. I. Baird, W. M. Rickard, and J. L. Downs. 1992. Vascular Plants of the Hanford Site. WHC-EP-0554. Westinghouse Hanford Company, Richland, WA.
- U. S. Fish and Wildlife Service. 1985. Revised List of Migratory Birds; Final Rule. 50 FR 13708 (April 5, 1985).
- Washington Department of Fish and Wildlife. 1994. Species of Special Concern in Washington. (April 1994).
- Washington Department of Fish and Wildlife. 1996. Priority Habitats and Species List. (January 1996).
- Washington Department of Natural Resources. 1997. Endangered, Threatened & Sensitive Vascular Plants of Washington (August 1997).

**TABLE 1. Plant Species Observed Along Rail Line Between
 Columbia Center Boulevard And The 1100 Area**

Code	Species	Common Name	Family	Alien / Native
ACMI	<i>Achillea millifolium</i>	Yarrow	Asteraceae	N
AMAC	<i>Ambrosia acanthicarpa</i>	Bur-sage	Asteraceae	N
ARTR	<i>Artemisia tridentata</i>	Big Sagebrush	Asteraceae	N
CEDI	<i>Centaurea diffusa</i>	Diffuse knapweed	Asteraceae	A*
CERE	<i>Centaurea repens</i>	Russian knapweed	Asteraceae	A*
CESO	<i>Centaurea solstitialis</i>	Yellow starthistle	Asteraceae	A*
CHDO	<i>Chaenactis douglasii</i>	Hoary false yarrow	Asteraceae	N
CHNA	<i>Chrysothamnus nauseosus</i>	Gray rabbitbrush	Asteraceae	N
CHVI	<i>Chrysothamnus viscidiflorus</i>	Green Rabbitbrush	Asteraceae	N
CIAR	<i>Cirsium arvense</i>	Canada thistle	Asteraceae	A
COCA	<i>Conyza canadensis</i>	Horseweed	Asteraceae	N
GRCO	<i>Grindelia columbiana</i>	Columbia river gumweed	Asteraceae	N
LASE	<i>Lactuca serriola</i>	Prickly lettuce	Asteraceae	A
MACA	<i>Machaeranthera canescens</i>	Hoary aster	Asteraceae	N
SEIN	<i>Senecio integerrimus</i>	Lambstongue groundsel	Asteraceae	A
Sol. sp.	<i>Solidago sp.</i>	Goldenrod	Asteraceae	N
TAOF	<i>Taraxacum officinale</i>	Dandelion	Asteraceae	A
TRDU	<i>Tragopogon dubius</i>	Salsify	Asteraceae	A
AMLY	<i>Amsinckia lycopoides</i>	Fiddleneck tarweed	Boraginaceae	N
AMTE	<i>Amsinckia tessellata</i>	Tessellate tarweed	Boraginaceae	N
CRCI	<i>Cryptantha circumscissa</i>	Matted cryptantha	Boraginaceae	N
CRPT	<i>Cryptantha pterocarya</i>	Winged cryptantha	Boraginaceae	N
CHTE	<i>Chorispora tenella</i>	Blue mustard	Brassicaceae	A
DEPI	<i>Descurainia pinnata</i>	Tansy mustard	Brassicaceae	N
DRVE	<i>Draba verna</i>	Spring whitlow grass	Brassicaceae	N
LELA	<i>Lepidium latifolium</i>	Broadleaf pepperweed	Brassicaceae	A*
SIAL	<i>Sisymbrium altissimum</i>	Jim Hill Mustard	Brassicaceae	A
SACE	<i>Sambucus cerulea</i>	Blue elderberry	Caprifoliaceae	N
HOUM	<i>Holosteum umbellatum</i>	Jagged chickweed	Caryophyllaceae	A
KOSC	<i>Kochia scoparia</i>	Summer cypress	Chenopodiaceae	A*
SAKA	<i>Salsola kali</i>	Russian thistle	Chenopodiaceae	A
DISY	<i>Dipsicus sylvestris</i>	Teasel	Dipsicaceae	A
ELAN	<i>Elaeagnus angustifolia</i>	Russian Olive	Elaeagnaceae	A
ASTCA	<i>Astragalus caricinus</i>	Buckwheat milkvetch	Fabaceae	N
MEOF	<i>Melilotus officinalis</i>	Yellow sweetclover	Fabaceae	A
MESA	<i>Medicago sativa</i>	Alfalfa	Fabaceae	A

**TABLE 1. Plant Species Observed Along Rail Line Between
 Columbia Center Boulevard And The 1100 Area**

Code	Species	Common Name	Family	Alien / Native
ROPS	<i>Robinia psuedoaccacia</i>	Black locust	Fabaceae	A
TRRE	<i>Trifolium repens</i>	White clover	Fabaceae	A
ERCI	<i>Erodium cicutarium</i>	Crane's-bill	Geraniaceae	A
RIAU	<i>Ribes aureum</i>	Golden current	Grossulariaceae	N
PHHA	<i>Phacelia hastata</i>	Whiteleaf scorpionweed	Hydrophyllaceae	N
ASOF	<i>Asparagus officinale</i>	Asparagus	Liliaceae	A
BRDO	<i>Brodiaea douglasii</i>	Cluster lily	Liliaceae	N
SPMU	<i>Sphaeralcea munroana</i>	Globe mallow	Malvaceae	N
EPPA	<i>Epilobium paniculatum</i>	Tall willowherb	Onagraceae	N
OEPA	<i>Oenothera pallida</i>	Pale eveningprimrose	Onagraceae	N
ORCO	<i>Orobanche corymbosa</i>	Flat-topped broomrape	Orobanchaceae	N
PLPA	<i>Plantago patagonica</i>	Indian wheat	Plantaginaceae	N
AGCR	<i>Agropyron cristatum</i>	Crested wheatgrass	Poaceae	A
AGIN	<i>Agropyron intermedium</i>	Intermediate wheatgrass	Poaceae	A
BRTE	<i>Bromus tectorum</i>	Cheatgrass	Poaceae	A
ORHY	<i>Oryzopsis hymenoides</i>	Indian ricegrass	Poaceae	N
PHAR	<i>Phalaris arundinacea</i>	Reed canarygrass	Poaceae	A*
POBU	<i>Poa bulbosa</i>	Bulbous bluegrass	Poaceae	A
POPR	<i>Poa pratensis</i>	Kentucky bluegrass	Poaceae	N
POSA	<i>Poa sandbergii</i>	Sandberg's bluegrass	Poaceae	N
SECE	<i>Secale cereale</i>	Rye	Poaceae	A
SIHY	<i>Sitanion hystrix</i>	Bottlebrush squirreltail	Poaceae	N
SPCR	<i>Sporobolus cryptandrus</i>	Sand dropseed	Poaceae	N
STCO	<i>Stipa comata</i>	Needle-and-thread grass	Poaceae	N
MIGR	<i>Microsteris gracilis</i>	Pink gracilis	Polemoniaceae	N
POMI	<i>Polemonium micranthum</i>	Annual Jacob's ladder	Polemoniaceae	N
ERNI	<i>Eriogonum niveum</i>	Snowy buckwheat	Polygonaceae	N
RUVE	<i>Rumex venosus</i>	Sand dock	Polygonaceae	N
RATE	<i>Ranunculus testiculatus</i>	Burr-buttercup	Ranunculaceae	A
PUTR	<i>Purshia tridentata</i>	Antelope bitterbrush	Rosaceae	N
POAL	<i>Populus alba</i>	Silver Poplar	Salicaceae	N
VETH	<i>Verbascum thapsus</i>	Wooly mullein	Scrophulariaceae	A*
TYLA	<i>Typha latifolia</i>	Cattail	Typhaceae	N

A* indicates species on the Washington State Noxious Weed List

Table 2. Animal Species Observed Along Rail Line

Code	Species	Common Name
BIRDS		
KIDE	<i>Charadrius vociferus</i>	Killdeer
HOLA	<i>Eremophila alpestris</i>	Horned Lark
WEME	<i>Sturna neglecta</i>	Western Meadowlark
RWBB	<i>Agelaius phoeniceus</i>	Red-winged Blackbird
WCSP	<i>Zonotrichia leucophrys</i>	White Crowned Sparrow
HOFI	<i>Carpodacus mexicanus</i>	House Finch
MODO	<i>Zenaida macroura</i>	Mourning Dove
WODU	<i>Aix sponsa</i>	Wood Duck
MADU	<i>Anas platyrhynchos</i>	Mallard Duck
CAGO	<i>Branta canadensis</i>	Canada Goose
RTHA	<i>Buteo jamaicensis</i>	Red-Tailed hawk
BBMA	<i>Pica pica</i>	Black-billed magpie
NOFL	<i>Colaptes auratus</i>	Northern Flicker
RNPH	<i>Phasianus colchicus</i>	Ring-necked pheasant
CAQU	<i>Callipepla californica</i>	California quail
MAMMALS		
Coyote	<i>Canis latrans</i>	Coyote
MUDE	<i>Odocoileus hemionus</i>	Mule Deer

TABLE 3. Plant Species Observed within the 1100 Area

CODE	Species	Common Name	Family	Native/ Alien
CYTE	<i>Cymopteris terebinthinus</i>	Turpentine spring-parsley	Apiaceae	N
LOMA	<i>Lomatium macrocarpum</i>	Big -seed desertsparley	Apiaceae	N
ACMI	<i>Achillea millifolium</i>	Yarrow	Asteraceae	N
AMAC	<i>Ambrosia acanthicarpa</i>	Bur-sage	Asteraceae	N
ARDR	<i>Artemisia dracunculus</i>	Tarragon	Asteraceae	N
ARTR	<i>Artemisia tridentata</i>	Big Sagebrush	Asteraceae	N
BACA	<i>Balsamorhiza careyana</i>	Carey's balsamroot	Asteraceae	N
CEDI	<i>Centaurea diffusa</i>	Diffuse knapweed	Asteraceae	A*
CERE	<i>Centaurea repens</i>	Russian knapweed	Asteraceae	A*
CESO	<i>Centaurea solstitialis</i>	Yellow starthistle	Asteraceae	A*
CHDO	<i>Chaenactis douglasii</i>	Hoary false yarrow	Asteraceae	N
CHJU	<i>Chondrilla juncea</i>	Rush skeletonweed	Asteraceae	A*
CHNA	<i>Chrysothamnus nauseosus</i>	Gray rabbitbrush	Asteraceae	N
CHVI	<i>Chrysothamnus viscidiflorus</i>	Green Rabbitbrush	Asteraceae	N
COCA	<i>Conyza canadensis</i>	Horseweed	Asteraceae	N
CRAT	<i>Crepis atrabarba</i>	Slender hawksbeard	Asteraceae	N
HYFI	<i>Hymenopappus filifolius</i>	Columbia cutleaf	Asteraceae	N
IVXA	<i>Iva xanthifolia</i>	Tall marsh-elder	Asteraceae	N
LASE	<i>Lactuca serriola</i>	Prickly lettuce	Asteraceae	A
MACA	<i>Machaeranthera canescens</i>	Hoary aster	Asteraceae	N
TAOF	<i>Taraxacum officinale</i>	Dandelion	Asteraceae	A
TRDU	<i>Tragopogon dubius</i>	Salsify	Asteraceae	A
AMLY	<i>Amsinckia lycopsoides</i>	Fiddleneck tarweed	Boraginaceae	N
AMTE	<i>Amsinckia tessellata</i>	Tessellate tarweed	Boraginaceae	N
CR sp.	<i>Cryptantha sp.</i>	Cryptantha	Boraginaceae	N
CRCI	<i>Cryptantha circumscissa</i>	Matted cryptantha	Boraginaceae	N
CRPT	<i>Cryptantha pterocarya</i>	Winged cryptantha	Boraginaceae	N
HECU	<i>Heliotropium curassavicum</i>	Salt heliotrope	Boraginaceae	A
PLTE	<i>Plagiobothrys tenellus</i>	Popcornflower	Boraginaceae	N
CHTE	<i>Chorispora tenella</i>	Blue mustard	Brassicaceae	A
DEPI	<i>Descurainia pinnata</i>	Tansy mustard	Brassicaceae	N
DESO	<i>Descurainia sophia</i>	Flixweed	Brassicaceae	A
DRVE	<i>Draba verna</i>	Spring whitlow grass	Brassicaceae	N
ERAS	<i>Erysimum asperum</i>	Wallflower	Brassicaceae	N
LELA	<i>Lepidium latifolium</i>	Broadleaf pepperweed	Brassicaceae	A*
SIAL	<i>Sisymbrium altissimum</i>	Jim Hill Mustard	Brassicaceae	A

TABLE 3. Plant Species Observed within the 1100 Area

CODE	Species	Common Name	Family	Native/ Alien
OPPA	<i>Opuntia polycantha</i>	Prickly pear	Cactaceae	N
HOUM	<i>Holosteum umbellatum</i>	Jagged chickweed	Caryophyllaceae	A
GRSP	<i>Grayia spinosa</i>	Spiney Hopsage	Chenopodiaceae	N
KOSC	<i>Kochia scoparia</i>	Summer cypress	Chenopodiaceae	A*
SAKA	<i>Salsola kali</i>	Russian thistle	Chenopodiaceae	A
COAR	<i>Convolvulus arvensis</i>	field bindweed	Convolvulaceae	A*
Ca sp.	<i>Carex species</i>	Sedge	Cyperaceae	N
ASTC A	<i>Astragalus caricinus</i>	Buckwheat milkvetch	Fabaceae	N
ASTSC	<i>Astragalus sclerocarpus</i>	Stalked-pod milkvetch	Fabaceae	N
MESA	<i>Medicago sativa</i>	Alfalfa	Fabaceae	A
PEOR	<i>Petalostemon ornatum</i>	Prairie clover	Fabaceae	N
PSLA	<i>Psoralea lancolata</i>	Dune scurf-pea	Fabaceae	N
ROPS	<i>Robinia psuedoaccacia</i>	Black locust	Fabaceae	A
TRRE	<i>Trifolium repens</i>	White clover	Fabaceae	A
ERCI	<i>Erodium cicutarium</i>	Crane's-bill	Geraniaceae	A
RIAU	<i>Ribes aureum</i>	Golden current	Grossulariaceae	N
PHHA	<i>Phacelia hastata</i>	Whiteleaf scorpionweed	Hydrophyllaceae	N
PHLI	<i>Phacelia linearis</i>	Threadleaf scorpionweed	Hydrophyllaceae	N
Ju. sp.	<i>Juncus sp.</i>	Rush	Juncaceae	N
ASOF	<i>Asparagus officinale</i>	Asparagus	Liliaceae	A
BRDO	<i>Brodiaea douglasii</i>	Cluster lily	Liliaceae	N
FRPU	<i>Fritillaria pudia</i>	Yellow bells	Liliaceae	N
ZIVE	<i>Zigadenus venenosus</i>	Death camas	Liliaceae	N
SPMU	<i>Sphaeralcea munroana</i>	Globe mallow	Malvaceae	N
MOAL	<i>Morus alba</i>	Mulberry	Moraceae	A
EPPA	<i>Epilobium paniculatum</i>	Tall willowherb	Onagraceae	N
OEPA	<i>Oenothera pallida</i>	Pale eveningprimrose	Onagraceae	N
ORCO	<i>Orobanche corymbosa</i>	Flat-topped broomrape	Orobanchaceae	N
PLPA	<i>Plantago patagonica</i>	Indian wheat	Plantaginaceae	N
AGCR	<i>Agropyron cristatum</i>	Crested wheatgrass	Poaceae	A
AGDA	<i>Agropyron dasystachyum</i>	Thickspike wheatgrass	Poaceae	N
AGRE	<i>Agropyron repens</i>	Quackgrass	Poaceae	A
AGSP	<i>Agropyron spicatum</i>	Bluebunch wheatgrass	Poaceae	N
BRTE	<i>Bromus tectorum</i>	Cheatgrass	Poaceae	A
DIST	<i>Distichlis stricta</i>	Saltgrass	Poaceae	N
ORHY	<i>Oryzopsis hymenoides</i>	Indian ricegrass	Poaceae	N

TABLE 3. Plant Species Observed within the 1100 Area

CODE	Species	Common Name	Family	Native/ Alien
POBU	<i>Poa bulbosa</i>	Bulbous bluegrass	Poaceae	A
POMO	<i>Polypogon monspeliensis</i>	Rabbitsfoot grass	Poaceae	A
POPR	<i>Poa pratensis</i>	Kentucky bluegrass	Poaceae	N
POSA	<i>Poa sandbergii</i>	Sandberg's bluegrass	Poaceae	N
SIHY	<i>Sitanion hystrix</i>	Bottlebrush squirreltail	Poaceae	N
SPCR	<i>Sporobolus cryptandrus</i>	Sand dropseed	Poaceae	N
STCO	<i>Stipa comata</i>	Needle-and-thread grass	Poaceae	N
Gi. sp.	<i>Gilia sp.</i>	Gilia	Polemoniaceae	N
MIGR	<i>Microsteris gracilis</i>	Pink gracilis	Polemoniaceae	N
PHLO	<i>Phlox longifolia</i>	Long-leaf phlox	Polemoniaceae	N
POMI	<i>Polemonium micranthum</i>	Annual Jacob's ladder	Polemoniaceae	N
ERNI	<i>Eriogonum niveum</i>	Snowy buckwheat	Polygonaceae	N
RUVE	<i>Rumex venosus</i>	Sand dock	Polygonaceae	N
MOPE	<i>Montia perfoliata</i>	Miner's lettuce	Portulacaceae	N
DENU	<i>Delphinium nuttalianum</i>	Upland larkspur	Ranunculaceae	N
PRAR	<i>Prunus armeniaca</i>	Apricot	Rosaceae	A
PUTR	<i>Purshia tridentata</i>	Antelope bitterbrush	Rosaceae	N
VETH	<i>Verbascum thapsus</i>	Woolly mullein	Scrophulariaceae	A*
AIAL	<i>Ailanthus altissima</i>	Tree-of-heaven	Simaroubaceae	A
LYHA	<i>Lycium hamifolium</i>	Matrimony vine	Solanaceae	A
TAPA	<i>Tamarix parviflora</i>	Salt cedar	Tamaricaceae	A*
PLMA	<i>Plectritis macrocera</i>	White cupseed	Valerianaceae	N
VEBR	<i>Verbena bracteata</i>	Bracted verbena	Verbenaceae	N
VIVI	<i>Vitis vinifera</i>	Grape	Vitaceae	A

A* indicates species on the Washington State Noxious Weed List

Table 4. Animal Species Observed Within The 1100 Area.

Code	Species	Common Name
BIRDS		
WEME	<i>Sturna neglecta</i>	Western Meadowlark
AMRO	<i>Turdus migratorius</i>	American Robin
HOFI	<i>Carpodacus mexicanus</i>	House Finch
EUST	<i>Sturnus vulgaris</i>	European Starling
RODO	<i>Columba livea</i>	Rock Dove
BBMA	<i>Pica pica</i>	Black-billed magpie
AMCR	<i>Corvus brachyrhynchos</i>	American Crow
LBCU	<i>Numenius americanus</i>	Long-billed curlew
NOFL	<i>Colaptes auratus</i>	Northern Flicker
NOHA	<i>Circus cyaneus</i>	Northern Harrier
AMKE	<i>Falco sparverius</i>	American Kestrel
RNPH	<i>Phasianus colchicus</i>	Ring-necked pheasant
GRPA	<i>Perdix perdix</i>	Gray Partridge
CAQU	<i>Callipepla californica</i>	California quail
MAMMALS		
DEMO	<i>Peromyscus maniculatus</i>	Deer Mouse
POGO	<i>Perognathus parvus</i>	Pocket Gopher
BTJR	<i>Lepus californicus</i>	Black-tailed Jackrabbit
CORA	<i>Sylvilagus nuttallii</i>	Cottontail Rabbit
Coyote	<i>Canis latrans</i>	Coyote
Badger	<i>Taxidea taxus</i>	Badger
MUDE	<i>Odocoileus hemionus</i>	Mule Deer

1100 Area Vegetation

-  Sand Dune
-  Snow Buckwheat / Sandberg's Bluegrass
-  Cheatgrass
-  Sagebrush / Bunchgrass
-  Rabbitbrush / Bunchgrass
-  Cheatgrass / Sanberg's bluegrass
-  Parking / Facilities

