Targhee National Forest

Ecological Unit Inventory

Volume 2

United States Department of Agriculture,
Forest Service

In cooperation with United States Department of Agriculture,
Natural Resources Conservation Service
and
University of Idaho, College of Agriculture

This inventory is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other federal agencies, state agencies including the Agricultural Experiment Stations, and local agencies. The fieldwork and technical quality control for this inventory were conducted by the Forest Service. The correlation of soils was conducted by the Natural Resources Conservation Service (formerly the Soil Conservation Service) in consultation with the Forest Service. The Natural Resources Conservation Service has leadership for the Federal portion of the National Cooperative Soil Survey.

Fieldwork for this ecological unit inventory was completed in 1996. Soil names and descriptions were approved in 1997. Unless otherwise indicated, statements in this publication refer to conditions in the Targhee National Forest in 1997. This inventory was made by the Forest Service, in cooperation with the Natural Resources Conservation Service and the University of Idaho College of Agriculture.

Maps in this inventory may be copied without permission. Enlargement of these maps, however, could cause misunderstanding in the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

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Cover photo: Looking north from the Two Top-Canyon Creek Road (061) towards Targhee Peak northeast of Island Park.

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ABLA Cryoboralfs

The plots of this mosaic are separated into ABLA/PHMA5 and ABLA/CARU,CARU communities.

Scientific Name	Constancy %	Average Cover %
ABLA/PHMA5		
n=3		
Trees (d.b.h. ≥ 5 inches)		
Abies lasiocarpa	66	7.0
Pinus contorta	33	1.0
Pseudotsuga menziesii	100	21.0
Trees (d.b.h. < 5 inches)		
Abies lasiocarpa	100	1.8
Pinus contorta	33	0.5
Pseudotsuga menziesii	66	1.5
Shrubs		
Acer glabrum	100	11.6
Amelanchier alnifolia	100	0.8
Berberis (Mahonia) repens	33	0.5
Clematis columbiana	100	0.5
Lonicera involucrata	33	0.5
Lonicera utahensis	66	1.5
Pachistima (Paxistima) myrsinites	100	1.1
Physocarpus malvaceus	100	17.6
Rosa woodsii	66	0.5
Sorbus scopulina	100	1.5
Spiraea betulifolia	100	2.0
Graminoids		
Bromus vulgaris	100	0.5
Calamagrostis rubescens	33	0.5
Forbs		
Arnica cordifolia	66	0.5
Aster engelmannii	100	0.3
Disporum trachycarpum	33	0.1
Fragaria vesca	33	0.5
Goodyera oblongifolia	100	0.3
Hieracium sp.	66	0.3
Mitella sp.	33	0.5
Osmorhiza chilensis	66	0.5
Pedicularis racemosa	66	0.5
Pyrola (Orthilia) secunda	66	0.5
Smilacina (Maianthemum) racemosa	33	0.5
Thalictrum occidentale	10	0.5
Viola sp.	33	0.1

Scientific Name	Constancy %	Average Cover %
ABLA/CARU,CARU		
n=3		
Trees (d.b.h. ≥ 5 inches)		
Pinus contorta	33	12.0
Pseudotsuga menziesii	100	27.0
Trees (d.b.h. < 5 inches)		
Picea engelmannii	33	0.5
Pinus contorta	33	0.5
Pseudotsuga menziesii	100	2.0
Shrubs		
Acer glabrum	33	0.1
Amelanchier alnifolia	66	0.7
Berberis (Mahonia) repens	66	0.1
Pachistima (Paxistima) myrsinites	10 0	0.8
Rosa sp.	33	0.1
Symphoricarpos oreophilus	66	0.5
Graminoids		
Calamagrostis rubescens	100	30.0
Elymus (Leymus) cinereus	33	0.1
Poa nervosa var. *wheeleri*	100	0.3
Forbs		
Achillea millefolium	33	0.1
Antennaria microphylla	33	0.1
Arnica cordifolia	100	0.5
Aster occidentalis	33	0.1
Balsamorhiza macrophylla	33	0.1
Geranium viscosissimum	33	0.5
Goodyera oblongifolia	33	0.5
Hieracium albiflorum	33	0.1
Hieracium cynoglossoides	33	0.1
Lupinus argenteus	66	0.5
Mitella sp.	33	0.1
Osmorhiza chilensis	100	0.3
Potentilla glandulosa	33	0.1
Smilacina (Maianthemum) racemosa	33	0.1
Stellaria americana	33	0.1

ABLA/ACGL Gany

n=8

Scientific Name	Constancy %	Average Cover %
Trees d.b.h. ≥ 5 inches		
Abies lasiocarpa	50	4.2
Picea engelmannii	25	7.0
Pseudotsuga menziesii	100	17.8
Trees (d.b.h. < 5 inches)		
Abies lasiocarpa	75	3.0
Picea engelmannii	12	0.5
Pinus albicaulis	12	0.5
Pseudotsuga menziesii	62	1.1
Shrubs		
Acer glabrum	100	6.5
Amelanchier alnifolia	87	4.0
Berberis (Mahonia) repens	100	1.1
Chimaphila umbellata	12	0.5
Clematis columbiana	62	0.6
Cornus stolonifera (serecea)	12	0.5
Lonicera utahensis	62	1.0
Pachistima (Paxistima) myrsinites	87	0.5
Physocarpus malvaceus	25	2.5
Prunus virginiana var. *melanocarpa*	25	1.2
Ribes sp.	12	0.1
Ribes viscosissimum	37	0.3
Rubus parviflorus	25	0.5
Salix scouleriana	25	0.5
Shepherdia canadensis	37	0.5
Sorbus scopulina	75	1.9
Spiraea betulifolia	100	3.5
Symphoricarpos albus	25	0.5
Symphoricarpos oreophilus	50	2.5
Vaccinium globulare (membranaceum)	12	0.5
Graminoids		
Agropyron (Elymus) trachycaulum	12	0.5
Bromus carinatus	25	1.2
Bromus sp.	37	0.4
Calamagrostis rubescens	62	1.1
Carex geyeri	62	0.6
Elymus glaucus	62	1.5
Phleum pratense	12	1.0
Poa pratensis	12	3.0
Forbs		
Achillea millefolium	12	0.5
Actaea rubra	12	0.5
Agastache urticifolia	12	0.5
Agoseris glauca	12	0.5
Angelica arguta	12	0.1
Antennaria racemosa	37	1.0
Aquilegia coerulea	37	0.2
Arnica cordifolia	62	0.8
Aster engelmannii	87	2.2
Aster sp.	37	0.5
Astragalus miser	25	0.5
Aster perelegans	12	1.0
Balsamorhiza sagittata	12	4.0
Castilleja miniata	25	0.1
Delphinium occidentale	12	0.5
Disporum trachycarpum	62	0.3
Epilobium angustifolium	12	0.5
Epilobium sp.	12	0.5
Frasera speciosa	25	0.1
Fragaria vesca	50	0.5
Fragaria virginiana	12	0.5
Galium triflorum	25	0.5
Geranium viscosissimum	50	1.2
Goodyera oblongifolia	62	0.5
Habenaria sp.	12	0.1
Hedysarum boreale	12	0.1
Helianthella uniflora	12	3.0
Heuchera sp.	12	0.1
Hieracium albiflorum	12	0.5
Hieracium albertinum (cynoglossoides)	12	1.0
Ligusticum filicinum	12	0.5
Mitella sp.	37	0.2
Osmorhiza chilensis	87	0.3
Osmorhiza occidentalis	12	0.5
Pedicularis bracteosa	37	0.2
Pedicularis racemosa	50	0.4
Perideridia gairdneri	12	0.5
Phacelia hastata	12	0.5
Pyrola (Orthilia) secunda	25	0.5
Senecio dimorphophyllus	12	0.5
Senecio serra	12	0.5
Smilacina (Maianthemum) racemosa	12	0.5
Thalictrum occidentale	100	2.3
Tragopogon dubius	12	1.0
Valeriana occidentalis	12	0.5
Viguiera (Heliomeris) multiflora	12	1.0
Viola adunca	50	0.3
Viola sp.	37	0.2
Viola purpurea	12	0.1
Other Compositae	12	0.1

ABLA/ACGL Koffgo

n=4

Scientific Name	Constancy %	Average Cover %
Trees d.b.h. ≥ 5 inches		
Abies lasiocarpa	50	1.0
Pinus contorta	50	5.2
Pseudotsuga menziesii	75	12.3
Trees (d.b.h. < 5 inches)		
Abies lasiocarpa	50	1.7
Picea engelmannii	25	15.5
Pinus contorta	25	0.5
Populus tremuloides	25	0.5
Pseudotsuga menziesii	75	0.8
Shrubs		
Acer glabrum	50	7.0
Amelanchier alnifolia	100	7.5
Berberis (Mahonia) repens	75	4.5
Ceanothus velutinus	25	2.0
Chimaphila umbellata	50	0.5
Clematis columbiana	50	1.2
Lonicera utahensis	75	4.1
Pachistima (Paxistima) myrsinites	25	1.0
Physocarpus malvaceus	25	1.0
Prunus virginiana var. *melanocarpa*	25	10.0
Rosa sp.	25	1.0
Rubus parviflorus	50	5.2
Salix scouleriana	75	9.6
Shepherdia canadensis	50	16.5
Sorbus scopulina	100	9.0
Spiraea betulifolia	100	17.7
Symphoricarpos albus	50	10.0
Symphoricarpos oreophilus	25	8.0
Vaccinium globulare (membranaceum)	75	14.0

Scientific Name	Constancy %	Average Cover %
Graminoids		
Bromus carinatus	50	1.5
Bromus sp.	25	0.5
Calamagrostis rubescens	100	3.7
Carex geyeri	50	1.7
Elymus glaucus	75	1.1
Forbs		
Actaea rubra	25	0.5
Agastache urticifolia	25	1.0
Apocynum androsaemifolium	25	1.0
Arnica cordifolia	50	1.2
Aster sp.	25	0.5
Disporum trachycarpum	75	0.6
Epilobium angustifolium	50	15.0
Erigeron sp.	25	0.5
Galium triflorum	25	2.0
Geranium viscosissimum	25	0.5
Goodyera oblongifolia	50	0.5
Hieracium sp.	25	0.5
Lupinus sp.	25	5.0
Osmorhiza chilensis	100	4.1
Pedicularis racemosa	25	0.5
Pterospora andromedea	25	0.1
Pyrola picta	25	0.1
Pyrola (Orthilia) secunda	25	0.5
Pyrola (Moneses) uniflora	25	0.5
Senecio serra	25	3.0
Smilacina sp.	25	2.0
Smilacina (Maianthemum) racemosa	50	0.3
Thalictrum occidentale	75	6.6
Viguiera (Heliomeris) multiflora	25	2.0

ABLA/ACGL Rhylow

n=10

Scientific Name	Constancy %	Average Cover %
Trees (d.b.h. ≥ 5 inches)		
Abies lasiocarpa	70	6.9
Juniperus scopulorum	30	1.0
Pinus contorta	10	5.0
Pinus flexilis	20	3.0
Populus tremuloides	10	15.0
Pseudotsuga menziesii	80	18.0
Trees (d.b.h. < 5 inches)		
Abies lasiocarpa	50	0.7
Populus tremuloides	30	0.8
Pseudotsuga menziesii	30	0.5
Shrubs		
Acer glabrum	50	12.8
Amelanchier alnifolia	50	3.6
Berberis (Mahonia) repens	60	0.3
Ceanothus velutinus	30	15.1
Chimaphila umbellata	10	0.5
Clematis columbiana	30	0.5
Lonicera utahensis	70	0.5
Pachistima (Paxistima myrsinites	90	0.5
Prunus virginiana var. *melanocarpa*	80	4.3
Salix scouleriana	10	2.0
Sorbus scopulina	50	6.3
Spiraea betulifolia	40	33.7
Symphoricarpos albus	10	0.5
Symphoricarpos oreophilus	60	5.2
Graminoids		
Agropyron sp.	20	0.5
Bromus carinatus	20	0.5
Bromus sp.	40	0.1
Calamagrostis rubescens	50	0.6
Carex sp.	10	0.5
Carex geyeri	70	2.4
Carex hoodii	10	0.5
Carex rossii	10	0.1
Elymus glaucus	50	0.5
Melica bulbosa	20	0.3
Melica spectabilis	20	0.5
Poa sp.	10	0.5
Poa compressa	10	0.1
Poa nervosa var. *wheeleri*	20	0.5
Forbs		
Actaea rubra	10	0.5
Agastache urticifolia	30	0.5
Arnica cordifolia	40	0.9
Aster engelmannii	40	1.8
Aster sp.	20	0.3
Aster perelegans	10	0.5
Balsamorhiza sagittata	20	0.3
Bryophytes	10	0.5
Campanula rotundifolia	10	0.5
Collinsia parviflora	20	0.5
Delphinium nuttallianum	10	0.5
Delphinium occidentale	10	0.5
Disporum trachycarpum	30	0.2
Epilobium angustifolium	30	0.3
Erigeron speciosus	10	0.5
Fragaria vesca	20	0.3
Galium bifolium	40	0.4
Galium boreale	10	0.1
Galium triflorum	20	0.1
Geranium viscosissimum	60	0.3
Helianthella uniflora	10	0.5
Heracleum lanatum (maximum)	20	0.5
Hydrophyllum capitatum	40	0.4
Ligusticum filicinum	20	0.3
Lithophragma parviflorum	10	0.1
Lupinus argenteus	10	0.5
Nemophila parviflora	10	1.0
Osmorhiza chilensis	90	0.5
Osmorhiza occidentalis	40	0.5
Pedicularis bracteosa	10	0.1
Penstemon sp.	10	0.1
Perideridia gairdneri	20	0.3
Potentilla glandulosa	50	0.5
Rudbeckia occidentalis	20	0.3
Senecio serra	10	0.5
Smilacina (Maianthemum) racemosa	30	0.2
Thalictrum occidentale	100	1.6
Tragopogon dubius	10	0.5
Valeriana occidentalis	20	0.7
Viola adunca	10	0.1
Viola sp.	10	0.1
Viola nuttallii	30	0.1
Other forbs	30	0.3

ABLA/ARCO9,ARCO9 Fitzwil

n=12

Scientific Name	Constancy %	Average Cover %
Trees (d.b.h. ≥ 5 inches)		
Abies lasiocarpa	91	14.2
Picea engelmannii	8	5.5
Pinus contorta	83	10.0
Pseudotsuga menziesii	41	16.2
Trees (d.b.h. < 5 inches)		
Abies lasiocarpa	100	8.6
Pinus contorta	33	0.5
Pseudotsuga menziesii	33	1.7
Shrubs		
Berberis (Mahonia) repens	8	0.5
Juniperus communis	8	1.0
Lonicera utahensis	8	0.5
Ribes lacustre	8	0.1
Ribes montigenum	50	0.6
Ribes viscosissimum	16	0.5
*Rubus idaeus (*ssp. *strigosus)* var. *gracilipes*	16	0.3
Rubus parviflorus	8	0.1
Shepherdia canadensis	16	0.5
Symphoricarpos oreophilus	50	0.3
Graminoids		
Agropyron sp.	8	1.0
Bromus carinatus	8	0.5
Calamagrostis rubescens	33	2.0
Carex geyeri	66	3.0
Carex raynoldsii	8	0.5
Carex rossii	33	0.6
Danthonia intermedia	8	0.1
Festuca idahoensis	16	0.7
Festuca sp.	8	0.1
Poa sp.	25	0.5
Poa compressa	16	0.5
Poa nervosa var. *wheeleri*	66	0.4
Trisetum spicatum	75	0.4
Forbs		
Achillea millefolium	41	0.5
Agoseris glauca	16	0.5
Antennaria sp.	8	0.5
Antennaria luzuloides	8	0.1
Antennaria microphylla	33	0.1
Aquilegia flavescens	8	0.5
Arenaria congesta	8	0.1
Arenaria sp.	8	0.5
Arnica cordifolia	100	1.2
Aster engelmannii	8	0.5
Aster foliaceus var. *canbyi*	8	0.5
Astragalus miser	33	0.5
Calochortus eurycarpus	8	0.5
Campanula rotundifolia	8	0.1
Castilleja miniata	8	1.0
Claytonia lanceolata	8	0.5
Epilobium angustifolium	33	0.3
Epilobium sp.	16	0.3
Frasera speciosa	8	0.1
Fragaria vesca	25	0.5
Fragaria virginiana	8	0.1
Galium bifolium	8	0.5
Geranium viscosissimum	58	0.8
Geum triflorum	8	0.1
Hackelia micrantha	8	0.5
Hieracium sp.	25	0.5
Hydrophyllum capitatum	8	0.5
Ivesia gordonii	16	0.5
Lomatium sp.	8	0.5
Lupinus argenteus	25	0.2
Osmorhiza chilensis	41	0.4
Pedicularis racemosa	8	1.0
Penstemon sp.	8	0.1
Phlox multiflora	8	0.1
Polygonum bistortoides	25	0.2
Potentilla diversifolia	16	0.3
Potentilla glandulosa	50	0.4
Potentilla gracilis	25	0.3
Pyrola (Orthilia) secunda	41	0.5
Sedum lanceolatum	16	0.1
Sedum sp.	8	0.5
Senecio dimorphophyllus	25	0.3
Senecio sp.	16	0.5
Senecio serra	8	0.5
Senecio streptanthifolius	33	0.2
Solidago multiradiata	41	0.4
Taraxacum officinale	33	0.2
Thalictrum occidentale	41	2.8
Valeriana acutiloba	16	0.1
Viola sp.	16	0.1
Viola nuttallii	8	0.5
Other Compositae	25	0.2

ABLA/ARTRS2 Cryumbrepts

The plots of this ecological type are separated into forestland and shrub steppe communities.

Scientific Name	Constancy %	Average Cover %
Forestland		
n=9		
Trees (d.b.h. ≥ 5 inches)		
Abies lasiocarpa	77	12.5
Pinus albicaulis	77	13.7
Pseudotsuga menziesii	22	15.0
Trees (d.b.h. < 5 inches)		
Abies lasiocarpa	77	12.7
Pinus albicaulis	66	5.0
Pseudotsuga menziesii	11	4.0
Shrubs		
Acer glabrum	11	0.5
Amelanchier alnifolia	22	8.0
Artemisia tridentata ssp. *spiciformis*	22	1.7
Berberis (Mahonia) repens	22	0.5
Cercocarpus ledifolius var. *intercedens*	11	0.1
Haplopappus (Ericameria) suffruticosus	11	0.5
Prunus virginiana var. *melanocarpa*	22	0.5
Ribes montigenum	77	4.5
Rubus sp.	11	0.5
Spiraea betulifolia	11	0.5
Symphoricarpos oreophilus	66	1.0
Graminoids		
Agropyron (Elymus) trachycaulum	55	0.4
Bromus carinatus	22	3.5
Bromus sp.	11	1.0
Calamagrostis rubescens	11	0.5
Carex sp.	22	0.5
Carex geyeri	22	8.0
Carex petasata	11	0.5
Carex rossii	44	1.2
Festuca ovina	11	0.5
Melica bulbosa	11	0.5
Poa sp.	22	0.5
Poa epilis (fendleriana)	22	3.7
Poa reflexa	22	0.5
Poa nervosa var. *wheeleri*	44	1.1
Stipa occidentalis	22	0.3
Trisetum spicatum	55	0.5
Forbs		
Achillea millefolium	55	0.6
Agastache urticifolia	11	0.1
Agoseris glauca	22	0.5
Antennaria racemosa	11	0.5
Aquilegia sp.	22	0.7
Arabis sp.	22	0.3
Arenaria congesta	22	0.5
Arnica cordifolia	55	1.8
Arnica latifolia	22	2.5
Aster conspicuus	22	0.5
Aster engelmannii	22	0.7
Aster foliaceus var. *canbyi*	11	1.0
Astragalus miser	22	0.5
Aster occidentalis	55	0.5
Balsamorhiza sagittata	22	4.5
Claytonia lanceolata	11	0.5
Clematis hirsutissima	11	0.1
Collomia linearis	11	0.5
Collinsia parviflora	33	0.3
Delphinium nuttallianum	11	0.5
Delphinium occidentale	11	1.0
Epilobium angustifolium	44	0.6
Eriophyllum lanatum	11	0.5
Erigeron peregrinus	11	2.0
Erigeron speciosus	11	0.5
Eriogonum umbellatum	33	0.8
Erythronium grandiflorum	11	1.0
Galium bifolium	33	0.2
Geranium sp.	11	0.5
Geranium viscosissimum	22	0.5
Hackelia micrantha	33	1.6
Helianthella uniflora	33	1.3
Hydrophyllum capitatum	11	0.5
Ligusticum filicinum	22	0.3
Ligusticum sp.	11	0.5
Lupinus argenteus	33	0.5
Mertensia oblongifolia	11	7.0
Microsteris (Phlox) gracilis	22	0.5
Osmorhiza chilensis	22	0.5
Penstemon rydbergii	22	0.5
Penstemon sp.	22	0.5
Perideridia gairdneri	22	0.1
Phacelia hastata	22	0.5
Phacelia heterophylla	22	0.5
Phlox multiflora	11	1.0
Polygonum sp.	11	0.5
Potentilla glandulosa	22	0.3
Pyrola (Orthilia) secunda	22	0.5
Senecio crassulus	44	1.3
Senecio dimorphophyllus	33	0.5
Senecio sp.	11	0.5
Senecio serra	11	1.0

ABLA/ARTRS2 Cryumbrepts

(Continued)

Scientific Name	Constancy %	Average Cover %
Senecio streptanthifolius	11	0.1
Silene oregana	11	0.5
Taraxacum officinale	11	0.5
Thalictrum occidentale	44	1.4
Valeriana occidentalis	33	0.6
Viola sp.	22	0.5
Viola nuttallii	11	0.5
Other Umbelliferae	11	0.1
Shrub steppe		
n=4		
Trees (d.b.h. < 5 inches)		
Abies lasiocarpa	25	2.0
Pinus albicaulis	25	0.5
Shrubs		
Amelanchier alnifolia	75	1.0
Artemisia tridentata ssp. *spiciformis*	75	2.6
Artemisia tridentata ssp. *vaseyana* var. *vaseyana*	25	10.0
Berberis (Mahonia) repens	50	0.5
Chrysothamnus sp.	25	0.5
Juniperus communis	25	0.1
Prunus virginiana var. *melanocarpa*	25	0.5
Ribes montigenum	25	0.5
Spiraea betulifolia	50	0.5
Symphoricarpos oreophilus	100	1.6
Graminoids		
Agropyron (Elymus) trachycaulum	50	0.3
Bromus carinatus	100	2.3
Carex sp.	25	0.5
Carex geyeri	75	11.0
Carex raynoldsii	25	0.5
Koeleria nitida (macrantha)	25	1.0
Melica bulbosa	75	0.5
Melica spectabilis	25	0.5
Poa sp.	50	0.5
Poa epilis (fendleriana)	75	0.5
Poa nervosa var. *wheeleri*	25	0.5
Sitanion (Elymus) hystrix	75	0.1
Stipa occidentalis	75	0.3
Stipa pinetorum	25	0.5
Trisetum spicatum	25	0.5
Forbs		
Achillea millefolium	50	0.3
Agastache urticifolia	25	0.5
Androsace septentrionalis	50	0.5
Antennaria luzuloides	25	0.5
Arabis sp.	75	0.2
Arabis drummondii	25	0.5
Arenaria congesta	25	0.5
Arnica cordifolia	25	0.1
Aster sp.	25	0.1
Aster occidentalis	75	0.3
Balsamorhiza sagittata	100	4.6
Besseya wyomingensis	25	0.5
Clematis hirsutissima	50	0.5
Collinsia parviflora	50	0.5
Delphinium nuttallianum	25	0.5
Descurainia sp.	25	0.5
Eriophyllum lanatum	25	0.5
Erigeron speciosus	25	1.0
Eriogonum umbellatum	100	0.4
Galium bifolium	75	0.5
Hackelia micrantha	25	0.5
Helianthella uniflora	50	1.2
Hieracium cynoglossoides	25	0.1
Hydrophyllum capitatum	25	0.5
Linum perenne (lewisii) var. *lewisii*	25	0.5
Lithophragma parviflorum	25	0.1
Lomatium triternatum	25	0.5
Lupinus sericeus	25	0.5
Microsteris (Phlox) gracilis	50	2.5
Osmorhiza occidentalis	25	0.5
Penstemon rydbergii	25	0.5
Penstemon sp.	25	0.1
Perideridia gairdneri	25	0.1
Phacelia heterophylla	25	0.5
Phacelia sericea	25	0.5
Phlox hoodii	25	1.0
Polygonum douglasii	25	0.5
Polygonum sp.	75	0.3
Polypodiaceae	25	0.1
Potentilla glandulosa	75	0.2
Senecio crassulus	25	0.5
Senecio integerrimus	25	0.1
Senecio streptanthifolius	50	0.5
Valeriana occidentalis	25	0.5
Viola nuttallii	25	0.5
Other Compositae	25	0.1

ABLA/CACA4,CACA4 Bootjack

n=3

Scientific Name	Constancy %	Average Cover %
Trees (d.b.h. ≥ 5 inches)		
Pinus contorta	66	9.0
Trees (d.b.h. < 5 inches)		
Pinus contorta	100	15.0
Populus tremuloides	33	1.0
Shrubs		
Arctostaphylos uva-ursi	33	1.0
Lonicera involucrata	33	1.0
Salix bebbiana	33	8.0
Salix exigua	33	1.0
Salix scouleriana	33	0.5
Vaccinium caespitosum (cespitosum)	33	1.0
Vaccinium scoparium	33	2.0
Graminoids		
Agrostis idahoensis	33	0.5
Alopecurus alpinus	33	0.1
Calamagrostis canadensis	100	20.0
Carex buxbaumii	33	20.0
Carex lenticularis	33	0.1
Carex vesicaria	33	0.5
Danthonia intermedia	66	0.7
Danthonia sp.	33	2.0
Deschampsia cespitosa	66	5.2
Phleum pratense	66	0.5
Poa palustris	66	1.5
Forbs		
Achillea millefolium	33	8.0
Antennaria corymbosa	33	8.0
Antennaria microphylla	33	2.0
Aster integrifolius	33	0.5
Aster junciformis	33	0.1
Aster occidentalis	33	2.0
Bryophytes	33	0.5
Camassia quamash	33	0.1
Epilobium angustifolium	33	0.5
Epilobium minutum	33	0.5
Erigeron sp.	33	0.1
Fragaria vesca	33	1.0
Fragaria virginiana	33	25.0
Geranium viscosissimum	33	3.0
Geum macrophyllum	33	0.5
Potentilla gracilis	33	0.5
Smilacina (Maianthemum) stellata	33	0.5
Spiranthes romanzoffiana	66	0.5
Zigadenus sp.	33	2.0

ABLA/CARU,CARU Fitzwil

n=18

Scientific Name	Constancy %	Average Cover %
Trees (d.b.h. ≥ 5 inches)		
Abies lasiocarpa	22	3.3
Pinus contorta	11	9.5
Populus tremuloides	11	2.0
Pseudotsuga menziesii	100	23.8
Trees (d.b.h. < 5 inches)		
Abies lasiocarpa	38	2.5
Pinus contorta	27	0.8
Pinus flexilis	5	0.5
Populus tremuloides	27	3.0
Pseudotsuga menziesii	94	1.5
Shrubs		
Amelanchier alnifolia	44	0.5
Artemisia tridentata ssp. *vaseyana* var. *vaseyana*	11	0.7
Berberis (Mahonia)	66	1.2
Ceanothus velutinus	11	0.5
Chimaphila umbellata	5	0.5
Lonicera utahensis	16	1.0
Prunus virginiana var. *melanocarpa*	44	1.7
Ribes sp.	5	0.5
Ribes lacustre	5	1.0
Ribes viscosissimum	11	0.5
Rosa sp.	11	0.3
Rosa acicularis	5	0.5
Rubus parviflorus	5	0.5
Salix sp.	5	0.5
Salix scouleriana	5	2.0
Shepherdia canadensis	5	0.5
Sorbus scopulina	50	0.5
Spiraea betulifolia	44	3.7
Symphoricarpos albus	5	1.0
Symphoricarpos oreophilus	94	7.5
Graminoids		
Agropyron (Elytrigia) intermedium	5	0.5
Agrostis sp.	5	0.5
Agropyron (Elytrigia) repens	5	3.0
Agropyron (Elymus) trachycaulum	11	0.7
Bromus carinatus	61	1.7
Bromus inermis	5	0.5
Bromus sp.	16	0.8
Calamagrostis rubescens	100	14.6
Carex sp.	5	0.5
Carex geyeri	72	9.9
Carex hoodii	11	0.5
Carex rossii	5	0.5
Dactylis glomerata	5	0.5
Elymus glaucus	50	1.2
Elymus sp.	5	0.5
Koeleria nitida (macrantha)	5	1.0
Melica spectabilis	38	0.8
Phleum alpinum	5	0.5
Phleum pratense	11	1.2
Poa sp.	11	0.5
Poa interior	5	0.5
Poa pratensis	11	2.0
Poa nervosa var. *wheeleri*	38	0.6
Stipa occidentalis	5	0.5
Forbs		
Achillea millefolium	88	0.5
Agastache urticifolia	27	1.1
Agoseris aurantiaca	5	0.5
Agoseris glauca	16	0.6
Antennaria sp.	11	0.5
Antennaria microphylla	16	0.6
Antennaria racemosa	11	0.5
Aquilegia flavescens	5	1.0
Aquilegia formosa	5	0.5
Arabis sp.	5	0.5
Arnica cordifolia	88	3.3
Arnica sp.	5	4.0
Arnica latifolia	11	1.7
Aster conspicuus	5	1.0
Aster engelmannii	50	1.1
Aster sp.	16	1.3
Astragalus miser	11	0.5
Aster occidentalis	5	0.5
Aster perelegans	11	0.5
Balsamorhiza macrophylla	5	0.5
Balsamorhiza sagittata	11	1.2
Calochortus macrocarpus	5	0.5
Campanula rotundifolia	5	0.1
Castilleja sp.	5	0.5
Cirsium sp.	5	0.5
Claytonia lanceolata	11	0.5
Collomia linearis	5	0.5
Collomia sp.	5	0.5
Collinsia parviflora	33	0.5
Corallorhiza (Corallorrhiza) maculata	22	0.5
Delphinium nuttallianum	11	0.5
Delphinium occidentale	5	0.5
Epilobium angustifolium	27	0.6
Epilobium minutum	5	1.0
Erigeron speciosus	5	0.5
Erythronium grandiflorum	38	0.8
Fragaria sp.	5	0.5

ABLA/CARU,CARU Fitzwil

(Continued)

Scientific Name	Constancy %	Average Cover %
Fragaria vesca	50	0.7
Fragaria virginiana	27	0.8
Fritillaria atropurpurea	11	0.5
Fritillaria pudica	5	0.5
Galium aparine	5	0.5
Galium bifolium	11	0.5
Galium boreale	22	0.5
Galium sp.	5	0.5
Galium triflorum	11	0.5
Geranium richardsonii	5	1.0
Geranium viscosissimum	88	1.2
Habenaria sp.	11	0.3
Hackelia sp.	33	0.5
Hackelia micrantha	5	0.5
Helianthella uniflora	11	1.2
Hieracium albiflorum	5	0.5
Hieracium albertinum (cynoglossoides)	11	0.7
Hieracium sp.	16	0.2
Hydrophyllum capitatum	38	0.5
Lithophragma parviflorum	11	0.5
Lithospermum ruderale	5	1.0
Lupinus argenteus	66	1.2
Lupinus sericeus	5	1.0
Microsteris (Phlox) gracilis	16	0.5
Mitella stauropetala	5	0.5
Nemophila parviflora	16	0.5
Osmorhiza chilensis	61	0.6
Osmorhiza occidentalis	50	0.6
Osmorhiza sp.	5	0.5
Pedicularis bracteosa	5	0.5
Pedicularis racemosa	11	0.7
Perideridia gairdneri	61	0.5
Phacelia heterophylla	5	0.5
Polygonum douglasii	11	0.5
Polygonum sp.	5	0.5
Potentilla glandulosa	77	0.5
Potentilla gracilis	16	0.5
Pterospora andromedea	5	0.5
Pyrola picta	5	0.5
Pyrola (Orthilia) secunda	11	0.5
Ranunculus uncinatus	16	0.5
Rudbeckia occidentalis	5	0.5
Senecio sp.	5	0.5
Senecio serra	22	2.8
Smilacina(Maianthemum) racemosa	55	1.1
Smilacina (Maianthemum) stellata	5	0.5
Solidago sp.	5	0.5
Solidago missouriensis	11	0.5
Stellaria americana	5	0.5
Taraxacum officinale	33	0.5
Thalictrum occidentale	83	4.8
Tragopogon dubius	11	0.5
Trifolium arvense	5	1.0
Triteleia grandiflora	5	0.5
Valeriana occidentalis	50	0.6
Viola sp.	5	1.0
Viola nuttallii	44	0.5
Wyethia amplexicaulis	5	0.5
Other Boraginaceae	5	0.5
Other Chenopodiaceae	5	0.5
Other Compositae	11	0.1

ABLA/CARU,CARU Hopburn

n=6

Scientific Name	Constancy %	Average Cover %
Trees (d.b.h. ≥ 5 inches)		
Pinus contorta	100	8.9
Populus tremuloides	20	3.0
Trees (d.b.h. < 5 inches)		
Abies lasiocarpa	40	0.5
Pinus albicaulis	20	0.5
Pinus contorta	100	5.8
Populus tremuloides	80	15.0
Pseudotsuga menziesii	20	0.5
Shrubs		
Arctostaphylos uva-ursi	60	4.8
Artemisia tridentata ssp. *vaseyana* var. *vaseyana*	40	0.5
Berberis (Mahonia) repens	60	1.1
Purshia tridentata	80	0.6
Rosa sp.	20	0.5
Graminoids		
Agropyron (Elymus) trachycaulum	20	0.5
Calamagrostis rubescens	100	21.6
Carex hoodii	40	0.5
Carex petasata	20	0.5
Carex rossii	20	2.0
Danthonia intermedia	40	1.2
Elymus glaucus	20	1.0
Festuca idahoensis	20	0.5
Phleum pratense	20	0.5
Poa sp.	20	0.5
Poa cusickii (fendleriana)	20	1.0
Poa nevadensis (secunda)	40	0.5
Poa pratensis	60	10.3
Poa nervosa var. *wheeleri*	20	0.5
Other Poaceae w/ > trace cover	20	4.0

Scientific Name	Constancy %	Average Cover %
Forbs		
Achillea millefolium	80	1.3
Agoseris glauca	40	0.5
Antennaria sp.	20	5.0
Antennaria microphylla	20	1.0
Arabis sp.	20	0.5
Arenaria congesta	20	0.5
Arnica cordifolia	40	1.0
Calochortus eurycarpus	20	0.5
Clematis hirsutissima	20	0.5
Collinsia parviflora	20	0.5
Epilobium angustifolium	40	0.7
Eriogonum heracleoides	20	0.5
Eriophyllum lanatum	20	0.5
Eriogonum sp.	20	0.5
Frasera speciosa	20	1.0
Geranium viscosissimum	40	2.5
Heuchera sp.	20	0.5
Hieracium albiflorum	20	0.5
Hieracium sp.	20	0.5
Lupinus argenteus	60	8.3
Lupinus sericeus	20	6.0
Microsteris (Phlox) gracilis	20	0.5
Osmorhiza chilensis	20	0.5
Penstemon procerus	20	0.5
Penstemon sp.	20	0.5
Perideridia gairdneri	20	0.5
Phacelia hastata	20	0.5
Phlox longifolia	20	0.5
Potentilla sp.	20	1.0
Potentilla gracilis	40	0.5
Taraxacum officinale	40	1.2
Other Compositae	20	1.0
Other forbs	40	2.5

ABLA/CARU,CARU Koffgo

n=11

Scientific Name	Constancy %	Average Cover %
Trees (d.b.h. ≥ 5 inches)		
Abies lasiocarpa	18	2.0
Pinus contorta	81	4.5
Pseudotsuga menziesii	54	10.0
Trees (d.b.h. < 5 inches)		
Abies lasiocarpa	45	0.8
Pinus albicaulis	9	1.0
Pinus contorta	100	4.2
Populus tremuloides	36	5.8
Pseudotsuga menziesii	81	3.1
Shrubs		
Amelanchier alnifolia	36	0.6
Arctostaphylos uva-ursi	9	0.5
Artemisia tridentata ssp. *vaseyana* var. *vaseyana*	9	1.0
Berberis (Mahonia) repens	18	0.7
Ceanothus velutinus	9	0.5
Lonicera utahensis	72	0.9
Prunus virginiana var .*melanocarpa*	9	1.0
Ribes viscosissimum	9	0.5
Rubus parviflorus	9	0.5
Sorbus scopulina	27	0.6
Spiraea betulifolia	72	2.1
Symphoricarpos albus	18	2.0
Symphoricarpos oreophilus	45	1.6
Vaccinium globulare membranaceum	18	0.5
Vaccinium scoparium	27	1.3
Graminoids		
Agrostis scabra	9	0.5
Agropyron (Elymus) trachycaulum	9	0.5
Bromus carinatus	27	1.3
Bromus sp.	9	0.5
Calamagrostis rubescens	100	14.0
Carex geyeri	100	14.7
Carex rossii	27	1.1
Danthonia sp.	9	0.5
Elymus glaucus	36	1.0
Melica bulbosa	18	0.5
Poa sp.	27	0.5
Poa nervosa var. *wheeleri*	18	0.7
Stipa sp.	9	0.5
Trisetum spicatum	9	0.5
Forbs		
Achillea millefolium	63	0.8
Agoseris glauca	9	0.5
Antennaria microphylla	18	0.5
Arabis sp.	9	0.5
Arnica cordifolia	63	2.0
Arnica parryi	9	1.0
Aster conspicuus	9	0.5
Aster engelmannii	27	1.6
Aster integrifolius	9	1.0
Campanula rotundifolia	9	0.5
Castilleja sp.	27	0.5
Corallorhiza (Corallorrhiza) sp.	9	0.5
Corallorhiza (Corallorrhiza) maculata	9	0.5
Delphinium sp.	9	0.5
Epilobium angustifolium	90	1.6
Epilobium sp.	9	2.0
Erigeron sp.	9	2.0
Eriophyllum lanatum	9	0.5
Erigeron peregrinus	9	2.0
Erythronium grandiflorum	9	1.0
Fragaria virginiana	27	0.8
Geranium viscosissimum	45	2.6
Habenaria (Piperia) unalascensis	9	0.5
Hieracium albiflorum	27	0.5
Hieracium albertinum (cynoglossoides)	18	0.5
Hieracium cynoglossoides	45	0.9
Hieracium gracile	9	0.5
Hieracium sp.	18	1.0
Hydrophyllum capitatum	9	0.5
Lupinus argenteus	81	1.2
Lupinus sp.	9	2.0
Microsteris (Phlox) gracilis	9	2.0
Osmorhiza chilensis	45	0.9
Pedicularis bracteosa	27	2.3
Pedicularis racemosa	18	0.5
Penstemon montanus var. *idahoensis*	9	0.5
Perideridia gairdneri	27	0.6
Potentilla sp.	18	1.0
Potentilla glandulosa	18	0.5
Pyrola dentata (picta)	9	0.5
Senecio dimorphophyllus	9	0.5
Senecio sp.	9	0.5
Solidago sp.	9	0.5
Stellaria americana	9	0.5
Taraxacum officinale	9	0.5
Thalictrum occidentale	45	4.6
Tragopogon dubius	9	0.5
Other Compositae	18	0.7
Other Cruciferae	9	0.5
Other forbs	18	1.2

ABLA/CARU,CARU Rhylow

n=11

Scientific Name	Constancy %	Average Cover %
Trees (d.b.h. ≥ 5 inches)		
Abies lasiocarpa	63	6.9
Juniperus scopulorum	27	1.0
Pinus contorta	9	5.0
Pinus flexilis	18	3.0
Populus tremuloides	9	15.0
Pseudotsuga menziesii	72	18.0
Trees (d.b.h. < 5 inches)		
Abies lasiocarpa	45	0.7
Populus tremuloides	27	0.8
Pseudotsuga menziesii	27	0.5
Shrubs		
Amelanchier alnifolia	27	0.5
Berberis (Mahonia) repens	54	0.9
Lonicera involucrata	9	0.5
Lonicera utahensis	54	1.3
Pachistima (Paxistima) myrsinites	9	0.5
Prunus virginiana var. *melanocarpa*	18	1.2
Ribes sp.	9	0.5
Ribes lacustre	9	0.5
Ribes viscosissimum	36	0.6
Rosa sp.	9	0.1
Rubus parviflorus	18	0.5
Sorbus scopulina	54	0.5
Spiraea betulifolia	36	1.6
Symphoricarpos albus	9	1.0
Symphoricarpos oreophilus	63	2.0
Vaccinium globulare (membranaceum)	18	1.7
Vaccinium scoparium	9	2.0
Graminoids		
Agropyron (Elytrigia) intermedium	9	1.0
Agropyron (Pseudoroegneria) spicatum	9	0.5
Agropyron (Elymus) trachycaulum	9	0.5
Bromus carinatus	27	0.8
Bromus sp.	27	0.3
Calamagrostis rubescens	100	10.0
Carex sp.	9	1.0
Carex filifolia	9	0.5
Carex geyeri	54	9.0
Carex rossii	27	0.2
Dactylis glomerata	9	0.5
Elymus glaucus	18	0.5
Elymus sp.	9	0.5
Melica spectabilis	18	0.3
Poa sp.	36	0.6
Poa cusickii (fendleriana)	9	0.1
Poa pratensis	9	3.0
Poa nervosa var. *wheeleri*	27	0.3
Stipa occidentalis	9	0.5
Trisetum spicatum	27	2.0
Forbs		
Achillea millefolium	45	0.5
Agastache urticifolia	27	0.5
Agoseris sp.	9	0.5
Antennaria racemosa	9	0.5
Aquilegia coerulea	9	0.1
Aquilegia flavescens	18	0.5
Arabis sp.	9	0.5
Arabis holboellii	9	0.5
Arnica cordifolia	90	4.5
Arnica parryi	18	1.2
Aster engelmannii	45	0.6
Aster sp.	9	0.5
Aster occidentalis	9	1.0
Aster perelegans	9	0.5
Balsamorhiza sagittata	18	0.3
Calypso bulbosa	9	0.5
Claytonia lanceolata	9	0.1
Collinsia parviflora	9	0.1
Corallorhiza (Corallorrhiza) maculata	9	0.5
Corallorhiza (Corallorrhiza) striata	9	0.5
Corallorhiza (Corallorrhiza) wisteriana	9	0.5
Delphinium nuttallianum	9	0.5
Delphinium sp.	9	0.1
Epilobium angustifolium	27	0.5
Epilobium sp.	18	0.7
Erigeron sp.	9	0.5
Eriogonum sp.	9	0.5
Erigeron peregrinus	9	1.0
Erythronium grandiflorum	27	1.0
Fragaria sp.	9	0.5
Fragaria vesca	36	0.8
Fritillaria atropurpurea	18	0.5
Galium bifolium	9	0.5
Galium boreale	9	0.5
Geranium sp.	9	0.5
Geranium viscosissimum	63	0.4
Goodyera oblongifolia	9	0.5
Hackelia sp.	18	0.5
Hackelia micrantha	27	0.3
Hieracium albiflorum	9	0.5

ABLA/CARU,CARU Rhylow

(Continued)

Scientific Name	Constancy %	Average Cover %
Hieracium sp.	45	0.5
Hydrophyllum capitatum	54	0.4
Ligusticum filicinum	18	0.7
Lupinus argenteus	45	0.7
Microsteris (Phlox) gracilis	9	2.0
Osmorhiza chilensis	54	0.5
Osmorhiza occidentalis	9	0.5
Osmorhiza sp.	9	0.5
Oxytropis campestris	9	7.0
Pedicularis bracteosa	18	0.7
Pedicularis racemosa	18	0.7
Penstemon sp.	9	0.5
Perideridia gairdneri	9	0.5
Phacelia sericea	9	0.5
Polygonum douglasii	9	0.5
Potentilla glandulosa	63	0.5
Potentilla gracilis	18	0.5
Pyrola chlorantha	9	0.5
Pyrola (Orthilia) secunda	9	0.5
Senecio crassulus	9	0.5
Senecio serra	9	0.5
Silene sp.	9	0.5
Silene parryi	9	0.1
Smilacina (Maianthemum) racemosa	27	0.5
Solidago multiradiata	9	0.1
Stellaria americana	9	0.5
Stellaria (Pseudostellaria) jamesiana	9	0.5
Taraxacum officinale	36	0.5
Thalictrum occidentale	81	4.3
Valeriana occidentalis	27	0.5
Viguiera (Heliomeris) multiflora	9	0.1
Viola sp.	27	0.5
Viola nuttallii	54	0.5
Other Compositae	9	3.0

ABLA/OSCH,PAMY Edgway

n=11

Scientific Name	Constancy %	Average Cover %
Trees (d.b.h. ≥ 5 inches)		
Abies lasiocarpa	81	14.4
Picea engelmannii	9	3.0
Pinus contorta	18	8.0
Populus tremuloides	45	16.3
Pseudotsuga menziesii	63	15.1
Trees (d.b.h. < 5 inches)		
Abies lasiocarpa	100	3.2
Picea engelmannii	9	0.5
Populus tremuloides	54	6.3
Pseudotsuga menziesii	45	1.6
Shrubs		
Acer glabrum	27	0.3
Amelanchier alnifolia	72	6.7
Artemisia tridentata ssp. *spiciformis*	9	0.1
Berberis (Mahonia)repens	63	0.5
Chimaphila umbellata	9	0.1
Clematis columbiana	27	0.5
Crataegus douglasii	9	2.0
Lonicera involucrata	18	0.7
Lonicera utahensis	45	1.0
Pachistima (Paxistima) myrsinites	45	1.3
Prunus virginiana var. melanocarpa	18	2.7
Ribes lacustre	18	0.5
Ribes viscosissimum	27	0.5
Rosa sp.	27	0.5
Rosa nutkana	9	0.5
Rosa woodsii	27	5.5
Rubus parviflorus	9	0.5
Salix scouleriana	9	1.0
Shepherdia canadensis	9	2.0
Sorbus scopulina	72	0.5
Spiraea betulifolia	27	0.8
Symphoricarpos albus	18	5.0
Symphoricarpos oreophilus	72	3.1
Graminoids		
Agropyron (Elymus) dasytachyum	9	0.5
Agropyron (Elymus) trachycaulum	9	0.5
Bromus carinatus	36	1.1
Bromus sp.	18	0.5
Bromus tectorum	9	0.1
Bromus vulgaris	18	5.2
Calamagrostis rubescens	72	3.2
Carex sp.	9	0.1
Carex geyeri	54	1.4
Carex rossii	27	0.3
Dactylis glomerata	9	0.5
Elymus glaucus	72	1.1
Koeleria nitida (macrantha)	9	0.5
Melica bulbosa	9	0.1
Phleum pratense	36	0.4
Poa sp.	27	0.5
Poa ampla (secunda)	9	0.5
Poa pratensis	27	5.2
Poa nervosa var. *wheeleri*	27	0.5
Trisetum spicatum	18	0.3
Forbs		
Achillea millefolium	54	0.5
Actaea rubra	9	0.5
Agastache urticifolia	27	0.6
Agoseris glauca	9	0.1
Antennaria sp.	18	0.5
Aquilegia coerulea	9	0.5
Arnica cordifolia	81	2.0
Arnica longifolia	9	0.5
Aster conspicuus	9	0.5
Aster engelmannii	100	0.8
Aster sp.	45	0.3
Aster foliaceus var. *parryi*	9	3.0
Balsamorhiza sagittata	9	0.1
Campanula rotundifolia	27	0.5
Castilleja miniata	27	0.2
Castilleja sp.	9	0.5
Cirsium sp.	18	0.1
Claytonia lanceolata	9	0.1
Collomia sp.	18	0.1
Collinsia parviflora	9	0.5
Corallorhiza (Corallorrhiza) sp.	9	0.1
Crepis sp.	9	0.1
Delphinium occidentale	18	0.3
Disporum trachycarpum	9	0.5
Epilobium angustifolium	45	0.5
Erigeron sp.	18	0.5
Erigeron speciosus	9	0.5
Erythronium grandiflorum	9	1.0
Frasera speciosa	18	0.5
Fragaria vesca	72	0.6
Fragaria virginiana	36	0.7
Galium bifolium	18	0.5
Galium boreale	18	0.3
Galium triflorum	54	0.3
Geranium richardsonii	9	0.5
Geranium viscosissimum	90	0.9
Goodyera oblongifolia	45	0.2
Hackelia patens	9	0.1

ABLA/OSCH,PAMY Edgway

(Continued)

Scientific Name	Constancy %	Average Cover %
Hedysarum boreale	18	0.5
Helianthella uniflora	36	0.5
Hieracium albiflorum	27	0.5
Hieracium cynoglossoides	18	0.5
Hieracium sp.	9	0.1
Hydrophyllum capitatum	27	0.5
Ligusticum filicinum	36	0.6
Lupinus argenteus	63	1.9
Mitella sp.	9	0.5
Mitella stauropetala	9	0.5
Osmorhiza chilensis	81	2.5
Osmorhiza occidentalis	45	0.5
Pedicularis bracteosa	45	0.4
Pedicularis racemosa	27	0.7
Perideridia gairdneri	63	0.4
Polygonum douglasii	9	0.5
Potentilla glandulosa	45	0.5
Potentilla gracilis	18	0.3
Pyrola asarifolia	9	0.5
Pyrola chlorantha	9	0.1
Pyrola picta	9	0.1
Pyrola (Orthilia) secunda	36	0.4
Ranunculus uncinatus	9	0.5
Rudbeckia occidentalis	27	0.6
Senecio crassulus	36	0.6
Senecio serra	9	1.0
Silene sp.	9	0.1
Smilacina (Maianthemum) racemosa	18	0.5
Smilacina (Maianthemum) stellata	18	0.1
Stellaria americana	9	0.5
Stellaria (Pseudostellaria) jamesiana	9	0.5
Taraxacum officinale	54	0.4
Thalictrum fendleri	27	0.8
Thalictrum sp.	9	0.5
Thalictrum occidentale	72	2.1
Thlaspi sp.	9	0.1
Tragopogon dubius	9	0.5
Trifolium sp.	9	0.5
Valeriana occidentalis	45	0.4
Veronica sp.	9	0.5
Viguiera (Heliomeris) multiflora	9	0.5
Viola adunca	18	0.3
Viola sp.	27	0.3
Viola nuttallii	36	0.2
Other Caryophyllaceae	9	0.1
Other Compositae	18	0.3
Other Cruciferae	9	0.1
Other forbs	9	0.1

ABLA/PHMA5 Gany

n=8

Scientific Name	Constancy %	Average Cover %
Trees (d.b.h. ≥ 5 inches)		
Abies lasiocarpa	62	3.2
Pinus flexilis	12	7.0
Populus tremuloides	12	0.5
Pseudotsuga menziesii	100	21.6
Trees (d.b.h. < 5 inches)		
Abies lasiocarpa	25	0.7
Juniperus scopulorum	12	0.5
Pinus flexilis	12	1.0
Populus tremuloides	12	0.5
Pseudotsuga menziesii	87	0.7
Shrubs		
Acer glabrum	87	6.8
Amelanchier alnifolia	100	5.9
Berberis (Mahonia) repens	87	0.4
Ceanothus velutinus	25	0.5
Chimaphila umbellata	12	0.1
Clematis columbiana	62	0.5
Lonicera involucrata	12	0.5
Lonicera utahensis	50	1.0
Pachistima (Paxistima) myrsinites	87	0.5
Physocarpus malvaceus	100	24.8
Prunus virginiana var. *melanocarpa*	37	1.6
Ribes viscosissimum	12	0.5
Rosa sp.	25	0.5
Rosa woodsii	12	0.5
Salix scouleriana	12	1.0
Shepherdia canadensis	12	0.5
Sorbus scopulina	62	0.6
Spiraea betulifolia	100	1.4
Symphoricarpos albus	12	0.5
Symphoricarpos oreophilus	62	0.5
Graminoids		
Bromus carinatus	25	0.5
Bromus vulgaris	12	0.5
Calamagrostis canadensis	12	0.5
Calamagrostis rubescens	50	0.6
Carex geyeri	25	0.3
Elymus glaucus	37	0.2
Poa nervosa var. *wheeleri*	25	0.5
Forbs		
Achillea millefolium	25	0.3
Apocynum androsaemifolium	12	0.1
Aquilegia coerulea	12	0.1
Aster engelmannii	87	0.4
Astragalus miser	25	0.7
Aster perelegans	12	0.5
Balsamorhiza sagittata	12	0.1
Bryophytes	12	0.5
Campanula rotundifolia	25	0.5
Castilleja miniata	12	0.1
Disporum trachycarpum	87	0.3
Fragaria vesca	12	0.1
Fragaria virginiana	37	0.2
Galium boreale	12	0.1
Galium triflorum	12	0.1
Geranium viscosissimum	12	0.5
Goodyera oblongifolia	62	0.6
Habenaria sp.	12	0.1
Hedysarum boreale	12	0.5
Helianthella uniflora	12	0.5
Lichen	12	0.5
Mitella sp.	50	0.4
Osmorhiza chilensis	75	0.3
Osmorhiza occidentalis	12	0.5
Pedicularis bracteosa	25	0.3
Pedicularis racemosa	12	0.1
Penstemon sp.	12	0.5
Pyrola (Orthilia) secunda	37	0.2
Silene douglasii	25	0.5
Smilacina (Maianthemum) racemosa	50	0.1
Smilacina (Maianthemum) stellata	12	0.5
Stellaria americana	12	0.5
Thalictrum occidentale	75	0.4
Viola adunca	37	0.3
Viola sp.	37	0.3

ABLA/PHMA5 Lagall

n=11

Scientific Name	Constancy %	Average Cover %
Trees d.b.h. ≥ 5 inches		
Abies lasiocarpa	72	8.8
Picea engelmannii	18	1.7
Pinus contorta	9	3.0
Populus tremuloides	9	5.0
Pseudotsuga menziesii	100	27.4
Trees (d.b.h. < 5 inches)		
Abies lasiocarpa	63	1.2
Picea engelmannii	9	0.5
Populus tremuloides	9	0.5
Pseudotsuga menziesii	72	1.0
Shrubs		
Acer glabrum	90	8.1
Acer grandidentatum	9	0.5
Amelanchier alnifolia	100	6.7
Berberis (Mahonia) repens	36	0.5
Chimaphila umbellata	9	0.5
Clematis columbiana	100	0.6
Cornus stolonifera (serecea)	9	0.1
Lonicera utahensis	81	0.9
Pachistima (Paxistima) myrsinites	45	0.6
Physocarpus malvaceus	100	29.5
Prunus virginiana var. *melanocarpa*	27	2.1
Ribes lacustre	9	1.0
Ribes (oxyacanthoides ssp.*) setosum*	9	3.0
Rosa woodsii	9	0.5
Rubus parviflorus	27	0.5
Shepherdia canadensis	9	0.5
Sorbus scopulina	63	1.2
Spiraea betulifolia	90	2.3
Symphoricarpos albus	9	0.5
Symphoricarpos oreophilus	27	2.0
Vaccinium globulare (membranaceum)	54	5.2
Graminoids		
Bromus carinatus	9	0.5
Bromus vulgaris	36	0.6
Calamagrostis rubescens	63	0.7
Carex geyeri	9	0.5
Elymus glaucus	36	0.3
Poa nervosa var. *wheeleri*	36	0.4
Stipa sp.	9	0.1
Forbs		
Actaea rubra	18	0.3
Anaphalis margaritacea	9	0.1
Arabis sp.	9	0.1
Arnica cordifolia	100	0.6
Aster engelmannii	45	0.2
Aster occidentalis	9	0.5
Campanula rotundifolia	9	0.5
Castilleja miniata	9	0.5
Corallorhiza (Corallorrhiza) striata	18	0.1
Disporum trachycarpum	100	0.4
Epilobium angustifolium	27	0.2
Fragaria vesca	63	0.3
Fragaria virginiana	27	0.5
Galium triflorum	63	0.3
Goodyera oblongifolia	81	0.3
Hieracium albiflorum	27	0.1
Hieracium sp.	9	0.1
Mitella sp.	63	0.2
Osmorhiza chilensis	81	0.6
Pedicularis bracteosa	27	0.3
Pedicularis racemosa	9	0.5
Potentilla glandulosa	9	0.1
Polypodiaceae	18	0.5
Pyrola asarifolia	9	0.1
Pyrola picta	9	0.1
Pyrola (Orthilia) secunda	54	0.3
Smilacina (Maianthemum) racemosa	72	0.2
Thalictrum occidentale	72	0.4
Viola adunca	27	0.2

ABLA/SPBE2 Koffgo

n=14

Scientific Name	Constancy %	Average Cover %
Trees d.b.h. ≥ 5 inches		
Abies lasiocarpa	64	5.7
Pinus contorta	21	6.6
Pinus flexilis	7	3.0
Pseudotsuga menziesii	100	20.1
Trees (d.b.h. < 5 inches)		
Abies lasiocarpa	57	11.7
Pinus contorta	14	12.0
Pinus flexilis	14	0.5
Populus tremuloides	7	0.5
Pseudotsuga menziesii	85	3.6
Shrubs		
Acer glabrum	57	0.6
Amelanchier alnifolia	28	0.6
Arctostaphylos uva-ursi	7	1.0
Berberis (Mahonia) repens	64	0.5
Ceanothus velutinus	7	2.0
Chimaphila umbellata	7	0.5
Clematis columbiana	35	0.6
Juniperus communis	7	0.5
Lonicera utahensis	57	2.1
Prunus virginiana var. *melanocarpa*	21	2.0
Ribes montigenum	7	0.5
Ribes viscosissimum	28	0.5
Rubus parviflorus	57	0.5
Shepherdia canadensis	28	1.7
Sorbus scopulina	14	0.5
Spiraea betulifolia	92	11.6
Symphoricarpos oreophilus	64	2.3
Vaccinium scoparium	7	3.0
Graminoids		
Bromus sp.	7	0.5
Calamagrostis rubescens	85	2.7
Carex sp.	7	0.5
Carex geyeri	35	4.4
Carex rossii	14	0.7
Elymus glaucus	14	0.5
Poa sp.	14	0.5
Poa pratensis	7	1.0
Poa nervosa var. *wheeleri*	35	1.0
Trisetum spicatum	28	0.5
Forbs		
Anaphalis margaritacea	7	1.0
Antennaria microphylla	7	2.0
Antennaria racemosa	50	0.9
Aquilegia flavescens	7	0.5
Aquilegia formosa	14	0.5
Aquilegia sp.	21	0.5
Arnica cordifolia	78	3.2
Aster conspicuus	42	0.9
Aster engelmannii	7	0.5
Aster sp.	7	0.5
Astragalus miser	7	0.5
Aster occidentalis	7	0.5
Calypso bulbosa	7	0.5
Campanula rotundifolia	14	0.5
Castilleja angustifolia	7	0.5
Claytonia lanceolata	7	1.0
Collinsia parviflora	7	0.5
Corallorhiza (Corallorrhiza) maculata	7	0.5
Disporum trachycarpum	35	0.5
Epilobium angustifolium	42	0.5
Fragaria sp.	7	0.5
Fragaria vesca	42	0.6
Fritillaria atropurpurea	14	0.5
Galium bifolium	21	0.5
Galium boreale	14	0.5
Geranium viscosissimum	7	0.5
Goodyera oblongifolia	35	0.5
Heuchera sp.	7	0.5
Hieracium albiflorum	21	0.5
Hieracium cynoglossoides	7	0.5
Hieracium sp.	7	0.5
Lupinus argenteus	7	0.5
Mitella stauropetala	7	0.5
Osmorhiza chilensis	64	0.5
Osmorhiza occidentalis	7	1.0
Osmorhiza sp.	7	0.5
Pterospora andromedea	7	0.5
Pyrola chlorantha	7	0.5
Pyrola picta	21	0.5
Pyrola (Orthilia) secunda	71	1.4
Rumex sp.	7	0.5
Senecio sp.	21	1.1
Senecio serra	7	8.0
Smilacina (Maianthemum) racemosa	35	0.8
Stellaria americana	28	0.5
Thalictrum occidentale	78	1.2
Tragopogon dubius	7	0.5
Viola nuttallii	7	0.5

ABLA/Tall Forb Yodal

The plots of this mosaic are separated into forestland and Tall Forb communities.

Scientific Name	Constancy %	Average Cover %
Forestland		
n=4		
Trees (d.b.h. ≥ 5 inches)		
Abies lasiocarpa	100	15.7
Picea engelmannii	75	15.0
Trees (d.b.h. < 5 inches)		
Abies lasiocarpa	100	3.2
Picea engelmannii	50	0.5
Shrubs		
Chimaphila umbellata	25	0.5
Lonicera utahensis	25	0.5
Ribes montigenum	100	11.0
Sambucus racemosa	25	2.0
Sorbus scopulina	25	0.5
Graminoids		
Bromus sp.	50	0.3
Carex geyeri	25	0.5
Carex rossii	25	0.5
Elymus glaucus	50	0.5
Forbs		
Achillea millefolium	50	0.3
Angelica arguta	25	0.1
Aquilegia coerulea	75	0.5
Arnica cordifolia	50	0.7
Arnica latifolia	25	2.0
Aster engelmannii	100	0.6
Castilleja miniata	25	0.1
Claytonia lanceolata	25	0.5
Delphinium occidentale	25	0.5
Epilobium angustifolium	75	0.5
Epilobium clavatum	25	0.5
Epilobium sp.	25	0.5
Erigeron peregrinus	25	2.0
Frasera speciosa	25	0.1
Galium triflorum	50	0.5
Geranium viscosissimum	50	0.3
Hackelia micrantha	50	0.5
Heracleum lanatum (maximum)	50	0.5
Hydrophyllum capitatum	50	0.1
Ligusticum filicinum	100	0.4
Lupinus argenteus	75	0.2
Mertensia ciliata	50	0.7
Mitella stauropetala	50	0.3
Osmorhiza chilensis	100	1.2
Osmorhiza occidentalis	25	0.5
Pedicularis bracteosa	25	0.1
Pedicularis racemosa	25	0.1
Penstemon sp.	25	0.5
Penstemon whippleanus	25	0.1
Pyrola chlorantha	25	0.1
Ranunculus eschscholtzii	25	0.5
Ranunculus uncinatus	25	0.5
Rudbeckia occidentalis	25	0.5
Senecio crassulus	100	0.5
Senecio triangularis	50	0.5
Solidago multiradiata	25	0.1
Taraxacum officinale	25	0.1
Thalictrum occidentale	100	2.9
Valeriana occidentalis	50	0.3
Viola adunca	25	0.5
Viola nuttallii	50	0.3
Other forbs	25	0.5
Tall Forb		
n=3		
Shrubs		
Artemisia tridentata ssp. *vaseyana* var. *vaseyana*	15	21.5
Symphoricarpos oreophilus	23	2.6
Graminoids		
Agropyron (Pascopyrum) smithii	7	0.5
Agropyron (Pseudoroegneria) spicatum	7	0.5
Agropyron (Elymus) trachycaulum	76	0.7
Bromus carinatus	46	3.8
Bromus sp.	15	0.5
Bromus vulgaris	15	0.5
Carex sp.	15	0.5
Carex hoodii	15	0.7
Carex raynoldsii	7	5.0
Koeleria nitida (macrantha)	7	0.5
Melica bulbosa	30	5.6
Melica spectabilis	46	7.6
Phleum alpinum	23	0.6
Poa sp.	23	0.5
Poa compressa	7	0.5
Poa fendleriana	7	20.0
Poa pratensis	15	2.7
Poa reflexa	7	0.5
Trisetum spicatum	38	0.6
Forbs		
Achillea millefolium	7	1.0
Agastache urticifolia	46	2.4
Agoseris glauca	38	0.6

ABLA/Tall Forb Yodal

(Continued)

Scientific Name	Constancy %	Average Cover %
Antennaria lanata	7	0.5
Antennaria luzuloides	7	0.5
Antennaria umbrinella	7	2.0
Aquilegia coerulea	7	0.5
Arabis sp.	23	0.3
Arabis drummondii	15	0.5
Artemisia ludoviciana	7	2.0
Aster engelmannii	38	2.4
Aster foliaceus var. canbyi	7	1.0
Aster integrifolius	38	12.6
Astragalus miser	7	0.5
Astragalus sp.	7	0.5
Balsamorhiza macrophylla	7	3.0
Balsamorhiza sagittata	23	1.3
Calochortus eurycarpus	15	0.5
Castilleja miniata	38	0.6
Castilleja sp.	7	0.1
Claytonia lanceolata	23	0.5
Clematis hirsutissima	7	0.5
Collomia linearis	7	1.0
Crepis sp.	7	0.5
Delphinium nuttallianum	7	0.5
Delphinium occidentale	61	6.2
Descurainia sp.	15	0.5
Draba sp.	7	0.1
Draba crassifolia	7	0.1
Epilobium angustifolium	38	0.7
Epilobium clavatum	7	1.0
Epilobium sp.	7	0.5
Erigeron peregrinus	7	15.0
Erigeron speciosus	15	5.2
Eriogonum umbellatum	7	0.5
Erythronium grandiflorum	7	0.5
Frasera speciosa	15	0.3
Galium bifolium	23	1.0
Geranium viscosissimum	92	9.3
Gilia (Ipomopsis) aggregata	7	0.1
Hackelia floribunda	7	3.0
Hackelia micrantha	69	1.2
Helianthella uniflora	38	8.6
Hieracium sp.	7	0.1
Hydrophyllum capitatum	38	0.5
Ligusticum filicinum	69	7.2
Lithophragma bulbifera (glabrum)	7	0.5
Lomatium ambiguum	23	2.1
Lupinus argenteus	76	2.8
Mertensia ciliata	7	0.5
Microsteris (Phlox) gracilis	30	7.1
Nemophila parviflora	30	3.2
Osmorhiza occidentalis	53	0.5
Pedicularis bracteosa	30	0.5
Penstemon sp.	7	0.5
Penstemon whippleanus	7	0.1
Perideridia gairdneri	23	0.5
Polygonum bistortoides	7	1.0
Polygonum douglasii	46	1.1
Potentilla arguta	7	2.0
Potentilla glandulosa	38	0.4
Potentilla gracilis	15	1.2
Potentilla recta	7	0.5
Ranunculus eschscholtzii	15	0.3
Rudbeckia occidentalis	23	2.1
Rumex sp.	7	0.5
Rumex paucifolius	23	0.3
Senecio crassulus	61	8.6
Senecio serra	15	1.7
Solidago multiradiata	15	0.3
Taraxacum officinale	7	0.5
Thalictrum occidentale	15	5.2
Valeriana acutiloba	7	0.5
Valeriana occidentalis	15	4.2
Viguiera (Heliomeris) multiflora	7	0.5
Viola sp.	15	0.3
Viola nuttallii	46	0.5
Other Boraginaceae	7	0.5
Other Caryophyllaceae	7	0.5
Other Compositae	46	0.6
Other forbs	7	5.0
Other Umbelliferae	7	0.5

ABLA/THOC Jumpstart

n=4

Scientific Name	Constancy %	Average Cover %
Trees d.b.h. ≥ 5 inches		
Abies lasiocarpa	75	22.6
Pseudotsuga menziesii	75	15.0
Trees (d.b.h. < 5 inches)		
Abies lasiocarpa	75	2.1
Populus tremuloides	50	0.5
Pseudotsuga menziesii	50	0.5
Shrubs		
Acer glabrum	50	2.2
Amelanchier alnifolia	50	2.7
Berberis (Mahonia) repens	25	0.5
Clematis columbiana	25	1.0
Lonicera utahensis	25	0.5
Pachistima (Paxistima) myrsinites	25	0.5
Physocarpus malvaceus	25	2.0
Ribes lacustre	50	1.2
Ribes viscosissimum	75	0.6
Rosa woodsii	50	0.5
Rubus parviflorus	50	1.5
Salix scouleriana	25	10.0
Sorbus scopulina	75	0.6
Symphoricarpos albus	50	0.5
Symphoricarpos oreophilus	50	0.3
Graminoids		
Bromus vulgaris	75	8.0
Calamagrostis rubescens	50	4.2
Elymus glaucus	50	1.7
Poa nervosa var. *wheeleri*	25	0.1
Forbs		
Actaea rubra	75	0.6
Agastache urticifolia	50	0.3
Aquilegia coerulea	50	0.5
Arnica cordifolia	75	0.8
Aster engelmannii	75	0.5
Collinsia parviflora	25	0.5
Delphinium occidentale	50	0.3
Erigeron peregrinus	25	0.5
Fragaria vesca	75	0.6
Galium triflorum	100	0.7
Geranium viscosissimum	75	0.5
Hackelia patens	25	0.1
Heracleum lanatum (maximum)	50	0.3
Hieracium albiflorum	25	0.5
Hieracium cynoglossoides	25	0.1
Hydrophyllum capitatum	25	0.1
Ligusticum filicinum	75	0.6
Lupinus argenteus	75	0.3
Microsteris (Phlox) gracilis	50	0.5
Mitella sp.	75	0.3
Osmorhiza chilensis	100	3.5
Osmorhiza occidentalis	25	0.5
Pedicularis bracteosa	25	0.1
Pedicularis racemosa	25	0.1
Potentilla glandulosa	75	0.2
Ranunculus uncinatus	25	0.1
Rudbeckia occidentalis	50	0.5
Senecio crassulus	25	0.1
Senecio integerrimus	25	0.5
Stellaria americana	75	0.2
Stellaria (Pseudostellaria) jamesiana	50	0.3
Taraxacum officinale	25	0.1
Thalictrum occidentale	75	7.0
Urtica dioica	25	0.5
Valeriana occidentalis	50	0.5
Viola nuttallii	75	0.3
Other Umbelliferae	25	0.5

ABLA/THOC Katpa

n=9

Scientific Name	Constancy %	Average Cover %
Trees (d.b.h. ≥ 5 inches)		
Abies lasiocarpa	44	11.7
Juniperus scopulorum	11	0.5
Picea engelmannii	11	4.0
Pinus flexilis	11	2.0
Pseudotsuga menziesii	100	16.7
Trees (d.b.h. < 5 inches)		
Abies lasiocarpa	44	7.1
Juniperus scopulorum	11	0.5
Pinus flexilis	11	0.5
Populus tremuloides	22	0.5
Pseudotsuga menziesii	77	1.7
Shrubs		
Acer glabrum	22	1.7
Amelanchier alnifolia	33	1.0
Artemisia tridentata ssp. *spiciformis*	11	0.5
Berberis (Mahonia) repens	77	1.5
Cercocarpus ledifolius var. *intercedens*	22	1.5
Clematis columbiana	11	2.0
Juniperus communis	11	0.5
Lonicera utahensis	11	2.0
Pachistima (Paxistima) myrsinites	88	0.5
Prunus virginiana var. *melanocarpa*	55	3.4
Ribes montigenum	11	5.0
Ribes viscosissimum	33	0.5
Rubus parviflorus	22	1.0
Salix scouleriana	11	0.5
Shepherdia canadensis	11	0.5
Sorbus scopulina	44	0.4
Spiraea betulifolia	33	5.1
Symphoricarpos oreophilus	66	3.2
Graminoids		
Agropyron sp.	11	0.5
Agropyron (Pseudoroegneria) spicatum	11	0.5
Agropyron (Elymus) trachycaulum	22	0.8
Bromus carinatus	44	0.5
Calamagrostis rubescens	88	1.7
Carex geyeri	55	1.3
Carex rossii	22	0.3
Elymus glaucus	44	0.8
Leucopoa kingii	11	0.5
Melica bulbosa	22	0.5
Poa sp.	11	0.5
Poa nervosa var. *wheeleri*	33	0.4

Scientific Name	Constancy %	Average Cover %
Forbs		
Achillea millefolium	22	0.5
Agastache urticifolia	66	0.7
Antennaria racemosa	11	0.5
Aquilegia coerulea	33	0.5
Arnica cordifolia	88	2.2
Arnica latifolia	11	0.5
Aster engelmannii	100	2.3
Aster sp.	22	1.7
Astragalus miser	22	0.5
Aster perelegans	22	4.0
Balsamorhiza sagittata	55	2.4
Cirsium sp.	22	0.5
Claytonia lanceolata	11	0.5
Clematis hirsutissima	11	0.5
Collomia sp.	11	0.1
Collinsia parviflora	55	0.9
Comandra umbellata	11	0.5
Corallorhiza (Corallorrhiza) sp.	22	0.3
Delphinium nuttallianum	22	0.5
Epilobium angustifolium	44	0.4
Epilobium watsonii var. *parishii (ciliatum)*	11	0.5
Erigeron speciosus	11	0.5
Eriogonum umbellatum	11	0.5
Erythronium grandiflorum	11	0.5
Fragaria vesca	11	0.5
Fragaria virginiana	22	0.5
Galium bifolium	33	0.3
Geranium viscosissimum	77	1.8
Gilia (Ipomopsis) aggregata	11	0.1
Goodyera oblongifolia	11	0.5
Habenaria sp.	11	0.1
Habenaria (Piperia) unalascensis	11	0.5
Hackelia sp.	33	0.3
Hackelia micrantha	11	0.5
Hedysarum boreale	22	0.3
Helianthella uniflora	55	2.4
Hieracium sp.	22	0.3
Hydrophyllum capitatum	55	0.5
Ligusticum filicinum	22	0.5
Linanthus sp.	11	0.1
Microsteris (Phlox) gracilis	11	1.0
Mitella sp.	11	0.1
Mitella stauropetala	22	0.5
Osmorhiza chilensis	77	1.2
Osmorhiza occidentalis	11	0.5
Lithospermum ruderale	33	0.5
Pedicularis bracteosa	11	0.5

ABLA/THOC Katpa

(Continued)

Scientific Name	Constancy %	Average Cover %
Penstemon cyaneus	11	0.5
Penstemon sp.	11	0.5
Perideridia gairdneri	11	0.5
Phacelia hastata	11	0.5
Potentilla glandulosa	11	0.1
Pyrola (Orthilia) secunda	11	0.5
Senecio crassulus	11	0.1
Senecio serra	11	0.5
Smilacina (Maianthemum) racemosa	44	0.5
Taraxacum officinale	33	0.5
Thalictrum occidentale	88	5.2
Valeriana occidentalis	33	0.6
Viguiera (Heliomeris) multiflora	22	0.7
Viola sp.	33	0.5
Viola nuttallii	44	0.4
Other Compositae	11	1.0
Other Cruciferae	11	0.1

ABLA/THOC Koffgo

n=4

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Abies lasiocarpa	100	7.8
Pinus albicaulis	75	10.6
Tree d.b.h. < 5 inches		
Abies lasiocarpa	100	5.5
Pinus albicaulis	75	1.8
Shrubs		
Amelanchier alnifolia	25	0.5
Prunus virginiana var. *melanocarpa*	25	0.5
Ribes montigenum	100	4.2
Sorbus scopulina	50	0.3
Symphoricarpos oreophilus	25	0.5
Graminoids		
Agropyron (Elymus) trachycaulum	50	0.5
Bromus carinatus	25	0.5
Bromus sp.	50	0.1
Carex geyeri	25	0.5
Carex rossii	25	0.1
Elymus glaucus	50	2.0
Luzula glabrata var. *hitchcockii*	25	1.0
Melica bulbosa	75	0.5
Poa sp.	25	0.1
Poa compressa	50	0.7
Poa cusickii var. *epilis (fendleriana)*	50	0.5
Poa fendleriana	25	0.5
Poa nervosa	50	0.5
Poa pattersonii (abbreviata)	25	0.5
Stipa occidentalis	25	0.5
Trisetum spicatum	75	0.5

Scientific Name	Constancy %	Average Cover %
Forbs		
Agastache urticifolia	50	2.7
Aquilegia coerulea	25	0.1
Arabis drummondii	25	0.1
Arnica cordifolia	25	0.5
Arnica latifolia	25	0.5
Aster engelmannii	100	3.5
Balsamorhiza sagittata	50	0.7
Claytonia lanceolata	50	2.7
Collinsia parviflora	75	0.3
Epilobium angustifolium	50	0.5
Erigeron speciosus	50	1.7
Eriogonum umbellatum	25	0.5
Helianthella uniflora	50	0.5
Hieracium cynoglossoides	50	0.5
Hieracium sp.	25	0.5
Hydrophyllum capitatum	50	0.3
Ligusticum filicinum	100	0.5
Lupinus argenteus	100	0.5
Microsteris (Phlox) gracilis	50	0.5
Osmorhiza chilensis	50	0.3
Osmorhiza occidentalis	25	0.5
Pedicularis bracteosa	50	0.5
Penstemon sp.	100	0.2
Phacelia heterophylla	25	0.1
Polygonum douglasii	50	0.1
Potentilla glandulosa	100	0.4
Senecio crassulus	100	0.6
Thalictrum occidentale	50	5.0
Viola nuttallii	75	0.5
Viola purpurea	25	0.5
Other Cichorium	25	0.5
Other Cruciferae	25	0.1

ABLA/THOC Nearl

n=9

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Abies lasiocarpa	66	12.1
Picea engelmannii	33	18.0
Pinus contorta	33	1.6
Populus tremuloides	33	4.6
Pseudotsuga menziesii	77	10.8
Tree d.b.h. < 5 inches		
Abies lasiocarpa	55	3.6
Picea engelmannii	22	7.2
Populus tremuloides	33	5.0
Pseudotsuga menziesii	55	1.0
Shrubs		
Amelanchier alnifolia	22	0.7
Berberis (Mahonia) repens	22	1.2
Lonicera utahensis	33	0.5
Ribes cereum	11	0.5
Ribes lacustre	11	3.0
Ribes montigenum	33	0.6
Rosa acicularis	11	0.5
Rosa woodsii	11	0.5
Sambucus racemosa	22	0.5
Shepherdia canadensis	11	0.5
Symphoricarpos oreophilus	77	1.4
Graminoids		
Agropyron sp.	11	0.5
Agropyron (Pseudoroegneria) spicatum	11	0.5
Agropyron (Elymus) trachycaulum	11	0.5
Bromus carinatus	44	1.3
Bromus inermis	11	0.5
Calamagrostis rubescens	77	1.7
Carex disperma	11	1.0
Carex sp.	11	0.5
Carex geyeri	22	4.5
Carex raynoldsii	11	0.5
Dactylis glomerata	11	0.5
Elymus glaucus	88	3.0
Glyceria sp.	11	0.5
Melica spectabilis	55	1.8
Phleum alpinum	22	0.5
Phleum pratense	11	0.5
Poa sp.	22	1.2
Poa fendleriana	11	0.5
Poa leptocoma	11	1.0
Poa pratensis	33	0.5
Poa nervosa var. *wheeleri*	33	2.0
Trisetum spicatum	33	0.6
Forbs		
Achillea millefolium	88	0.5
Agastache urticifolia	22	3.0
Agoseris aurantiaca	11	0.5
Agoseris glauca	11	0.5
Antennaria luzuloides	11	0.5
Antennaria microphylla	22	0.7
Aquilegia flavescens	22	0.5
Aquilegia formosa	33	0.6
Arabis sp.	11	0.5
Arnica cordifolia	88	3.8
Artemisia ludoviciana	22	0.7
Aster engelmannii	77	4.8
Aster integrifolius	11	0.5
Astragalus miser	11	2.0
Astragalus sp.	11	0.5
Balsamorhiza macrophylla	55	8.0
Calochortus eurycarpus	11	0.5
Castilleja miniata	11	1.0
Claytonia lanceolata	22	0.5
Collinsia parviflora	55	0.6
Delphinium bicolor	22	0.5
Delphinium nuttallianum	22	0.5
Delphinium occidentale	33	1.5
Epilobium angustifolium	33	0.5
Epilobium watsonii var. *parishii (ciliatum)*	11	0.5
Erigeron peregrinus	11	0.5
Erythronium grandiflorum	11	1.0
Fragaria vesca	44	6.0
Fragaria virginiana	11	1.0
Fritillaria atropurpurea	22	0.5
Galium bifolium	11	0.5
Galium boreale	11	0.5
Galium triflorum	22	0.5
Geranium viscosissimum	77	3.7
Habenaria (Piperia) unalascensis	11	0.5
Hackelia sp.	33	4.5
Hackelia micrantha	66	0.6
Heracleum lanatum (maximum)	11	0.5
Hieracium albiflorum	22	0.5
Hydrophyllum capitatum	88	0.5
Ligusticum filicinum	33	1.3
Ligusticum sp.	22	2.7
Lithophragma sp.	11	0.5
Lomatium ambiguum	11	0.5
Lupinus argenteus	77	1.7
Microsteris (Phlox) gracilis	33	0.5
Nemophila breviflora	11	3.0
Nemophila parviflora	33	0.6

ABLA/THOC Nearl

(Continued)

Scientific Name	Constancy %	Average Cover %
Osmorhiza chilensis	77	2.5
Osmorhiza occidentalis	55	0.7
Oxytropis campestris	11	0.5
Pedicularis bracteosa	33	0.5
Pedicularis racemosa	22	2.5
Perideridia gairdneri	88	0.6
Polygonum douglasii	11	0.5
Potentilla glandulosa	77	0.5
Potentilla gracilis	44	0.6
Potentilla recta	22	1.0
Pyrola picta	22	0.7
Ranunculus uncinatus	44	0.5
Rudbeckia occidentalis	55	1.0
Rumex paucifolius	11	0.5
Senecio crassulus	11	0.5
Senecio sp.	11	0.5
Senecio integerrimus	11	3.0
Senecio serra	66	0.7
Smilacina (Maianthemum) racemosa	33	0.6
Stellaria americana	33	0.5
Taraxacum officinale	77	0.7
Thalictrum occidentale	100	8.4
Trifolium arvense	11	0.5
Trifolium sp.	22	0.5
Valeriana occidentalis	100	1.0
Viola sp.	11	0.5
Viola nuttallii	66	0.5
Wyethia amplexicaulis	11	2.0
Wyethia helianthoides	11	2.0

ABLA/VAGL,PAMY Huckridge

n=18

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Abies lasiocarpa	55	11.0
Picea engelmannii	5	10.0
Pinus contorta	88	13.6
Populus tremuloides	5	5.0
Pseudotsuga menziesii	33	20.6
Tree d.b.h. < 5 inches		
Abies lasiocarpa	50	3.2
Picea engelmannii	5	1.0
Pinus contorta	77	1.9
Populus tremuloides	22	1.0
Pseudotsuga menziesii	50	2.3
Shrubs		
Acer glabrum	11	0.3
Amelanchier alnifolia	72	1.8
Arctostaphylos uva-ursi	16	2.1
Berberis (Mahonia) repens	27	0.4
Chimaphila umbellata	44	0.4
Clematis columbiana	11	0.5
Juniperus communis	5	0.5
Lonicera utahensis	83	2.7
Pachistima (Paxistima) myrsinites	16	0.3
Prunus virginiana var. *melanocarpa*	5	0.5
Ribes viscosissimum	16	0.5
Rosa sp.	27	0.4
Rosa woodsii	5	0.5
Rubus parviflorus	5	0.5
Salix sp.	11	6.0
Salix scouleriana	22	0.7
Sambucus racemosa	5	0.5
Shepherdia canadensis	16	0.4
Sorbus scopulina	61	0.6
Spiraea betulifolia	55	3.6
Symphoricarpos albus	33	8.5
Symphoricarpos oreophilus	16	1.6
Vaccinium globulare (membranaceum)	72	17.6
Vaccinium scoparium	44	20.6
Graminoids		
Bromus carinatus	11	0.5
Bromus inermis	5	0.1
Bromus sp.	11	0.5
Bromus vulgaris	11	0.7
Calamagrostis rubescens	94	14.0
Carex sp.	11	0.5
Carex geyeri	66	3.1
Dactylis glomerata	11	0.3
Elymus glaucus	22	0.6
Phleum alpinum	5	0.1
Phleum pratense	16	0.3
Poa sp.	11	0.3
Poa pratensis	22	0.4
Trisetum spicatum	11	0.5
Forbs		
Achillea millefolium	27	0.5
Actaea rubra	5	0.5
Agoseris aurantiaca	5	0.5
Agoseris glauca	5	0.1
Anaphalis margaritacea	5	0.5
Angelica arguta	5	0.1
Antennaria microphylla	11	0.3
Apocynum androsaemifolium	5	0.1
Aquilegia sp.	5	0.1
Arnica cordifolia	66	0.8
Aster conspicuus	5	0.5
Aster engelmannii	16	0.2
Aster sp.	16	0.6
Aster foliaceus var. *canbyi*	5	0.5
Calypso bulbosa	5	0.1
Campanula rotundifolia	33	0.2
Castilleja miniata	22	0.4
Corallorhiza (Corallorrhiza) sp.	11	0.3
Corallorhiza (Corallorrhiza) striata	5	0.1
Disporum trachycarpum	11	0.3
Epilobium angustifolium	94	2.0
Erigeron sp.	5	0.5
Eriogonum sp.	5	0.5
Fragaria vesca	5	0.5
Fragaria virginiana	44	0.4
Fritillaria atropurpurea	11	0.1
Galium boreale	27	0.3
Galium sp.	11	2.2
Galium triflorum	22	0.4
Geranium viscosissimum	83	0.4
Goodyera oblongifolia	33	0.4
Habenaria sp.	5	0.1
Heracleum lanatum (maximum)	5	0.1
Hieracium albiflorum	27	0.3
Hieracium cynoglossoides	5	0.5
Hieracium sp.	27	0.1
Ligusticum filicinum	5	0.1
Lupinus argenteus	72	1.5
Lupinus sp.	11	2.2
Machaeranthera canescens	5	3.0
Osmorhiza chilensis	77	0.7
Osmorhiza depauperata	5	0.1

ABLA/VAGL,PAMY Huckridge

(Continued)

Scientific Name	Constancy %	Average Cover %
Osmorhiza occidentalis	5	0.1
Pedicularis bracteosa	22	0.2
Pedicularis racemosa	22	0.2
Perideridia gairdneri	5	0.5
Potentilla glandulosa	11	0.3
Potentilla gracilis	5	0.5
Pterospora andromedea	27	0.2
Pyrola asarifolia	5	0.1
Pyrola picta	5	0.1
Pyrola (Orthilia) secunda	38	0.3
Rudbeckia occidentalis	11	0.1
Smilacina (Maianthemum) racemosa	16	0.2
Smilacina (Maianthemum) stellata	16	0.2
Solidago canadensis	5	1.0
Stellaria (Pseudostellaria) jamesiana	5	0.5
Taraxacum officinale	27	0.1
Thalictrum fendleri	5	7.0
Thalictrum occidentale	72	0.8
Valeriana occidentalis	5	0.1
Viola adunca	11	0.3
Viola nuttallii	5	0.5
Other Compositae	16	0.1

ABLA/VAGL,PAMY Koffgo

n=7

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. > 5 inches		
Abies lasiocarpa	85	11.0
Picea engelmannii	28	5.0
Pinus contorta	100	14.0
Pseudotsuga menziesii	57	9.2
Tree d.b.h. < 5 inches		
Abies lasiocarpa	85	3.1
Picea engelmannii	14	0.5
Pinus contorta	71	1.1
Pseudotsuga menziesii	42	1.3
Shrubs		
Amelanchier alnifolia	42	0.3
Berberis (Mahonia) repens	42	0.2
Chimaphila umbellata	57	0.4
Lonicera utahensis	100	0.9
Pachistima (Paxistima) myrsinites	100	0.4
Ribes viscosissimum	14	0.5
Rubus parviflorus	14	0.5
Salix scouleriana	14	0.5
Sorbus scopulina	71	0.4
Spiraea betulifolia	57	0.4
Symphoricarpos albus	14	7.0
Symphoricarpos oreophilus	42	1.2
Vaccinium globulare (membranaceum)	100	21.8
Vaccinium scoparium	28	10.0
Graminoids		
Bromus carinatus	14	0.5
Bromus sp.	14	0.1
Calamagrostis rubescens	57	0.7
Carex geyeri	85	2.1

Scientific Name	Constancy %	Average Cover %
Forbs		
Achillea millefolium	14	0.5
Antennaria racemosa	14	0.1
Arnica cordifolia	85	0.9
Aster engelmannii	71	0.4
Corallorhiza (Corallorrhiza) sp.	28	0.1
Crepis sp.	14	0.1
Epilobium angustifolium	57	0.5
Fragaria vesca	14	0.5
Geranium viscosissimum	14	0.5
Goodyera oblongifolia	57	0.5
Hieracium albiflorum	14	0.5
Hieracium sp.	14	0.1
Listera caurina	42	0.1
Lupinus argenteus	28	0.5
Lupinus sp.	14	0.1
Osmorhiza chilensis	71	0.5
Osmorhiza occidentalis	28	0.3
Pedicularis bracteosa	42	0.1
Pedicularis racemosa	42	0.2
Perideridia gairdneri	14	0.5
Pyrola chlorantha	28	0.5
Pyrola picta	14	0.1
Pyrola (Orthilia) secunda	28	0.5
Senecio integerrimus	14	0.5
Smilacina (Maianthemum) racemosa	14	0.1
Smilacina (Maianthemum) stellata	14	0.5
Thalictrum occidentale	57	0.4
Tragopogon dubius	14	0.1
Valeriana occidentalis	14	0.5
Viola sp.	14	0.1
Viola orbiculata	28	0.5

ABLA/VAGL,VAGL Flatstone

n=19

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Abies lasiocarpa	5	1.0
Pinus contorta	42	13.0
Pseudotsuga menziesii	26	11.6
Tree d.b.h. < 5 inches		
Abies lasiocarpa	10	0.7
Pinus albicaulis	5	1.5
Pinus contorta	36	7.7
Populus tremuloides	21	2.6
Pseudotsuga menziesii	42	3.6
Shrubs		
Amelanchier alnifolia	10	1.0
Arctostaphylos uva-ursi	21	2.0
Berberis (Mahonia) repens	5	0.5
Ceanothus velutinus	5	2.0
Chimaphila umbellata	15	1.6
Lonicera utahensis	73	7.3
Prunus virginiana var. *melanocarpa*	5	5.0
Rosa acicularis	5	1.0
Rubus parviflorus	5	4.0
Salix sp.	21	2.6
Salix scouleriana	15	2.3
Sorbus scopulina	42	1.8
Spiraea betulifolia	31	7.5
Symphoricarpos albus	10	1.5
Symphoricarpos oreophilus	10	5.2
Vaccinium globulare (membranaceum)	31	17.5
Vaccinium scoparium	78	16.8
Graminoids		
Agrostis exarata	5	0.5
Agropyron sp.	5	0.5
Agropyron (Elymus) trachycaulum	5	0.5
Bromus carinatus	5	0.5
Bromus inermis	5	0.5
Bromus sp.	10	0.5
Calamagrostis rubescens	89	22.0
Carex geyeri	73	27.9
Carex rossii	15	4.1
Dactylis glomerata	5	0.5
Danthonia intermedia	10	1.2
Elymus glaucus	5	1.0
Festuca idahoensis	5	0.5
Phleum pratense	5	0.5
Poa sp.	10	0.5
Poa nervosa	10	0.5
Stipa occidentalis	5	3.0
Trisetum spicatum	5	0.5

Scientific Name	Constancy %	Average Cover %
Forbs		
Achillea millefolium	42	1.2
Agoseris glauca	5	0.5
Antennaria corymbosa	10	1.2
Antennaria microphylla	10	3.0
Arnica cordifolia	42	3.0
Aster sp.	26	6.3
Astragalus miser	5	0.5
Calochortus eurycarpus	5	0.5
Campanula rotundifolia	21	0.6
Corallorhiza (Corallorrhiza) sp.	5	1.0
Epilobium angustifolium	78	9.1
Eriophyllum lanatum	5	0.5
Erythronium grandiflorum	10	0.5
Fragaria sp.	5	1.0
Frasera speciosa	5	1.0
Fragaria virginiana	15	2.0
Galium triflorum	5	0.5
Geranium sp.	5	0.5
Geranium viscosissimum	36	2.9
Geum triflorum	5	13.0
Goodyera oblongifolia	5	0.5
Habenaria (Piperia) unalascensis	5	0.5
Hieracium albiflorum	5	3.0
Hieracium cynoglossoides	15	0.5
Hieracium sp.	10	0.5
Lupinus argenteus	31	3.9
Lupinus sp.	26	3.9
Machaeranthera canescens	5	3.0
Osmorhiza chilensis	21	0.7
Pedicularis sp.	15	1.8
Perideridia gairdneri	5	0.5
Potentilla sp.	5	0.5
Potentilla glandulosa	5	0.5
Potentilla gracilis	5	0.5
Pterospora andromedea	5	1.0
Pyrola sp.	5	0.5
Pyrola (Orthilia) secunda	5	0.5
Senecio sp.	5	0.5
Smilacina (Maianthemum) racemosa	5	0.5
Solidago missouriensis	5	1.0
Taraxacum officinale	5	0.5
Thalictrum fendleri	26	5.8
Thalictrum occidentale	31	1.5
Tragopogon dubius	5	0.5
Other forbs	15	2.3
Other Orchidaceae	5	0.5

ABLA/VAGL,VAGL Koffgo

n=21

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Abies lasiocarpa	66	5.8
Picea engelmannii	19	3.7
Pinus albicaulis	4	0.5
Pinus contorta	66	7.0
Pseudotsuga menziesii	85	12.1
Tree d.b.h. < 5 inches		
Abies lasiocarpa	61	9.2
Picea engelmannii	9	0.7
Pinus albicaulis	9	2.2
Pinus contorta	57	3.9
Populus tremuloides	14	4.0
Pseudotsuga menziesii	76	4.2
Shrubs		
Acer glabrum	9	0.7
Amelanchier alnifolia	33	1.7
Arctostaphylos uva-ursi	4	1.0
Berberis (Mahonia) repens	38	1.0
Chimaphila umbellata	14	0.5
Clematis columbiana	9	0.5
Lonicera utahensis	100	3.0
Ribes lacustre	9	0.7
Ribes viscosissimum	19	0.5
Rosa acicularis	9	0.5
Rubus parviflorus	28	0.4
Salix scouleriana	14	1.6
Shepherdia canadensis	23	1.7
Sorbus scopulina	57	1.3
Spiraea betulifolia	71	6.3
Symphoricarpos oreophilus	9	0.5
Vaccinium globulare (membranaceum)	100	23.2
Vaccinium scoparium	4	1.0
Graminoids		
Agropyron (Elymus) trachycaulum	4	0.5
Bromus carinatus	9	1.0
Calamagrostis rubescens	90	4.9
Carex sp.	4	0.5
Carex geyeri	52	6.8
Carex rossii	19	2.2
Dactylis glomerata	9	0.5
Elymus glaucus	28	0.5
Luzula glabrata var. *hitchcockii*	4	0.5
Poa sp.	9	0.5
Poa compressa	4	0.5
Poa nervosa var. *wheeleri*	4	0.5
Forbs		
Achillea millefolium	4	1.0
Actaea rubra	4	0.5
Antennaria microphylla	4	0.5
Antennaria racemosa	42	0.6
Aquilegia flavescens	4	0.5
Aquilegia formosa	4	0.5
Aquilegia sp.	4	0.5
Arnica cordifolia	71	1.8
Arnica sp.	4	10.0
Arnica latifolia	9	1.5
Aster conspicuus	14	1.0
Aster engelmannii	23	0.9
Castilleja miniata	4	0.5
Claytonia lanceolata	4	0.5
Corallorhiza (Corallorrhiza) sp.	4	0.5
Corallorhiza (Corallorrhiza) striata	4	0.5
Disporum trachycarpum	14	0.5
Draba nemorosa	4	0.1
Epilobium angustifolium	61	2.2
Epilobium minutum	4	0.5
Erigeron sp.	4	1.0
Erythronium grandiflorum	4	0.5
Frasera speciosa	4	0.5
Fragaria vesca	23	0.4
Fragaria virginiana	4	1.0
Galium triflorum	4	0.5
Geranium viscosissimum	14	1.3
Goodyera oblongifolia	38	0.4
Helianthella uniflora	4	0.5
Hieracium albiflorum	23	0.6
Hieracium sp.	19	0.8
Ligusticum filicinum	4	0.5
Lupinus argenteus	28	2.0
Microsteris (Phlox) gracilis	4	1.0
Mitella stauropetala	9	0.5
Osmorhiza chilensis	42	1.6
Osmorhiza depauperata	4	0.5
Osmorhiza sp.	19	0.3
Pedicularis bracteosa	4	2.0
Pedicularis racemosa	57	0.7
Potentilla glandulosa	9	0.5
Pterospora andromedea	9	0.5
Pyrola asarifolia	4	0.5
Pyrola sp.	4	0.5
Pyrola picta	9	0.5
Pyrola (Orthilia)secunda	47	0.5
Senecio crassulus	4	0.5
Senecio sp.	4	0.5
Senecio serra	14	2.5

ABLA/VAGL,VAGL Koffgo

(Continued)

Scientific Name	Constancy %	Average Cover %
Smilacina (Maianthemum) racemosa	33	0.5
Streptopus amplexifolius	4	0.5
Thalictrum occidentale	66	1.5
Viola adunca	9	0.5
Other Compositae	4	0.5
Other forbs	19	1.7
Other Liliaceae	4	0.1
Other Orchidaceae	4	0.5

ABLA/VAGL,VAGL Winegar

n=4

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Abies lasiocarpa	25	2.0
Pinus contorta	75	11.0
Pseudotsuga menziesii	50	3.5
Tree d.b.h. < 5 inches		
Abies lasiocarpa	25	0.5
Pinus contorta	75	1.8
Populus tremuloides	25	0.5
Pseudotsuga menziesii	75	1.1
Shrubs		
Amelanchier alnifolia	50	0.5
Ceanothus velutinus	25	0.5
Chimaphila umbellata	25	0.5
Lonicera utahensis	100	6.6
Salix sp.	25	0.5
Salix scouleriana	25	0.5
Shepherdia canadensis	75	3.6
Sorbus scopulina	75	0.5
Spiraea betulifolia	100	0.8
Symphoricarpos albus	25	0.5
Vaccinium caespitosum (cespitosum)	75	0.6
Vaccinium globulare (membranaceum)	100	10.3
Vaccinium scoparium	75	17.0
Graminoids		
Calamagrostis rubescens	100	7.2
Carex geyeri	100	8.5
Danthonia intermedia	25	0.1
Elymus glaucus	50	0.5
Forbs		
Agoseris glauca	25	0.1
Agoseris sp.	25	0.5
Arnica cordifolia	75	0.5
Aster engelmannii	25	0.5
Campanula rotundifolia	25	0.5
Castilleja miniata	50	0.5
Epilobium angustifolium	100	0.5
Fragaria vesca	25	0.5
Fragaria virginiana	50	0.5
Galium boreale	50	0.5
Geranium viscosissimum	75	0.5
Habenaria sp.	25	0.1
Hieracium albiflorum	50	0.5
Hieracium cynoglossoides	50	0.5
Hieracium sp.	25	0.5
Ligusticum filicinum	50	0.3
Lupinus argenteus	75	1.6
Osmorhiza chilensis	75	0.3
Pedicularis bracteosa	75	0.3
Pterospora andromedea	25	0.5
Thalictrum occidentale	75	0.5
Viola adunca	25	0.1
Viola nuttallii	25	0.5

ABLA/VAGL,VASC Koffgo

n=8

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Abies lasiocarpa	62	5.6
Picea engelmannii	25	2.5
Pinus albicaulis	37	2.6
Pinus contorta	75	8.2
Pseudotsuga menziesii	25	2.0
Tree d.b.h. < 5 inches		
Abies lasiocarpa	75	9.8
Picea engelmannii	37	0.6
Pinus albicaulis	62	1.8
Pinus contorta	87	4.9
Pinus flexilis	12	0.5
Populus tremuloides	12	0.5
Pseudotsuga menziesii	25	8.0
Shrubs		
Amelanchier alnifolia	50	0.4
Chimaphila umbellata	50	0.4
Juniperus communis	12	0.5
Lonicera utahensis	100	1.8
Rubus parviflorus	12	0.5
Salix scouleriana	12	0.5
Shepherdia canadensis	12	3.0
Sorbus scopulina	50	0.6
Spiraea betulifolia	50	1.2
Symphoricarpos oreophilus	12	0.5
Vaccinium globulare (membranaceum)	100	16.7
Vaccinium scoparium	100	19.1
Graminoids		
Calamagrostis rubescens	37	7.3
Carex geyeri	87	2.9
Carex rossii	12	5.0
Elymus glaucus	12	0.5
Poa sp.	12	0.5
Forbs		
Achillea millefolium	12	0.5
Antennaria microphylla	12	0.5
Arnica cordifolia	87	1.5
Aster sp.	25	0.3
Astragalus sp.	12	0.5
Collinsia parviflora	12	0.5
Corallorhiza (Corallorrhiza) sp.	37	0.2
Corallorhiza (Corallorrhiza) maculata	12	0.5
Epilobium angustifolium	62	0.2
Erythronium grandiflorum	12	2.0
Fragaria virginiana	12	0.5
Geranium sp.	12	0.5
Hieracium albiflorum	25	0.5
Hieracium sp.	25	1.2
Hieracium umbellatum	37	0.2
Lupinus argenteus	25	0.3
Osmorhiza sp.	12	0.5
Pedicularis racemosa	37	0.2
Potentilla glandulosa	12	0.5
Smilacina (Maianthemum) racemosa	12	0.5
Stellaria americana	12	0.5
Thalictrum occidentale	12	0.5
Valeriana occidentalis	12	0.5
Viola sp.	12	0.1
Viola nuttallii	12	0.5
Xerophyllum tenax	25	0.7

ABLA/VASC Oleo

n=10

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Abies lasiocarpa	70	1.7
Pinus albicaulis	10	1.0
Pinus contorta	100	11.4
Tree d.b.h. < 5 inches		
Abies lasiocarpa	70	5.2
Pinus albicaulis	70	1.7
Pinus contorta	100	9.8
Pseudotsuga menziesii	30	0.9
Shrubs		
Amelanchier alnifolia	10	0.5
Lonicera utahensis	70	2.3
Salix scouleriana	20	0.5
Sorbus scopulina	20	1.0
Spiraea betulifolia	40	1.8
Vaccinium globulare (membranaceum)	10	0.5
Vaccinium scoparium	100	32.3
Graminoids		
Calamagrostis rubescens	100	3.7
Carex geyeri	90	14.2
Carex rossii	30	1.5
Forbs		
Achillea millefolium	10	0.5
Arnica cordifolia	70	1.7
Corallorhiza (Corallorrhiza) sp.	40	0.5
Epilobium angustifolium	60	1.0
Erigeron sp.	10	0.5
Geranium viscosissimum	10	0.5
Hieracium albiflorum	40	0.7
Hieracium cynoglossoides	10	0.5
Hieracium sp.	10	0.5
Lupinus argenteus	20	0.5
Lupinus sp.	20	1.2
Pedicularis racemosa	10	0.5
Thalictrum occidentale	10	0.5
Other forbs	40	0.7

ABLA/VASC,CARU Bradco

n=6

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. < 5 inches		
Abies lasiocarpa	33	1.2
Pinus contorta	50	10.3
Shrubs		
Amelanchier alnifolia	16	0.5
Lonicera utahensis	83	4.2
Salix sp.	33	2.0
Shepherdia canadensis	16	4.0
Spiraea betulifolia	66	4.7
Symphoricarpos albus	33	5.2
Vaccinium globulare (membranaceum)	33	4.5
Vaccinium scoparium	66	28.1
Graminoids		
Calamagrostis rubescens	66	32.5
Carex geyeri	100	31.6
Other Poaceae w/ > trace cover	33	9.0
Forbs		
Achillea millefolium	33	2.5
Arenaria congesta	16	2.0
Aster sp.	16	3.0
Epilobium angustifolium	50	4.6
Geranium viscosissimum	50	3.3
Lupinus sp.	100	4.5
Microsteris (Phlox) gracilis	16	5.0
Senecio sp.	16	3.0
Thalictrum fendleri	16	0.5
Other forbs	16	4.0

ABLA/VASC,CARU Koffgo

n=16

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Pinus contorta	75	15.7
Tree d.b.h. < 5 inches		
Pinus contorta	75	10.4
Pinus flexilis	6	0.5
Pseudotsuga menziesii	37	1.8
Shrubs		
Amelanchier alnifolia	6	1.0
Arctostaphylos uva-ursi	43	1.7
Chimaphila umbellata	6	5.0
Lonicera utahensis	31	1.3
Salix sp.	6	0.5
Salix scouleriana	25	1.6
Spiraea betulifolia	81	6.0
Vaccinium scoparium	75	21.0
Graminoids		
Agropyron sp.	6	0.5
Bromus sp.	6	3.0
Calamagrostis rubescens	100	11.8
Carex disperma	6	3.0
Carex sp.	6	10.0
Carex geyeri	62	6.0
Carex rossii	25	6.2
Festuca idahoensis	6	5.0
Poa sp.	6	2.0
Poa pratensis	12	1.0
Stipa occidentalis	6	5.0
Trisetum spicatum	6	0.5
Forbs		
Achillea millefolium	6	0.5
Antennaria sp.	18	2.8
Antennaria microphylla	12	5.5
Antennaria racemosa	6	3.0
Arenaria congesta	6	2.0
Arnica cordifolia	81	3.1
Arnica parryi	6	0.5
Astragalus miser	6	10.0
Calochortus eurycarpus	6	0.5
Campanula rotundifolia	6	0.5
Corallorhiza (Corallorrhiza) wisteriana	6	0.5
Epilobium angustifolium	31	2.0
Erythronium grandiflorum	6	0.5
Fragaria virginiana	6	1.0
Geranium viscosissimum	12	4.2
Hieracium albiflorum	37	1.3
Hieracium cynoglossoides	12	0.5
Hieracium sp.	6	1.0
Lupinus argenteus	37	2.0
Lupinus sp.	25	2.6
Osmorhiza chilensis	6	0.5
Polygonum sp.	6	2.0
Potentilla arguta	6	0.5
Potentilla gracilis	6	0.5
Pterospora andromedea	12	0.5
Senecio serra	6	1.0
Taraxacum officinale	6	0.5
Thalictrum occidentale	6	1.0
Other Compositae	12	0.5
Other forbs	12	1.5
Other Liliaceae	6	0.5

ABLA/VASC,CARU Rhylow

n=3

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Abies lasiocarpa	33	6.0
Pinus contorta	100	5.8
Tree d.b.h. < 5 inches		
Abies lasiocarpa	66	3.7
Pinus contorta	100	12.0
Shrubs		
Amelanchier alnifolia	33	1.0
Lonicera utahensis	100	4.1
Sorbus scopulina	33	0.5
Spiraea betulifolia	33	0.5
Vaccinium scoparium	66	35.5
Graminoids		
Agropyron sp.	33	0.5
Calamagrostis rubescens	66	9.5
Carex geyeri	100	28.3
Carex rossii	33	5.0
Elymus glaucus	33	0.5
Danthonia intermedia	33	0.5
Poa sp.	33	0.5
Forbs		
Achillea millefolium	66	1.0
Arnica cordifolia	33	0.5
Claytonia lanceolata	33	0.5
Corallorhiza (Corallorrhiza) sp	33	0.5
Epilobium angustifolium	33	4.0
Geranium viscosissimum	33	1.0
Habenaria sp.	33	0.5
Hieracium sp.	33	0.5
Lupinus argenteus	33	2.0
Lupinus sp.	33	0.5
Osmorhiza chilensis	33	0.5
Pterospora andromedea	33	0.5
Other Compositae	33	0.5
Other forbs	66	1.2

ABLA/VASC,PIAL Winegar

n=7

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Abies lasiocarpa	57	6.6
Picea engelmannii	42	3.0
Pinus albicaulis	85	9.7
Tree d.b.h. < 5 inches		
Abies lasiocarpa	85	4.6
Pinus albicaulis	85	0.6
Shrubs		
Vaccinium scoparium	57	16.0
Graminoids		
Carex sp.	28	0.1
Carex paysonis	14	0.1
Carex rossii	14	0.5
Carex rupestris	14	1.0
Deschampsia cespitosa	57	0.5
Juncus drummondii	85	6.5
Juncus parryi	28	0.5
Luzula glabrata var. *hitchcockii*	28	0.3
Poa sp.	57	0.1
Poa compressa	28	0.5
Poa cusickii (fendleriana)	14	0.5
Poa epilis (fendleriana)	28	0.5
Poa reflexa	14	0.1
Poa secunda	42	0.3
Poa nervosa var. *wheeleri*	57	0.6
Forbs		
Antennaria dimorpha	14	0.5
Antennaria sp.	14	0.5
Antennaria umbrinella	28	0.7
Arabis sp.	28	0.1
Arabis lemmonii	14	0.5
Arnica cordifolia	14	0.5
Arnica latifolia	71	0.5
Aster engelmannii	28	0.1
Aster sp.	14	0.1
Bryophytes	28	0.5
Castilleja miniata	14	0.1
Castilleja rhexifolia (rhexiifolia)	57	0.3
Claytonia lanceolata	85	0.4
Epilobium angustifolium	28	0.3
Epilobium sp.	14	0.1
Erigeron sp.	57	0.3
Erigeron peregrinus	14	3.0
Gentiana sp.	14	0.1
Hieracium gracile	42	0.5
Ivesia gordonii	14	0.1
Lewisia pygmaea	14	0.5
Ligusticum filicinum	42	0.2
Lupinus argenteus	28	0.5
Lycopodium sp.	14	0.5
Pedicularis bracteosa	28	0.5
Pedicularis racemosa	57	0.5
Polygonum bistortoides	57	0.4
Potentilla diversifolia	71	0.2
Ranunculus eschscholtzii	42	0.1
Rumex paucifolius	14	0.5
Saxifraga rhomboidea	14	0.1
Senecio crassulus	42	0.5
Sibbaldia procumbens	85	1.2
Solidago multiradiata	14	0.5
Other Compositae	28	0.3
Other Liliaceae	14	0.1

ABLA/VASC,VASC Castan

n=5

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Pinus contorta	80	9.7
Tree d.b.h. < 5 inches		
Abies lasiocarpa	40	1.5
Pinus albicaulis	40	1.7
Pinus contorta	100	8.6
Pseudotsuga menziesii	80	1.3
Shrubs		
Acer glabrum	20	0.5
Alnus incana var. *occidentalis* (ssp. *tenuifolia*)	20	0.5
Amelanchier alnifolia	20	2.0
Juniperus communis	20	0.5
Lonicera utahensis	80	3.0
Ribes sp.	40	0.5
Ribes viscosissimum	20	1.0
Salix sp.	20	0.5
Salix scouleriana	20	0.5
Shepherdia canadensis	20	0.5
Sorbus scopulina	40	0.7
Spiraea betulifolia	100	4.1
Vaccinium globulare (membranaceum)	80	4.1
Vaccinium scoparium	100	27.0
Graminoids		
Calamagrostis rubescens	100	3.5
Carex geyeri	60	13.3
Carex rossii	20	1.0
Forbs		
Apocynum androsaemifolium	20	1.0
Arnica cordifolia	60	0.6
Aster engelmannii	20	1.0
Corallorhiza (Corallorrhiza) sp.	20	0.5
Epilobium angustifolium	60	0.6
Hieracium albiflorum	60	0.5
Hieracium cynoglossoides	20	0.5
Lupinus argenteus	40	0.5
Pterospora andromedea	60	0.5
Tragopogon dubius	20	0.5

ABLA/VASC,VASC Dashiki

n=4

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Abies lasiocarpa	50	1.5
Pinus contorta	75	11.3
Tree d.b.h. < 5 inches		
Abies lasiocarpa	50	3.5
Pinus albicaulis	50	1.5
Pinus contorta	100	14.5
Pseudotsuga menziesii	25	4.0
Shrubs		
Vaccinium scoparium	100	20.7
Graminoids		
Calamagrostis rubescens	25	3.0
Carex geyeri	100	10.0
Carex rossii	25	1.0
Other Poaceae w/ > trace cover	25	1.0
Forbs		
Achillea millefolium	50	0.5
Antennaria sp.	25	0.5
Corallorhiza (Corallorrhiza) sp.	25	0.5
Epilobium angustifolium	50	0.5
Erigeron sp.	25	0.5
Hieracium albiflorum	25	0.5
Lupinus argenteus	50	0.7
Other forbs	50	1.0

Alpine Graminoid Fritz

n=11

Scientific Name	Constancy %	Average Cover %
Shrubs		
Artemisia frigida	9	0.1
Artemisia tridentata ssp. *vaseyana* var. *vaseyana*	9	0.1
Ribes montigenum	9	0.1
Graminoids		
Agropyron (Pseudoroegneria) spicatum	27	7.5
Agropyron (Elymus) trachycaulum	18	0.3
Carex elynoides	45	21.7
Carex sp.	9	0.5
Carex rupestris	36	4.1
Carex subnigricans	18	0.5
Deschampsia cespitosa	18	0.5
Festuca idahoensis	27	16.1
Festuca ovina	27	5.2
Hordeum jubatum	9	0.5
Juncus drummondii	9	0.5
Koeleria nitida (macrantha)	9	0.5
Leucopoa kingii	18	0.5
Poa sp.	18	0.5
Poa compressa	9	0.5
Poa cusickii (fendleriana)	36	12.8
Poa epilis (fendleriana)	18	8.5
Poa reflexa	18	0.5
Poa rupicola (glauca)	45	6.2
Poa sandbergii	9	18.0
Poa secunda	9	0.5
Forbs		
Achillea millefolium	45	2.9
Agoseris glauca	54	3.4
Allium sp.	9	0.5
Androsace septentrionalis	18	0.3
Anemone multifida	18	0.1
Antennaria alpina	18	0.5
Antennaria luzuloides	18	0.5
Antennaria microphylla	36	2.2
Aquilegia sp.	9	0.5
Arabis sp.	18	0.5
Arabis nuttallii	63	0.4
Arenaria congesta	18	0.5
Arenaria sp.	18	0.5
Arenaria (Minuartia) nuttallii	27	0.3
Astragalus kentrophyta	9	0.5
Besseya wyomingensis	36	0.4
Bupleurum americanum	27	0.5
Castilleja rhexifolia (rhexiifolia)	9	0.5
Castilleja sulphurea	9	0.5
Castilleja sp.	36	0.5
Cerastium arvense	27	0.6
Claytonia lanceolata	9	0.5
Cymopterus bipinnatus (nivalis)	36	2.0
Delphinium glaucescens	9	4.0
Delphinium sp.	18	0.5
Dodecatheon sp.	9	0.5
Dodecatheon pulchellum	9	0.5
Draba sp.	27	0.5
Draba crassifolia	9	0.5
Draba oligosperma	18	0.5
Erigeron compositus	45	2.0
Erigeron sp.	9	0.5
Eritrichium nanum	45	0.3
Eriogonum ochrocephalum	9	0.5
Erigeron peregrinus	18	2.2
Frasera speciosa	45	1.1
Gentiana sp.	18	0.1
Geum triflorum	27	0.6
Haplopappus (Stenotus) stenophyllus	9	0.5
Hieracium gracile	18	0.5
Ivesia gordonii	45	1.0
Lesquerella multiceps	9	0.5
Lewisia pygmaea	18	0.5
Linum perenne (lewisii) var. *lewisii*	27	0.5
Lloydia serotina	27	0.5
Lomatium cous	27	0.5
Lupinus lepidus	9	0.5
Mertensia viridis (lanceolata var. *nivalis)*	18	0.5
Oxytropis lagopus	36	0.4
Oxytropis sericea	72	1.2
Oxytropis viscida	27	0.5
Pedicularis parryi	45	0.6
Phacelia hastata	9	0.5
Phacelia heterophylla	9	0.5
Phlox hoodii	27	0.8
Phlox multiflora	27	1.3
Phlox pulvinata	9	1.0
Polygonum bistortoides	27	1.5
Potentilla diversifolia	45	0.6
Potentilla ovina	81	3.5
Ranunculus eschscholtzii	18	1.5
Ranunculus glaberrimus	9	0.5
Saxifraga rhomboidea	45	0.5
Sedum lanceolatum	45	0.5
Senecio canus	36	0.5

Alpine Graminoid Fritz

(Continued)

Scientific Name	Constancy %	Average Cover %
Senecio crassulus	18	0.5
Senecio dimorphophyllus	18	2.2
Senecio sp.	9	0.1
Senecio integerrimus	9	0.5
Senecio streptanthifolius	9	0.1
Sibbaldia procumbens	9	0.5
Stellaria longipes var. *altocaulis*	9	0.5
Taraxacum officinale	18	0.5
Townsendia condensata	9	0.5
Townsendia montana (alpigena)	9	0.5
Townsendia sp.	9	0.5
Townsendia parryi	18	0.5
Trifolium sp.	9	0.5
Trifolium haydenii	18	0.5
Other Compositae	18	0.3
Other Cruciferae	9	0.1
Other Umbelliferae	18	0.3

ARARA/FEID Mountainboy

n=1

Scientific Name	Constancy %	Average Cover %
Shrubs		
Artemisia arbuscula ssp. *arbuscula*	100	4.0
Graminoids		
Agropyron (Pseudoroegneria) spicatum	100	0.5
Festuca idahoensis	100	3.0
Koeleria nitida (macrantha)	100	3.0
Poa sandbergii	100	2.0
Forbs		
Arenaria congesta	100	0.5
Astragalus purshii	100	0.5
Castilleja sp.	100	0.5
Cymopterus acaulis	100	0.5
Draba sp.	100	0.5
Erigeron compositus	100	0.5
Haplopappus (Stenotus) stenophyllus	100	12.0
Lesquerella carinata	100	0.5
Phlox hoodii	100	1.0
Other Compositae	100	0.5

ARNO4/AGSP Simeroi

n=13

Scientific Name	Constancy %	Average Cover %
Shrubs		
Artemisia arbuscula ssp. *arbuscula*	15	0.7
Artemisia frigida	23	0.5
Artemisia nova	100	13.5
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	38	1.2
Artemisia rigida	7	0.5
Artemisia tridentata ssp. *tridentata*	7	0.5
Chrysothamnus viscidiflorus	92	0.4
Tetradymia canescens	46	0.3
Graminoids		
Agropyron (Pseudoroegneria) spicatum	100	9.0
Agropyron (Elymus) trachycaulum	7	0.5
Festuca idahoensis	15	0.5
Koeleria nitida (macrantha)	7	1.0
Leucopoa kingii	15	0.5
Oryzopsis hymenoides	38	0.6
Poa sp.	30	0.5
Poa sandbergii	46	0.5
Stipa comata	7	0.5
Trisetum spicatum	15	0.3
Forbs		
Agoseris glauca	23	0.3
Allium acuminatum	7	0.5
Allium sp.	15	0.1
Antennaria microphylla	23	0.5
Arabis sp.	15	0.1
Arabis holboellii	15	0.5
Arenaria congesta	23	0.2
Arenaria sp.	30	0.3
Astragalus calycosus	7	0.1
Astragalus cibarius	30	0.4
Aster sp.	7	0.1
Astragalus miser	30	0.4
Astragalus purshii	23	0.5
Astragalus sp.	46	0.3
Balsamorhiza sagittata	30	0.5
Besseya wyomingensis	7	0.5
Bryophytes	7	0.5
Castilleja angustifolia	61	0.4
Castilleja flava	7	0.5
Castilleja sp.	15	0.5
Cirsium sp.	7	0.5
Comandra umbellata	46	0.4
Coryphantha (Escobaria) missouriensis	7	0.5
Crepis sp.	69	0.5
Cymopterus acaulis	7	0.5
Cymopterus bipinnatus (nivalis)	30	0.3
Dodecatheon pulchellum	7	0.5
Erigeron compositus	7	0.5
Erigeron sp.	7	0.5
Eriogonum sp.	15	0.5
Eriogonum ovalifolium	23	0.1
Erysimum sp.	7	0.5
Fritillaria atropurpurea	7	0.5
Gilia (Ipomopsis) aggregata	7	0.5
Haplopappus (Stenotus) stenophyllus	69	0.3
Leptodactylon pungens	23	0.3
Linum perenne (lewisii) var. *lewisii*	30	0.4
Lithophragma sp.	7	0.1
Lithospermum ruderale	23	0.3
Lomatium cous	7	0.5
Lomatium triternatum	7	0.5
Lupinus sp.	7	0.5
Lupinus lepidus	7	0.5
Mertensia viridis (lanceolata var. *nivalis)*	15	0.5
Microseris (Nothocalais) troximoides	7	0.5
Oenothera caespitosa (cespitosa)	7	0.5
Opuntia polyacantha	23	0.5
Orobanche sp.	23	0.2
Penstemon aridus	7	0.5
Penstemon eriantherus	7	0.5
Penstemon gracilis	15	0.5
Penstemon sp.	15	0.5
Phlox hoodii	92	0.5
Phlox longifolia	7	0.1
Polygonum sp.	7	0.5
Sedum lanceolatum	7	0.5
Senecio integerrimus	15	0.5
Taraxacum officinale	7	0.5
Townsendia montana (alpigena)	38	0.2
Tragopogon dubius	15	0.5
Viola nuttallii	15	0.5
Zigadenus venenosus	15	0.1
Other Compositae	30	0.2
Other Cruciferae	23	0.5

ARTRP4/ARART Trude

n=3

Scientific Name	Constancy %	Average Cover %
Shrubs		
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	33	15.0
Artemisia arbuscula ssp. *thermopola*	100	15.0
Purshia tridentata	33	2.0
Graminoids		
Carex sp.	100	0.8
Carex vallicola	33	1.0
Danthonia unispicata	33	0.5
Festuca idahoensis	33	8.0
Koeleria nitida (macrantha)	66	3.7
Poa sp.	33	0.5
Stipa occidentalis	33	5.0
Stipa sp.	33	7.0
Forbs		
Achillea millefolium	33	0.5
Antennaria sp.	33	3.0
Antennaria microphylla	33	1.0
Arenaria congesta	33	0.5
Arenaria kingii	33	0.5
Claytonia lanceolata	33	0.5
Dodecatheon pulchellum	66	0.5
Eriogonum heracleoides	33	8.0
Eriogonum sp.	66	4.5
Eriogonum umbellatum	33	3.0
Fritillaria pudica	66	0.7
Lomatium sp.	33	2.0
Lomatium triternatum	33	0.5
Lupinus argenteus	66	3.5
Phlox multiflora	33	2.0
Polygonum douglasii	33	2.0

ARTRP4/FEID Cryoborolls

n=12

Scientific Name	Constancy %	Average Cover %
Shrubs		
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	100	22.0
Chrysothamnus viscidiflorus	91	0.4
Symphoricarpos oreophilus	25	0.3
Tetradymia canescens	75	0.9
Graminoids		
Agropyron sp.	8	0.5
Agropyron (Pseudoroegneria) spicatum	91	6.0
Bromus carinatus	8	0.5
Bromus sp.	8	0.1
Carex sp.	33	0.3
Carex petasata	16	0.5
Carex vallicola	16	0.5
Danthonia intermedia	8	0.5
Elymus (Leymus) cinereus	16	0.5
Festuca idahoensis	83	16.0
Koeleria nitida (macrantha)	16	0.5
Poa sp.	16	0.5
Poa ampla (secunda)	8	1.0
Poa cusickii (fendleriana)	8	3.0
Poa pratensis	8	1.0
Poa sandbergii	41	3.8
Poa secunda	16	2.0
Poa nervosa var. *wheeleri*	8	0.5
Stipa occidentalis	8	0.5
Trisetum spicatum	8	0.1
Forbs		
Achillea millefolium	33	0.5
Agoseris glauca	33	0.4
Allium acuminatum	25	0.5
Allium sp.	8	0.1
Antennaria microphylla	100	0.7
Arabis sp.	33	0.5
Arabis holboellii	25	0.5
Arenaria congesta	16	0.5
Arenaria sp.	25	0.5
Arnica sororia	8	0.5
Astragalus cibarius	25	0.2
Astragalus miser	25	0.3
Astragalus sp.	41	0.5
Balsamorhiza sagittata	58	1.2
Besseya wyomingensis	58	0.4
Castilleja angustifolia	16	0.1
Castilleja longispica (pilosa)	8	0.5
Castilleja pallescens	8	0.5
Castilleja sp.	41	0.4
Collinsia parviflora	25	0.3
Comandra umbellata	58	0.5
Crepis occidentalis	8	0.5
Crepis sp.	91	0.5
Cymopterus bipinnatus (nivalis)	25	0.2
Dodecatheon pulchellum	33	0.5
Erigeron sp.	25	0.5
Eriogonum sp.	33	0.5
Eriogonum ovalifolium	8	0.1
Eriogonum umbellatum	41	0.4
Fritillaria atropurpurea	58	0.3
Geranium sp.	8	0.5
Geum triflorum	16	0.5
Haplopappus (Stenotus) stenophyllus	8	0.1
Haplopappus (Pyrrocoma) uniflorus	8	8.0
Helianthella uniflora	8	2.0
Heuchera sp.	25	0.5
Iris missouriensis	8	0.5
Leptodactylon pungens	25	0.5
Lithospermum ruderale	41	0.4
Lomatium cous	8	0.5
Lomatium triternatum	33	0.4
Lupinus sp.	16	0.5
Lupinus lepidus	75	0.8
Mertensia viridis (lanceolata var. *nivalis)*	25	0.5
Microsteris (Phlox) gracilis	8	0.5
Microseris nutans	8	0.5
Microseris sp.	25	0.5
Penstemon gracilis	16	0.5
Penstemon sp.	25	0.2
Phacelia heterophylla	8	0.5
Phlox hoodii	33	0.5
Phlox longifolia	91	0.4
Polygonum sp.	8	0.1
Saxifraga rhomboidea	8	0.5
Senecio integerrimus	25	0.5
Taraxacum officinale	58	0.5
Townsendia montana (alpigena)	8	0.5
Viola nuttallii	41	0.5
Zigadenus venenosus	75	0.4
Other Compositae	33	0.2

ARTRP4/FEID Monida

n=12

Scientific Name	Constancy %	Average Cover %
Shrubs		
Artemisia arbuscula ssp. *arbuscula*	8	0.5
Artemisia frigida	8	0.5
Artemisia nova	16	0.7
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	83	17.5
Chrysothamnus nauseosus	8	3.0
Chrysothamnus viscidiflorus	50	0.4
Rosa sp.	8	0.5
Symphoricarpos oreophilus	16	0.5
Tetradymia canescens	58	2.5
Graminoids		
Agropyron (Elymus) dasytachyum	8	0.5
Agropyron (Pseudoroegneria) spicatum	58	0.7
Agropyron (Elymus) trachycaulum	25	0.5
Bromus anomalus	8	1.0
Bromus carinatus	8	4.0
Carex sp.	33	0.5
Carex geyeri	8	3.0
Carex petasata	33	0.3
Carex rossii	8	2.0
Carex vallicola	8	0.5
Danthonia intermedia	8	8.0
Elymus (Leymus) cinereus	8	5.0
Festuca idahoensis	91	19.0
Koeleria nitida (macrantha)	66	1.0
Poa sp.	25	0.5
Poa ampla (secunda)	16	0.7
Poa cusickii (fendleriana)	8	2.0
Poa pratensis	16	2.0
Poa sandbergii	50	3.4
Stipa comata	16	3.5
Stipa occidentalis	8	2.0
Stipa sp.	8	0.5
Trisetum spicatum	8	0.5
Forbs		
Achillea millefolium	83	0.5
Agoseris glauca	8	0.1
Allium cernuum	8	0.5
Allium sp.	8	0.5
Antennaria microphylla	91	0.9
Arabis sp.	33	0.3
Arabis drummondii	8	0.5
Arabis holboellii	8	0.5
Arenaria congesta	8	0.5
Arenaria sp.	25	0.5
Aster perelegans	8	0.5
Astragalus purshii	8	0.5
Astragalus sp.	58	0.4
Balsamorhiza sagittata	8	0.5
Besseya wyomingensis	25	0.5
Castilleja sp.	25	0.5
Cirsium scariosum	8	0.5
Cirsium sp.	8	0.5
Clematis hirsutissima	8	3.0
Comandra umbellata	8	0.5
Crepis sp.	16	0.5
Cymopterus acaulis	8	0.5
Cymopterus bipinnatus (nivalis)	25	0.5
Dodecatheon pulchellum	8	0.5
Draba sp.	8	0.5
Epilobium angustifolium	8	1.0
Erigeron compositus	8	0.5
Erigeron sp.	8	0.5
Eriogonum sp.	8	0.5
Eriogonum umbellatum	58	1.0
Galium boreale	8	1.0
Geranium viscosissimum	33	1.2
Geum triflorum	66	0.4
Helianthella uniflora	25	13.3
Heuchera sp.	25	0.5
Iris missouriensis	8	0.5
Linum perenne (lewisii) var. *lewisii*	8	1.0
Lithospermum ruderale	16	0.5
Lomatium sp.	8	0.5
Lupinus argenteus	8	1.0
Lupinus caudatus	8	0.5
Lupinus sp.	16	0.7
Lupinus lepidus	41	0.6
Mertensia viridis (lanceolata var. *nivalis)*	25	0.5
Microseris (Nothocalais) troximoides	16	0.5
Oxytropis viscida	8	0.5
Phlox hoodii	25	1.0
Phlox longifolia	8	0.5
Phlox sp.	16	1.7
Potentilla glandulosa	16	0.5
Potentilla gracilis	33	1.0
Ranunculus glaberrimus	8	0.5
Ranunculus glaberrimus var. *ellipticus*	16	0.5
Sedum lanceolatum	8	0.5
Solidago multiradiata	8	0.5

ARTRP4/FEID Monida

(Continued)

Scientific Name	Constancy %	Average Cover %
Taraxacum officinale	8	0.5
Townsendia montana (alpigena)	8	0.5
Viola sp.	8	0.5
Zigadenus venenosus	16	0.5
Other Caryophyllaceae	8	0.5
Other Compositae	25	0.5
Other Cruciferae	25	0.3

ARTRP4/FEID Quirt

n=6

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. < 5 inches		
Juniperus scopulorum	16	0.5
Shrubs		
Amelanchier alnifolia	66	0.6
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	100	18.1
Artemisia tripartita	66	0.4
Berberis (Mahonia) repens	100	0.3
Chrysothamnus viscidiflorus	83	0.3
Purshia tridentata	83	8.0
Rosa acicularis	16	0.5
Symphoricarpos oreophilus	100	0.5
Tetradymia canescens	50	0.1
Graminoids		
Agropyron (Elymus) dasytachyum	33	0.1
Agropyron (Pseudoroegneria) spicatum	16	0.1
Bromus carinatus	16	0.1
Bromus sp.	16	0.1
Carex douglasii	16	0.5
Carex hoodii	33	0.1
Carex petasata	33	0.3
Carex vallicola	66	0.3
Elymus (Leymus) cinereus	16	0.5
Festuca idahoensis	100	7.9
Koeleria nitida (macrantha)	66	0.2
Melica bulbosa	16	0.1
Poa compressa	33	0.1
Poa fendleriana	50	0.3
Poa pratensis	66	9.1
Poa sandbergii	83	0.5
Forbs		
Achillea millefolium	100	0.5
Androsace septentrionalis	50	0.1
Antennaria microphylla	100	0.3
Arnica fulgens	16	1.0
Astragalus miser	50	0.1
Balsamorhiza macrophylla	16	0.5
Balsamorhiza sagittata	83	0.3
Cirsium sp.	66	0.2
Clematis hirsutissima	16	0.1
Collinsia parviflora	16	0.1
Comandra umbellata	100	0.5
Crepis acuminata	33	0.5
Eriogonum heracleoides	83	0.4
Eriophyllum lanatum	50	0.3
Erysimum sp.	16	0.1
Fragaria virginiana	16	0.1
Geranium viscosissimum	66	0.3
Geum triflorum	16	0.1
Gilia (Ipomopsis) aggregata	50	0.2
Hackelia micrantha	16	0.1
Helianthella uniflora	66	0.4
Linum perenne (lewisii) var. *lewisii*	83	0.4
Lithophragma parviflorum	33	0.1
Lithospermum ruderale	50	0.2
Lupinus sericeus	83	0.5
Mertensia viridis (lanceolata var. *nivalis)*	66	0.2
Penstemon radicosus	50	0.3
Penstemon sp.	16	0.1
Phlox hoodii	33	1.0
Phlox longifolia	33	0.5
Potentilla glandulosa	33	0.5
Potentilla gracilis	33	0.5
Rumex paucifolius	66	0.4
Senecio integerrimus	83	0.4
Taraxacum officinale	50	0.5
Viola nuttallii	33	0.1
Wyethia amplexicaulis	50	6.8
Other Compositae	83	0.9
Other Cichorium	50	0.2
Other Cruciferae	33	0.1

ARTRP4/FEID Raynoldson

n=4

Scientific Name	Constancy %	Average Cover %
Shrubs		
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	100	17.8
Artemisia tripartita	50	1.2
Berberis (Mahonia) repens	25	0.5
Purshia tridentata	25	0.5
Symphoricarpos oreophilus	50	2.2
Graminoids		
Agropyron (Elymus) dasytachyum	75	0.6
Agropyron Pseudoroegneria) spicatum	25	1.0
Agropyron (Elymus) trachycaulum	50	1.7
Bromus carinatus	25	0.5
Carex douglasii	25	1.0
Carex filifolia	50	11.0
Carex hoodii	25	0.5
Carex petasata	75	0.3
Festuca idahoensis	50	21.0
Festuca scabrella (campestris)	25	4.0
Koeleria nitida (macrantha)	25	0.1
Melica bulbosa	25	0.5
Melica spectabilis	25	2.0
Poa pratensis	50	15.0
Stipa occidentalis	25	0.1
Forbs		
Achillea millefolium	100	0.6
Agoseris glauca	50	0.5
Allium sp.	50	0.1
Androsace septentrionalis	25	0.5
Antennaria microphylla	50	0.7
Arabis sp.	25	0.5
Arabis nuttallii	25	0.5
Arnica fulgens	25	0.1
Artemisia ludoviciana	25	0.5
Astragalus miser	25	0.1
Collinsia parviflora	50	0.7
Crepis acuminata	50	0.1
Crepis sp.	25	0.1
Dodecatheon pulchellum	25	0.5
Eriogonum heracleoides	50	1.2
Eriophyllum lanatum	50	0.1
Eriogonum umbellatum	75	2.0
Frasera speciosa	50	0.5
Fragaria virginiana	25	0.5
Fritillaria atropurpurea	50	0.3
Galium bifolium	25	0.5
Geranium viscosissimum	50	0.5
Linum perenne (lewisii) var. *lewisii*	25	0.1
Lithospermum ruderale	50	0.5
Lomatium triternatum	50	0.5
Lupinus sp.	50	0.5
Lupinus sericeus	50	0.5
Penstemon procerus	25	1.0
Phlox longifolia	25	0.1
Polygonum douglasii	25	0.1
Potentilla gracilis	50	0.5
Rumex paucifolius	25	0.1
Senecio integerrimus	75	0.5
Smilacina (Maianthemum) stellata	25	0.1
Solidago multiradiata	50	2.0
Taraxacum officinale	25	0.1
Tragopogon dubius	50	0.1
Trifolium sp.	25	0.5
Viola sp.	50	0.5
Viola nuttallii	25	0.5
Wyethia amplexicaulis	25	0.1
Zigadenus venenosus	50	0.3
Other Cichorium	25	0.5
Other Compositae	25	3.0

ARTRP4/FEID Zeale

n=17

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. < 5 inches		
Juniperus scopulorum	5	0.5
Shrubs		
Artemisia arbuscula ssp. *arbuscula*	5	0.5
Artemisia frigida	17	0.5
Artemisia nova	29	1.1
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	100	13.3
Artemisia tripartita	5	15.0
Chrysothamnus viscidiflorus	64	0.5
Potentilla (Pentaphylloides) fruticosa	5	0.5
Symphoricarpos oreophilus	23	0.5
Tetradymia canescens	70	0.5
Graminoids		
Agropyron sp.	11	17.5
Agropyron (Pseudoroegneria) spicatum	88	7.1
Agropyron (Elymus) trachycaulum	17	0.5
Carex sp.	11	0.7
Elymus (Leymus) cinereus	5	1.0
Festuca idahoensis	82	18.4
Koeleria nitida (macrantha)	47	0.5
Leucopoa kingii	11	0.5
Poa sp.	23	0.5
Poa ampla (secunda)	5	0.5
Poa sandbergii	58	2.1
Poa secunda	5	3.0
Stipa comata	5	0.5
Trisetum spicatum	5	0.1
Forbs		
Achillea millefolium	64	0.5
Agoseris glauca	29	0.5
Allium sp.	47	0.4
Antennaria microphylla	82	1.4
Arabis sp.	35	0.4
Arabis holboellii	11	0.5
Arabis nuttallii	11	0.5
Arenaria congesta	5	0.5
Arenaria sp.	11	0.5
Astragalus cibarius	11	0.5
Astragalus miser	41	0.4
Astragalus purshii	5	1.0
Astragalus sp.	29	0.6
Balsamorhiza sagittata	23	0.5
Besseya wyomingensis	41	0.5
Bupleurum americanum	11	0.5
Bryophytes	5	0.5
Castilleja angustifolia	11	0.5
Castilleja sp.	52	0.4
Comandra umbellata	52	0.4
Crepis sp.	58	0.5
Cryptantha stricta	5	0.5
Cymopterus bipinnatus (nivalis)	17	0.5
Delphinium sp.	5	0.5
Dodecatheon pulchellum	29	0.5
Draba sp.	11	0.5
Draba oligosperma	5	0.5
Erigeron compositus	11	0.7
Erigeron sp.	17	0.5
Eriogonum ochrocephalum	5	0.5
Eriogonum sp.	5	0.5
Eriogonum umbellatum	23	0.5
Erysimum sp.	5	0.5
Frasera speciosa	17	0.5
Fritillaria atropurpurea	17	0.3
Geum triflorum	17	0.3
Haplopappus sp.	5	0.5
Haplopappus (Stenotus) stenophyllus	29	0.5
Helianthella uniflora	11	1.0
Heuchera sp.	17	0.5
Iris missouriensis	5	0.5
Leptodactylon pungens	11	0.5
Linum perenne (lewisii) var. *lewisii*	17	0.5
Lithospermum ruderale	11	0.3
Lomatium triternatum	17	0.5
Lupinus caudatus	5	0.5
Lupinus sp.	5	0.1
Lupinus lepidus	35	0.7
Mertensia viridis lanceolata var. *(nivalis)*	76	0.5
Microseris (Nothocalais) troximoides	5	0.5
Opuntia polyacantha	5	0.5
Orobanche sp.	5	0.5
Oxytropis lagopus	5	0.5
Oxytropis sp.	11	0.5
Oxytropis viscida	5	0.5
Pedicularis contorta var. *ctenophora*	11	0.7
Pedicularis sp.	11	0.5
Penstemon aridus	5	0.5
Penstemon gracilis	5	0.5
Phlox hoodii	47	0.7
Phlox longifolia	29	0.4

ARTRP4/FEID Zeale

(Continued)

Scientific Name	Constancy %	Average Cover %
Phlox sp.	17	0.5
Potentilla ovina	5	0.5
Saxifraga rhomboidea	5	0.5
Sedum lanceolatum	41	0.5
Senecio canus	11	0.5
Senecio sp.	29	0.5
Senecio integerrimus	17	0.5
Taraxacum officinale	58	0.4
Townsendia florifer	5	0.5
Townsendia parryi	11	0.7
Tragopogon dubius	5	0.5
Viola sp.	5	0.5
Viola nuttallii	23	0.5
Zigadenus venenosus	17	0.5
Other Caryophyllaceae	11	0.5
Other Compositae	29	0.5
Other Cruciferae	17	0.5
Other Umbelliferae	5	0.5

ARTRP4/FEID Zeebar

n=12

Scientific Name	Constancy %	Average Cover %
Shrubs		
Artemisia frigida	16	0.5
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	100	19.4
Artemisia rigida	8	0.5
Chrysothamnus nauseosus	8	2.0
Chrysothamnus viscidiflorus	50	1.2
Purshia tridentata	16	3.0
Rosa sp.	8	0.5
Symphoricarpos oreophilus	8	0.5
Tetradymia canescens	25	0.6
Graminoids		
Agropyron (Elymus) dasytachyum	8	0.5
Agropyron (Elytrigia) intermedium	16	0.5
Agropyron (Elytrigia) repens	8	0.5
Agropyron (Pascopyrum) smithii	16	0.5
Agropyron (Pseudoroegneria) spicatum	41	8.1
Agrostis stolonifera	8	0.5
Agropyron (Elymus) trachycaulum	16	0.7
Bromus carinatus	16	1.5
Bromus inermis	16	0.5
Bromus sp.	8	0.5
Bromus tectorum	8	0.5
Carex douglasii	8	0.5
Carex sp.	8	0.5
Carex filifolia	25	0.6
Danthonia intermedia	16	0.7
Danthonia sp.	16	0.5
Festuca idahoensis	100	12.2
Koeleria nitida (macrantha)	41	2.4
Leucopoa kingii	8	2.0
Melica bulbosa	8	0.5
Melica spectabilis	16	0.5
Phleum pratense	25	0.5
Poa sp.	16	1.2
Poa cusickii (fendleriana)	8	0.5
Poa nevadensis (secunda)	16	0.7
Poa pratensis	41	2.8
Poa sandbergii	16	0.5
Poa scabrella	8	0.5
Sitanion (Elymus) hystrix	8	0.5
Stipa comata	16	3.0
Stipa occidentalis	58	0.9
Stipa sp.	8	0.5
Trisetum spicatum	8	0.5
Forbs		
Achillea millefolium	83	0.6
Agoseris glauca	41	0.8
Allium sp.	8	0.5
Antennaria microphylla	83	0.8
Arabis sp.	8	0.5
Arabis drummondii	16	0.5
Arabis holboellii	41	0.5
Arenaria congesta	41	1.1
Arenaria kingii	8	0.5
Arenaria sp.	8	0.5
Aster integrifolius	8	0.5
Astragalus miser	8	0.5
Astragalus sp.	33	0.5
Balsamorhiza sagittata	16	0.5
Campanula rotundifolia	8	0.5
Castilleja cusickii	16	0.5
Castilleja rustica (flava)	8	0.5
Castilleja sp.	8	0.1
Cirsium arvense	8	0.5
Clematis hirsutissima	8	0.5
Collomia grandiflora	8	0.5
Collinsia parviflora	16	0.5
Comandra umbellata	8	0.5
Crepis acuminata	8	0.5
Crepis sp.	8	0.1
Delphinium bicolor	16	0.5
Descurainia sp.	8	0.5
Epilobium minutum	25	0.5
Erigeron caespitosus	8	0.5
Erigeron compositus	8	0.5
Eriogonum heracleoides	33	0.6
Eriophyllum lanatum	8	0.5
Eriogonum sp.	8	0.5
Erigeron peregrinus	25	0.6
Eriogonum umbellatum	66	1.1
Erysimum inconspicuum	8	0.5
Fritillaria atropurpurea	8	0.5
Geranium viscosissimum	33	0.6
Geum triflorum	33	0.7
Helianthella uniflora	16	0.5
Hieracium sp.	8	0.5
Lithospermum ruderale	8	1.0
Lupinus argenteus	8	1.0
Lupinus caudatus	16	0.5
Lupinus sp.	25	0.5
Lupinus lepidus	8	0.5
Lupinus leucophyllus	16	2.2

ARTRP4/FEID Zeebar

(Continued)

Scientific Name	Constancy %	Average Cover %
Mertensia viridis (lanceolata var. *nivalis)*	8	0.5
Microsteris (Phlox) gracilis	33	0.5
Microseris (Nothocalais) troximoides	8	0.5
Oenothera caespitosa (cespitosa)	8	0.5
Perideridia gairdneri	41	0.6
Phacelia heterophylla	25	0.5
Phacelia sericea	8	0.5
Phlox hoodii	8	0.5
Phlox longifolia	25	0.6
Phlox sp.	8	0.5
Polygonum douglasii	50	0.9
Potentilla glandulosa	33	0.7
Potentilla gracilis	25	2.6
Rumex paucifolius	25	0.5
Selaginella densa var. *densa*	8	0.5
Senecio sp.	8	0.5
Taraxacum officinale	83	0.5
Tragopogon dubius	41	0.6
Trifolium arvense	16	0.5
Viola nuttallii	8	0.5
Wyethia helianthoides	25	2.1
Zigadenus venenosus	8	0.5
Other Boraginaceae	16	0.5
Other Chenopodiaceae	8	0.5
Other Compositae	25	0.3

ARTRP4/SYOR2/FEID Tetonia

n=3

Scientific Name	Constancy %	Average Cover %
Shrubs		
Amelanchier alnifolia	100	2.3
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	66	0.7
Artemisia tripartita	100	7.3
Berberis (Mahonia) repens	33	0.5
Chrysothamnus viscidiflorus	100	1.1
Purshia tridentata	100	3.1
Ribes (oxyacanthoides ssp.*) setosum*	33	0.5
Rosa acicularis	33	0.5
Rosa woodsii	33	0.5
Symphoricarpos oreophilus	100	10.0
Tetradymia canescens	33	0.5
Graminoids		
Agropyron sp.	33	0.5
Bromus sp.	33	0.5
Bromus tectorum	66	1.7
Carex sp.	33	0.1
Carex vallicola	33	0.5
Elymus (Leymus) cinereus	100	0.3
Koeleria nitida (macrantha)	33	0.5
Oryzopsis hymenoides	33	0.1
Poa compressa	33	10.0
Poa pratensis	100	10.0
Poa sandbergii	66	0.3
Forbs		
Achillea millefolium	100	0.5
Agastache urticifolia	33	0.1
Arabis sp.	33	0.1
Arnica fulgens	33	0.5
Artemisia ludoviciana	33	0.1
Balsamorhiza sagittata	33	0.1
Comandra umbellata	66	0.3
Crepis sp.	33	0.1
Eriogonum heracleoides	66	0.5
Geranium viscosissimum	66	0.3
Hackelia patens	33	0.1
Helianthella uniflora	66	1.7
Linum perenne (lewisii) var. *lewisii*	66	0.5
Lithophragma parviflorum	33	0.1
Lithospermum ruderale	66	0.3
Microseris sp.	33	0.1
Phlox longifolia	66	0.3
Potentilla glandulosa	33	0.5
Senecio integerrimus	66	0.3
Smilacina (Maianthemum) stellata	33	0.1
Stanleya viridiflora	33	0.1
Taraxacum officinale	33	0.5
Tragopogon dubius	33	0.5
Verbascum thapsis	33	0.5
Other Compositae	66	0.5
Other Cruciferae	33	0.1
Other Liliaceae	33	0.1

ARTRT/AGSP Buist

n=6

Scientific Name	Constancy %	Average Cover %
Shrubs		
Amelanchier alnifolia	66	0.5
Artemisia tridentata ssp. *tridentata*	100	8.0
Artemisia tripartita	50	1.6
Berberis (Mahonia) repens	33	2.2
Chrysothamnus viscidiflorus	100	0.7
Clematis columbiana	16	0.1
Prunus virginiana var. *melanocarpa*	33	0.5
Purshia tridentata	83	4.8
Rosa sp.	16	0.5
Rosa acicularis	16	0.5
Symphoricarpos oreophilus	66	6.0
Tetradymia canescens	66	1.7
Graminoids		
Agropyron sp.	16	1.0
Agropyron (Pseudoroegneria) spicatum	83	1.2
Bromus carinatus	16	0.1
Bromus sp.	16	0.5
Bromus tectorum	83	40.0
Carex sp.	16	0.1
Carex vallicola	16	0.5
Elymus (Leymus) cinereus	66	0.5
Elymus glaucus	16	0.5
Koeleria nitida (macrantha)	16	0.5
Poa pratensis	100	8.0
Poa sandbergii	33	15.2
Stipa sp.	50	3.7
Trisetum spicatum	16	0.1
Forbs		
Achillea millefolium	83	0.3
Apocynum androsaemifolium	16	0.5
Arabis sp.	33	0.1
Aster sp.	16	0.1
Balsamorhiza sagittata	83	1.1
Cirsium sp.	16	0.1
Collinsia parviflora	50	0.5
Comandra umbellata	50	0.2
Crepis atrabarba (atribarba)	16	0.1
Cystopteris fragilis	16	0.1
Descurainia richardsonii (incana ssp. *incana)*	33	0.3
Descurainia sophia	33	0.3
Draba aurea	33	0.1
Draba sp.	16	0.5
Draba nemorosa	16	0.1
Eriogonum heracleoides	100	0.4
Erysimum sp.	16	0.1
Geranium viscosissimum	33	0.3
Hackelia patens	83	0.2
Helianthella uniflora	33	0.5
Ligusticum filicinum	50	0.2
Linanthus sp.	16	0.1
Linum perenne (lewisii) var. *lewisii*	33	0.5
Lithophragma parviflorum	33	0.3
Lithospermum ruderale	83	0.3
Lomatium sp.	16	0.5
Microseris (Nothocalais) troximoides	16	0.5
Penstemon sp.	16	0.5
Phacelia hastata	16	0.5
Phlox longifolia	33	0.1
Senecio crassulus	16	0.1
Senecio integerrimus	16	0.5
Solidago sp.	16	0.1
Solidago multiradiata	16	1.0
Taraxacum officinale	16	0.5
Tragopogon dubius	16	0.1
Verbascum thapsis	33	0.3
Viguiera (Heliomeris) multiflora	16	0.1
Viola sp.	16	0.1
Other Caryophyllaceae	33	0.1
Other Cichorium	16	0.5
Other Compositae	66	0.1
Other Cruciferae	66	0.3

ARTRW8/ARARA Simeroi

The plots of this mosaic are separated into low and big sagebrush communities.

Scientific Name	Constancy %	Average Cover %
Low sagebrush n=4		
Shrubs		
Artemisia arbuscula ssp. *arbuscula*	75	16.0
Artemisia frigida	75	0.3
Artemisia nova	50	1.2
Artemisia tridentata ssp. *wyomingensis*	25	1.0
Chrysothamnus viscidiflorus	75	1.0
Tetradymia canescens	50	0.3
Graminoids		
Agropyron sp.	25	0.5
Agropyron (Pseudoroegneria) spicatum	100	2.2
Festuca idahoensis	25	2.0
Koeleria nitida (macrantha)	50	0.5
Leucopoa kingii	50	0.5
Poa sp.	50	2.7
Poa cusickii (fendleriana)	25	0.5
Poa sandbergii	50	0.5
Forbs		
Allium sp.	25	0.5
Antennaria dimorpha	25	0.5
Antennaria microphylla	50	1.2
Arabis holboellii	25	0.5
Arenaria sp.	50	0.3
Aster sp.	25	0.5
Astragalus miser	75	0.5
Astragalus purshii	50	0.5
Besseya wyomingensis	25	0.5
Castilleja angustifolia	25	0.5
Castilleja sp.	75	0.3
Coryphantha (Escobaria) missouriensis	25	0.5
Crepis sp.	50	0.5
Cryptantha stricta	25	0.5
Cymopterus bipinnatus (nivalis)	25	0.5
Erigeron compositus	25	0.5
Erigeron sp.	25	1.0
Eriogonum ovalifolium	25	0.5
Haplopappus (Stenotus) stenophyllus	75	0.3
Leptodactylon pungens	25	0.5
Lesquerella carinata	25	0.5
Linum perenne (lewisii) var. *lewisii*	25	0.5
Lithospermum ruderale	25	0.5
Microseris (Nothocalais) troximoides	25	0.5
Penstemon aridus	25	0.5
Phlox hoodii	75	1.1
Polygonum sp.	50	0.3
Potentilla ovina	25	0.5
Sedum lanceolatum	25	0.5
Townsendia montana (alpigena)	50	0.5
Tragopogon dubius	25	0.5
Other Cruciferae	25	0.5
Big sagebrush n=3		
Shrubs		
Artemisia arbuscula ssp. *arbuscula*	33	2.0
Artemisia tridentata ssp. *wyomingensis*	100	20.3
Chrysothamnus viscidiflorus	100	0.6
Graminoids		
Agropyron (Pseudoroegneria) spicatum	100	8.3
Carex sp.	33	0.1
Poa sandbergii	100	1.1
Trisetum spicatum	33	0.1
Forbs		
Achillea millefolium	33	0.1
Allium sp.	33	0.1
Antennaria microphylla	66	0.3
Arabis sp.	66	0.1
Arenaria sp.	33	0.5
Astragalus miser	66	0.1
Castilleja angustifolia	33	0.1
Castilleja sp.	33	0.1
Coryphantha (Escobaria) missouriensis	66	0.1
Crepis sp.	100	0.5
Cymopterus bipinnatus (nivalis)	66	0.5
Erigeron caespitosus	33	0.1
Eriogonum ovalifolium	66	0.3
Haplopappus (Stenotus) stenophyllus	100	0.5
Leptodactylon pungens	33	0.5
Lithospermum ruderale	33	0.1
Mertensia viridis (lanceolata var. *nivalis)*	33	0.5
Phlox hoodii	100	0.5

ARTRW8/ARARA Simeroi

(Continued)

Scientific Name	Constancy %	Average Cover %
Phlox longifolia	33	0.1
Taraxacum officinale	66	0.3
Townsendia hookeri	33	0.1
Townsendia montana (alpigena)	33	0.1

CALE4 Oxyaquic Cryochrepts

n=4

Scientific Name	Constancy %	Average Cover %
Graminoids		
Carex sp.	25	0.5
Carex paysonis	25	0.5
Carex rupestris	75	0.6
Deschampsia cespitosa	50	1.7
Elymus sp.	25	0.5
Juncus drummondii	100	1.8
Luzula glabrata var. *hitchcockii*	25	0.5
Phleum alpinum	50	0.3
Poa sp.	25	0.5
Poa cusickii (fendleriana)	25	2.0
Poa epilis (fendleriana)	50	0.5
Poa nevadensis (secunda)	25	0.5
Poa reflexa	25	1.0
Forbs		
Agoseris glauca	25	0.5
Antennaria alpina	25	0.5
Antennaria umbrinella	25	0.5
Caltha leptosepala	100	32.0
Castilleja miniata	50	0.5
Castilleja rhexifolia (rhexiifolia)	50	0.5
Claytonia lanceolata	75	3.5
Draba crassifolia	25	0.5
Epilobium clavatum	50	0.3
Erigeron peregrinus	25	10.0
Fragaria vesca	50	0.3
Hieracium gracile	50	0.3
Lewisia sp.	25	0.1
Lewisia pygmaea	25	0.1
Ligusticum filicinum	75	0.3
Pedicularis groenlandica	100	0.5
Penstemon sp.	25	0.1
Polygonum bistortoides	100	0.5
Potentilla diversifolia	50	0.5
Potentilla flabellifolia	25	0.5
Ranunculus eschscholtzii	75	0.5
Rumex sp.	50	0.5
Rumex paucifolius	25	0.5
Senecio crassulus	25	0.5
Senecio serra	25	0.1
Senecio triangularis	50	0.5
Sibbaldia procumbens	50	0.5
Veronica sp.	25	0.5
Other Compositae	50	0.3
Other Ranunculaceae	25	0.1

Graminoid Chickreek

n=4

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. < 5 inches		
Pinus contorta	25	0.5
Shrubs		
Betula glandulosa (nana)	25	0.5
Salix lutea	50	0.7
Salix wolfii	25	1.0
Graminoids		
Agrostis idahoensis	50	0.5
Agrostis stolonifera	50	1.0
Alopecurus alpinus	75	0.5
Calamagrostis canadensis	50	0.5
Carex buxbaumii	25	2.0
Carex lenticularis	50	0.5
Carex nebrascensis	75	9.1
Carex rossii	50	1.2
Carex rostrata	25	0.5
Carex simulata	75	12.8
Carex vesicaria	50	0.5
Deschampsia cespitosa	100	1.5
Eriophorum polystachion	25	0.5
Juncus balticus	75	0.3
Juncus confusus	25	0.5
Juncus ensifolius	100	0.7
Phleum pratense	25	0.5
Poa palustris	75	8.5
Forbs		
Allium schoenoprasum	100	1.5
Arnica longifolia	25	0.1
Aster junciformis	50	0.1
Bryophytes	25	0.5
Camassia quamash	25	0.1
Equisetum sp.	25	0.5
Erigeron sp.	75	0.1
Eriophorum polystachion	25	0.1
Galium bifolium	50	0.1
Gentiana detonsa	100	0.3
Pedicularis groenlandica	25	0.5
Potentilla palustris	100	0.2
Senecio hydrophilus	75	0.2
Senecio integerrimus	50	0.3
Sium suave	25	0.1
Spiranthes romanzoffiana	75	0.2
Triglochin maritimum	100	0.5
Viola sp.	25	0.5
Other Caryophyllaceae	25	0.1
Other Compositae	75	0.2
Other Labiatae	25	0.1
Other Umbelliferae	25	0.1

Graminoid Cryaquolls

n=3

Scientific Name	Constancy %	Average Cover %
Shrubs		
Salix geyeriana	33	0.5
Graminoids		
Agrostis idahoensis	33	0.5
Agrostis stolonifera	33	1.0
Alopecurus alpinus	33	0.1
Calamagrostis canadensis	33	0.1
Carex buxbaumii	33	10.0
Carex sp.	33	5.0
Carex leporinella	33	5.0
Carex microptera	33	3.0
Carex vesicaria	33	10.0
Danthonia intermedia	33	1.0
Deschampsia cespitosa	66	8.5
Eleocharis pauciflora	33	0.5
Juncus balticus	33	5.0
Juncus confusus	33	1.0
Juncus ensifolius	33	0.5
Koeleria nitida (macrantha)	66	0.5
Melica subulata	33	2.0
Phleum pratense	66	0.5
Poa nevadensis (secunda)	33	1.0
Poa palustris	100	3.6
Poa pratensis	100	3.6
Scirpus sp.	33	3.0
Stipa occidentalis	33	2.0
Stipa sp.	33	0.5

Scientific Name	Constancy %	Average Cover %
Forbs		
Achillea millefolium	66	2.5
Arabis sp.	33	0.1
Aster junciformis	33	0.5
Camassia quamash	100	1.0
Bryophytes	33	0.1
Cirsium sp.	33	0.1
Delphinium sp.	33	0.1
Descurainia pinnata	33	0.1
Epilobium sp.	33	0.1
Epilobium minutum	33	0.5
Galium bifolium	33	0.5
Potentilla glandulosa	33	0.1
Potentilla gracilis	66	0.5
Ranunculus uncinatus	33	0.1
Rumex crispus	66	1.5
Rumex sp.	33	0.5
Senecio hydrophilus	33	1.0
Senecio integerrimus	33	15.0
Senecio vulgaris	33	1.0
Taraxacum officinale	33	0.1
Trifolium sp.	33	0.1
Triteleia grandiflora	33	1.0
Wyethia helianthoides	66	4.2
Other Caryophyllaceae	33	0.1

Low Alpine Forb Cryochrepts, loamy-skeletal

n=8

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. < 5 inches		
Abies lasiocarpa	12	3.0
Pinus albicaulis	12	0.5
Shrubs		
Chrysothamnus viscidiflorus	12	10.0
Dryas octopetala ssp. *hookeriana*	12	20.0
Haplopappus (Ericameria) suffruticosus	12	1.0
Ribes cereum	12	0.5
Ribes sp.	12	0.5
Ribes montigenum	37	0.3
Salix nivalis (reticulata ssp. *nivalis)*	12	0.5
Graminoids		
Agropyron sp.	12	0.5
Agropyron (Elymus) trachycaulum	12	0.1
Bromus sp.	12	0.5
Carex elynoides	12	2.0
Festuca ovina	25	0.3
Hordeum jubatum	50	0.5
Leucopoa kingii	12	0.1
Poa sp.	12	0.5
Poa alpina	12	0.5
Poa cusickii (fendleriana)	12	0.5
Poa interior	50	0.6
Poa rupicola (glauca)	12	0.5
Poa sandbergii	12	0.5
Poa scabrella	12	0.5
Poa secunda	25	1.7
Trisetum spicatum	25	0.5
Forbs		
Achillea millefolium	50	2.8
Agastache cusickii	12	1.0
Agoseris glauca	12	1.0
Agoseris sp.	12	0.5
Androsace septentrionalis	12	0.5
Anelsonia eurycarpa	12	0.5
Anemone multifida	12	0.1
Anemone parviflora	25	0.5
Angelica roseanna	12	0.5
Antennaria sp.	12	0.5
Antennaria microphylla	37	0.5
Arnica rydbergii	12	0.5
Antennaria umbrinella	12	0.1
Aquilegia coerulea	12	0.5
Arabis sp.	25	0.3
Arabis nuttallii	12	0.1
Arenaria sp.	12	0.5
Arenaria (Minuartia) nuttallii	87	1.1
Artemisia michauxiana	25	1.0
Astragalus kentrophyta	25	0.5
Carex rupestris	25	6.0
Castilleja miniata	12	0.5
Castilleja sulphurea	12	0.5
Collomia debilis var. *debilis*	12	0.1
Cymopterus bipinnatus (nivalis)	37	0.5
Cymopterus longipes	12	0.5
Delphinium glaucescens	25	12.7
Delphinium sp.	25	0.5
Draba sp.	37	0.3
Draba oligosperma	25	0.5
Erigeron compositus	50	0.6
Erigeron formosissimus	12	0.5
Erigeron gracilis	12	0.5
Erigeron leiomerus	12	0.5
Erigeron tweedyi	12	0.1
Hedysarum boreale	12	0.5
Heuchera sp.	12	0.1
Ivesia gordonii	25	2.7
Lesquerella carinata	12	0.5
Ligusticum filicinum	12	0.5
Linum perenne (lewisii) var. *lewisii*	37	0.5
Lloydia serotina	37	0.5
Lomatium sp.	12	1.0
Lupinus leucophyllus	25	0.3
Oxyria digyna	12	0.1
Oxytropis lagopus	12	0.1
Oxytropis sericea	25	0.7
Pedicularis sp.	12	0.5
Penstemon montanus	25	0.3
Penstemon sp.	12	0.1
Phacelia hastata	12	0.1
Phlox multiflora	12	1.0
Phlox pulvinata	12	0.5
Potentilla ovina	37	0.3
Saxifraga oppositifolia	12	2.0
Sedum lanceolatum	25	0.5
Senecio canus	37	0.3
Senecio crassulus	12	0.5
Senecio dimorphophyllus	25	0.5
Senecio sp.	25	0.3
Senecio fremontii	12	0.5

Low Alpine Forb Cryochrepts, loamy-skeletal

(Continued)

Scientific Name	Constancy %	Average Cover %
Senecio streptanthifolius	12	0.1
Stellaria longipes var. *altocaulis*	12	0.5
Townsendia hookeri	12	0.5
Trifolium haydenii	37	3.1
Valeriana acutiloba	12	0.5
Other Compositae	37	0.5

Low Alpine Forb Oorang

n=7

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. < 5 inches		
Abies lasiocarpa	14	0.1
Graminoids		
Agropyron (Elymus) trachycaulum	28	0.5
Carex subnigricans	14	0.5
Festuca ovina	85	1.1
Poa sp.	28	0.5
Poa pattersonii (abbreviata)	14	0.5
Poa rupicola (glauca)	28	0.5
Poa secunda	14	0.5
Trisetum spicatum	42	0.5
Other Poaceae w/ > trace cover	28	0.7
Forbs		
Achillea millefolium	42	0.5
Agoseris glauca	42	0.5
Androsace septentrionalis	42	0.1
Anemone sp.	14	0.1
Antennaria alpina	14	0.1
Aquilegia coerulea	14	0.5
Aquilegia sp.	14	0.1
Arabis sp.	42	0.1
Arabis lemmonii	28	1.0
Arenaria congesta	14	0.1
Arenaria kingii	14	0.1
Arenaria (Minuartia) nuttallii	14	0.5
Aster sp.	28	0.7
Astragalus sp.	14	0.1
Besseya wyomingensis	42	0.5
Bryophytes	42	1.8
Castilleja miniata	14	0.1
Castilleja sulphurea	14	0.5
Castilleja sp.	14	0.1
Claytonia lanceolata	57	0.8
Cymopterus (Pteryxia) hendersonii	14	0.5
Delphinium nuttallianum	42	0.5
Draba sp.	14	0.1
Erigeron eatonii	42	0.5
Erigeron sp.	14	4.0
Eriogonum umbellatum	14	0.5
Erigeron ursinus	14	0.5
Frasera speciosa	42	0.5
Gentiana sp.	28	0.3
Hedysarum boreale	28	0.3
Hedysarum sp.	14	0.1
Hymenoxys (Tetraneuris) grandiflora	14	0.1
Ivesia gordonii	71	1.0
Ligusticum filicinum	71	1.9
Linum perenne (lewisii) var. *lewisii*	28	0.5
Lomatium cous	100	0.4
Lupinus argenteus	28	0.5
Oxytropis lagopus	57	0.4
Pedicularis bracteosa	42	0.5
Pedicularis sp.	42	0.2
Penstemon sp.	28	0.3
Phacelia hastata	14	0.1
Phlox hoodii	14	0.5
Phlox sp.	14	0.5
Physaria didymocarpa var. *didymocarpa*	14	0.5
Polygonum bistortoides	28	0.5
Potentilla diversifolia	57	0.4
Potentilla ovina	14	1.0
Ranunculus eschscholtzii	42	0.3
Rumex sp.	14	0.5
Saxifraga rhomboidea	14	0.1
Sedum debile	28	0.3
Sedum lanceolatum	42	0.2
Sedum stenopetalum	28	0.1
Senecio crassulus	28	0.5
Senecio dimorphophyllus	28	0.5
Senecio sp.	28	0.3
Smelowskia calycina	14	0.5
Solidago sp.	14	0.5
Solidago multiradiata	28	0.7
Taraxacum officinale	14	0.1
Townsendia florifer	14	0.5
Tragopogon dubius	14	0.5
Valeriana edulis	42	0.5
Valeriana sp.	14	0.1
Viola purpurea	14	0.5
Zigadenus elegans	14	0.5
Other Caryophyllaceae	14	0.1
Other Compositae	14	0.5
Other Cruciferae	57	0.1
Other Scrophulariaceae	14	0.1

PIAL Lasac

n=8

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Pinus albicaulis	37	0.8
Pinus contorta	100	12.2
Pseudotsuga menziesii	12	3.0
Tree d.b.h. < 5 inches		
Abies lasiocarpa	25	0.7
Pinus albicaulis	75	1.0
Pinus contorta	100	5.1
Pseudotsuga menziesii	50	1.0
Shrubs		
Amelanchier alnifolia	37	0.6
Berberis (Mahonia) repens	50	0.6
Ceanothus velutinus	37	0.6
Juniperus communis	12	0.5
Lonicera utahensis	75	1.1
Ribes sp.	12	1.0
Ribes viscosissimum	37	0.5
Salix scouleriana	12	1.0
Sorbus scopulina	62	1.1
Spiraea betulifolia	100	4.1
Vaccinium globulare (membranaceum)	12	1.0
Vaccinium scoparium	37	13.3
Graminoids		
Calamagrostis rubescens	87	5.2
Carex geyeri	87	10.2
Carex rossii	75	3.1
Elymus glaucus	12	0.5
Poa nervosa var. *wheeleri*	25	0.3
Stipa occidentalis	37	0.2
Forbs		
Apocynum androsaemifolium	75	0.9
Arnica cordifolia	50	0.6
Corallorhiza (Corallorrhiza) sp.	12	0.5
Epilobium angustifolium	50	0.4
Hieracium albiflorum	75	0.6
Hieracium cynoglossoides	37	0.3
Penstemon montanus	25	0.5
Penstemon sp.	12	0.1
Pterospora andromedea	50	0.4
Senecio streptanthifolius	25	0.1
Solidago multiradiata	37	0.5
Thalictrum occidentale	12	0.1
Other Compositae	12	0.5
Other forbs	12	0.5

PIAL/ARTRP4 Fitzwil

The plots of this ecotone are separated into forestland and shrub steppe communities.

Scientific Name	Constancy %	Average Cover %
Forestland		
n=2		
Tree d.b.h. ≥ 5 inches		
Pinus albicaulis	100	13.0
Tree d.b.h. < 5 inches		
Abies lasiocarpa	50	0.5
Pinus albicaulis	50	0.5
Shrubs		
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	100	2.7
Artemisia tridentata ssp. *spiciformis*	50	0.1
Ribes montigenum	50	0.5
Graminoids		
Agropyron (Elymus) trachycaulum	50	0.1
Carex sp.	50	0.1
Carex geyeri	50	1.0
Carex raynoldsii	50	0.5
Danthonia intermedia	100	0.5
Festuca idahoensis	100	20.0
Hordeum jubatum	100	0.5
Poa compressa	50	0.5
Poa epilis (fendleriana)	50	5.0
Poa fendleriana	50	0.5
Poa sandbergii	50	0.5
Stipa occidentalis	100	0.5
Trisetum spicatum	50	0.5
Forbs		
Achillea millefolium	100	0.7
Agoseris glauca	100	5.2
Antennaria microphylla	100	1.2
Arabis sp.	50	0.5
Arenaria congesta	100	0.5
Arnica cordifolia	50	0.5
Astragalus miser	100	0.5
Besseya wyomingensis	50	0.1
Bryophytes	50	0.1
Campanula rotundifolia	100	0.5
Castilleja sp.	100	0.3
Comandra umbellata	50	0.1
Epilobium angustifolium	50	0.5
Erigeron gracilis	100	0.5
Eriogonum umbellatum	100	0.5
Geranium viscosissimum	100	0.5
Geum triflorum	100	0.3
Lomatium sp.	100	0.3
Lupinus argenteus	100	0.5
Penstemon sp.	50	0.5
Phlox hoodii	100	0.5
Potentilla diversifolia	50	0.5
Sedum lanceolatum	100	0.5
Senecio integerrimus	50	0.5
Silene douglasii	100	0.5
Taraxacum officinale	50	0.5
Wyethia amplexicaulis	100	0.5
Zigadenus venenosus	50	0.1
Other Compositae	50	0.5
Shrub steppe		
n=6		
Shrubs		
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	100	26.1
Rosa sp.	16	0.1
Symphoricarpos oreophilus	16	0.5
Graminoids		
Agropyron (Pseudoroegneria) spicatum	33	0.3
Agropyron (Elymus) trachycaulum	50	0.5
Bromus carinatus	50	0.3
Bromus inermis	16	0.5
Carex sp.	83	0.3
Carex geyeri	16	10.0
Carex hoodii	33	0.5
Carex petasata	16	0.1
Danthonia intermedia	33	0.1
Danthonia sp.	16	0.5
Festuca idahoensis	100	13.4
Melica bulbosa	16	0.5
Phleum alpinum	33	0.5
Poa sp.	66	0.6
Poa compressa	16	0.5
Poa pratensis	16	8.0
Poa sandbergii	16	0.5
Stipa occidentalis	50	0.5
Trisetum spicatum	50	0.3
Forbs		
Achillea millefolium	100	0.5
Agoseris glauca	83	0.5
Androsace septentrionalis	50	0.3
Antennaria microphylla	66	0.4
Arabis sp.	50	0.5
Arenaria congesta	100	0.5
Aster sp.	16	0.5
Aster integrifolius	16	0.5

PIAL/ARTRP4 Fitzwil

(Continued)

Scientific Name	Constancy %	Average Cover %
Astragalus miser	50	0.5
Aster occidentalis	16	0.5
Astragalus sp.	50	0.3
Besseya wyomingensis	33	0.3
Campanula rotundifolia	16	0.1
Castilleja sp.	33	0.3
Delphinium occidentale	16	0.5
Draba sp.	16	0.5
Epilobium angustifolium	33	0.5
Erigeron sp.	16	0.1
Erigeron gracilis	16	3.0
Erigeron speciosus	16	0.5
Eriogonum umbellatum	100	0.7
Geranium sp.	33	2.5
Geranium viscosissimum	16	2.0
Geum triflorum	66	0.6
Haplopappus (Stenotus) stenophyllus	16	0.5
Helianthella uniflora	16	0.5
Lithophragma sp.	16	0.5
Lupinus argenteus	16	0.5
Lupinus sp.	50	0.5
Lupinus lepidus	16	0.5
Microsteris (Phlox) gracilis	50	0.5
Penstemon sp.	33	0.5
Perideridia gairdneri	16	0.1
Phlox hoodii	16	0.5
Phlox longifolia	16	0.5
Phlox multiflora	16	0.5
Phlox sp.	16	0.5
Polygonum douglasii	33	0.5
Polygonum sp.	16	0.5
Potentilla diversifolia	16	0.5
Potentilla glandulosa	16	0.1
Potentilla gracilis	50	0.5
Sedum sp.	16	0.5
Silene douglasii	16	0.5
Taraxacum officinale	66	0.4
Viola sp.	16	0.5
Other Compositae	83	0.5

PIAL/CARO5,PICO Lasac

n=4

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Pinus albicaulis	50	1.0
Pinus contorta	100	10.6
Tree d.b.h. < 5 inches		
Abies lasiocarpa	25	1.0
Pinus albicaulis	100	1.5
Pinus contorta	100	2.7
Shrubs		
Spiraea betulifolia	25	0.1
Vaccinium scoparium	75	0.5
Graminoids		
Carex geyeri	75	1.3
Carex rossii	100	1.0
Festuca idahoensis	25	1.0
Oryzopsis sp.	25	10.0
Forbs		
Apocynum androsaemifolium	25	0.5
Bryophytes	50	0.5
Corallorhiza (Corallorrhiza) sp.	25	0.5
Epilobium angustifolium	50	0.3
Eriogonum ovalifolium	25	0.1
Hieracium albiflorum	25	0.5
Lichen	25	0.1
Penstemon montanus	50	0.1
Penstemon sp.	25	0.5

PICO Perfa

n=5

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Pinus contorta	60	9.0
Tree d.b.h. < 5 inches		
Pinus contorta	80	30.1
Pinus flexilis	20	0.5
Populus tremuloides	40	4.2
Shrubs		
Arctostaphylos uva-ursi	60	4.5
Lonicera involucrata	20	0.5
Lonicera utahensis	20	0.5
Salix bebbiana	40	2.7
Salix scouleriana	40	1.5
Spiraea betulifolia	20	2.0
Symphoricarpos albus	20	0.5
Vaccinium caespitosum (cespitosum)	40	3.0
Vaccinium scoparium	40	2.5
Graminoids		
Agrostis scabra	20	0.5
Calamagrostis canadensis	20	2.0
Calamagrostis rubescens	60	13.5
Carex sp.	20	0.5
Carex geyeri	60	6.6
Carex rossii	40	2.0
Danthonia intermedia	40	1.7
Deschampsia cespitosa	20	0.5
Koeleria nitida (macrantha)	20	0.5
Poa palustris	20	0.5
Poa nervosa var. *wheeleri*	20	1.0
Stipa occidentalis	20	0.5
Trisetum spicatum	20	0.5
Forbs		
Achillea millefolium	40	0.5
Antennaria corymbosa	20	5.0
Antennaria sp.	20	0.5
Antennaria microphylla	40	3.0
Antennaria parvifolia	20	0.5
Artemisia michauxiana	20	0.5
Aster sp.	20	2.0
Aster occidentalis	20	2.0
Campanula rotundifolia	20	0.5
Epilobium angustifolium	40	0.5
Eriogonum sp.	40	2.2
Fragaria virginiana	60	4.6
Gaultheria humifusa	20	3.0
Geranium viscosissimum	20	0.5
Goodyera oblongifolia	20	0.5
Hieracium albiflorum	20	2.0
Hieracium sp.	20	0.5
Lupinus sp.	20	0.5
Penstemon procerus	20	1.0
Potentilla gracilis	20	0.5
Rumex acetosella	20	0.5
Senecio pauperculus	20	0.5
Solidago sp.	20	0.5
Solidago nana	20	1.0
Spiranthes romanzoffiana	20	0.5
Other forbs	20	5.0

PICO/ARTRP4 Spliten

n=7

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Pinus contorta	71	6.4
Tree d.b.h. < 5 inches		
Pinus contorta	42	1.0
Shrubs		
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	100	13.0
Purshia tridentata	57	6.5
Graminoids		
Agropyron (Pseudoroegneria) spicatum var. *inerme*	14	0.5
Agropyron sp.	28	0.5
Agrostis scabra	28	0.5
Agropyron (Elymus) trachycaulum	28	3.0
Bromus carinatus	28	6.0
Bromus inermis	28	2.0
Bromus sp.	14	0.5
Carex sp.	28	0.7
Festuca idahoensis	57	6.0
Koeleria nitida (macrantha)	71	2.4
Melica bulbosa	28	1.0
Phleum pratense	14	0.5
Poa pratensis	28	0.5
Sitanion (Elymus) hystrix	28	0.5
Stipa occidentalis	42	2.3
Stipa sp.	57	0.5
Forbs		
Achillea millefolium	57	0.5
Agoseris glauca	14	0.5
Antennaria luzuloides	100	8.2
Antennaria microphylla	14	0.5
Aster sp.	42	0.5
Aster integrifolius	71	2.4
Calochortus eurycarpus	28	0.5
Castilleja sp.	14	0.1
Crepis sp.	14	0.1
Dodecatheon pulchellum	14	0.5
Epilobium minutum	28	1.0
Eriogonum heracleoides	71	3.6
Eriogonum sp.	14	3.0
Eriogonum umbellatum	28	2.0
Helianthella uniflora	28	3.0
Hesperochiron pumilus	14	0.1
Hieracium sp.	14	0.5
Lithophragma bulbifera (glabrum)	14	0.5
Lupinus argenteus	28	0.5
Lupinus sp.	14	0.5
Perideridia gairdneri	14	0.1
Polygonum douglasii	57	3.3
Potentilla glandulosa	42	0.3
Ranunculus glaberrimus	14	0.5
Rumex paucifolius	14	0.5
Solidago missouriensis	28	2.0
Taraxacum officinale	14	0.5
Viola nuttallii	14	0.5
Wyethia helianthoides	14	0.1
Zigadenus paniculatus	14	0.1
Other Chenopodiaceae	14	0.5
Other Compositae	14	1.0

PICO/ARTRP4 Vadnais

n=6

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Pinus contorta	16	1.0
Populus tremuloides	16	2.5
Tree d.b.h. < 5 inches		
Pinus contorta	50	2.1
Populus tremuloides	16	5.0
Shrubs		
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	100	13.8
Berberis (Mahonia) repens	16	0.5
Chrysothamnus nauseosus	16	0.5
Purshia tridentata	83	2.0
Symphoricarpos oreophilus	33	0.5
Graminoids		
Agropyron sp.	16	0.5
Agropyron (Pseudoroegneria) spicatum	16	0.5
Agropyron (Elymus) trachycaulum	50	1.5
Bromus anomalus	16	0.5
Bromus carinatus	33	2.5
Calamagrostis rubescens	33	0.5
Carex filifolia	33	3.0
Carex petasata	33	0.5
Danthonia intermedia	66	3.5
Danthonia unispicata	16	0.5
Festuca idahoensis	100	12.5
Koeleria nitida (macrantha)	83	4.9
Poa sp.	16	0.5
Poa nevadensis (secunda)	16	0.5
Poa pratensis	16	1.0
Poa scabrella	16	0.5
Poa nervosa var. *wheeleri*	16	2.0
Stipa occidentalis	16	0.5
Stipa sp.	50	9.3
Trisetum spicatum	16	0.5
Forbs		
Achillea millefolium	83	1.7
Agoseris glauca	50	0.6
Allium acuminatum	16	0.5
Allium sp.	16	0.5
Antennaria sp.	33	8.5
Antennaria microphylla	50	1.3
Antennaria racemosa	16	0.5
Arabis sp.	16	0.5
Arabis drummondii	33	0.5
Arabis holboellii	16	0.5
Arenaria congesta	33	0.5
Arnica cordifolia	16	1.0
Artemisia ludoviciana	16	2.0
Aster sp.	16	1.0
Calochortus eurycarpus	16	0.5
Calochortus sp.	16	0.5
Campanula rotundifolia	16	0.5
Castilleja longispica (pilosa)	16	0.5
Collomia grandiflora	16	0.5
Collinsia parviflora	33	0.5
Crepis acuminata	16	3.0
Delphinium bicolor	16	0.5
Epilobium angustifolium	16	1.0
Epilobium minutum	16	0.5
Eriogonum heracleoides	16	3.0
Eriophyllum lanatum	33	1.2
Eriogonum sp.	50	6.3
Erigeron pumilus	16	0.5
Eriogonum umbellatum	16	1.0
Frasera speciosa	16	1.0
Geranium viscosissimum	50	0.6
Geum triflorum	50	2.0
Helianthella uniflora	16	0.5
Linum perenne (lewisii) var. *lewisii*	16	0.5
Lomatium triternatum	16	0.5
Lupinus argenteus	16	1.0
Lupinus sericeus	50	1.0
Microseris (Nothocalais) troximoides	16	0.5
Nemophila parviflora	16	0.5
Oenothera caespitosa (cespitosa)	16	0.5
Penstemon rydbergii	16	1.0
Penstemon sp.	16	0.5
Perideridia gairdneri	16	0.5
Phacelia hastata	16	0.5
Phlox longifolia	16	0.5
Polygonum bistortoides	16	0.5
Polygonum douglasii	16	0.5
Potentilla glandulosa	50	0.8
Potentilla gracilis	50	0.5
Rumex paucifolius	33	0.5
Solidago missouriensis	33	0.5
Taraxacum officinale	33	0.7
Tragopogon dubius	16	0.5
Wyethia amplexicaulis	16	0.5
Wyethia helianthoides	16	0.5
Other forbs	33	5.0
Other Compositae	16	0.5

PICO/VASC Islandpark

n=7

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Pinus contorta	42	17.0
Tree d.b.h. < 5 inches		
Pinus contorta	57	7.1
Populus tremuloides	14	1.0
Pseudotsuga menziesii	28	1.5
Shrubs		
Amelanchier alnifolia	42	2.3
Arctostaphylos uva-ursi	14	1.0
Lonicera utahensis	28	11.0
Salix sp.	14	5.0
Salix scouleriana	14	2.0
Sorbus scopulina	28	1.5
Spiraea betulifolia	28	6.0
Symphoricarpos albus	14	3.0
Vaccinium scoparium	57	30.5
Graminoids		
Agrostis stolonifera	14	0.5
Agropyron (Elymus) trachycaulum	28	1.7
Bromus carinatus	57	3.0
Bromus inermis	14	5.0
Calamagrostis rubescens	71	8.2
Carex sp.	28	3.5
Carex geyeri	14	25.0
Carex hoodii	28	0.5
Carex rossii	57	10.7
Dactylis glomerata	14	8.0
Danthonia intermedia	14	3.0
Festuca idahoensis	28	1.7
Koeleria nitida (macrantha)	42	1.8
Melica bulbosa	42	3.6
Phleum pratense	28	2.0
Poa sp.	14	0.5
Poa pratensis	57	2.5
Poa secunda	14	2.0
Stipa occidentalis	42	1.5
Stipa sp.	14	1.0
Forbs		
Achillea millefolium	57	3.5
Antennaria sp.	14	1.0
Antennaria luzuloides	28	10.0
Arnica cordifolia	42	3.0
Aster sp.	14	0.5
Collomia linearis	28	3.0
Epilobium angustifolium	42	7.6
Epilobium sp.	0	0.0
Erigeron divergens	14	1.0
Erigeron sp.	14	0.5
Eriophyllum lanatum	28	0.7
Fragaria sp.	14	1.0
Fragaria virginiana	28	1.5
Geranium viscosissimum	57	3.7
Hieracium sp.	28	0.5
Lomatium ambiguum	28	2.0
Lupinus argenteus	57	4.1
Lupinus sp.	14	0.5
Lupinus leucophyllus	28	0.7
Lupinus sericeus	14	1.0
Osmorhiza chilensis	28	1.0
Perideridia gairdneri	28	0.5
Polygonum douglasii	42	9.0
Potentilla sp.	14	1.0
Potentilla glandulosa	28	2.5
Potentilla gracilis	14	1.0
Pterospora andromedea	14	0.5
Selaginella sp.	14	1.0
Solidago sp.	28	5.5
Solidago missouriensis	14	5.0
Taraxacum officinale	28	0.5
Trifolium hybridum	14	0.5
Wyethia helianthoides	14	1.0
Other Compositae	14	2.0
Other forbs	28	6.5

PIEN Cryaquolls

The plots of this mosaic are separated into PIEN/EQAR and PIEN/GATR3 communities.

Scientific Name	Constancy %	Average Cover %
PIEN/EQAR		
n=6		
Tree d.b.h. ≥ 5 inches		
Abies lasiocarpa	50	3.3
Picea engelmannii	83	14.6
Pinus contorta	16	7.0
Tree d.b.h. < 5 inches		
Abies lasiocarpa	66	1.2
Picea engelmannii	66	3.0
Shrubs		
Alnus incana var. *occidentalis* (ssp. *tenuifolia*)	33	3.2
Amelanchier alnifolia	33	2.7
Berberis (Mahonia) repens	16	0.5
Cornus stolonifera (serecea)	33	0.5
Lonicera involucrata	16	6.0
Lonicera utahensis	83	0.6
Pachistima (Paxistima) myrsinites	16	0.5
Prunus virginiana var. *melanocarpa*	16	0.5
Ribes hudsonianum	16	0.5
Ribes lacustre	83	2.6
Rosa sp.	16	0.5
Rosa woodsii	16	0.5
Salix drummondiana	33	5.5
Salix planifolia	33	2.0
Shepherdia canadensis	16	0.5
Sorbus scopulina	66	0.6
Spiraea betulifolia	16	1.0
Symphoricarpos oreophilus	33	0.7
Vaccinium globulare (membranaceum)	33	0.1
Vaccinium scoparium	33	0.3
Graminoids		
Agropyron sp.	16	0.5
Bromus sp.	50	0.8
Calamagrostis canadensis	33	7.5
Calamagrostis rubescens	33	4.2
Carex disperma	16	0.5
Carex sp.	16	0.5
Carex geyeri	33	0.5
Carex neurophora	16	2.0
Carex vesicaria	33	0.5
Elymus (Leymus) cinereus	16	1.0
Elymus glaucus	33	0.5
Poa sp.	16	0.5
Poa compressa	16	0.1
Poa pratensis	16	0.5

Scientific Name	Constancy %	Average Cover %
Forbs		
Achillea millefolium	16	0.5
Actaea rubra	66	1.6
Allium brevistylum	16	0.1
Angelica arguta	50	1.5
Aquilegia coerulea	16	0.5
Aquilegia flavescens	16	0.5
Arenaria (Moehringia) lateriflora	16	0.5
Arnica cordifolia	66	1.5
Aster sp.	50	0.3
Astragalus miser	16	1.0
Bryophytes	16	2.0
Calypso bulbosa	16	0.5
Cardamine breweri	33	0.5
Castilleja miniata	33	0.3
Disporum trachycarpum	66	0.4
Epilobium angustifolium	50	0.6
Equisetum arvense	66	31.2
Equisetum hyemale	33	0.3
Equisetum sp.	16	0.5
Erythronium grandiflorum	16	1.0
Frasera speciosa	16	0.5
Fragaria vesca	33	0.5
Fragaria virginiana	83	1.1
Galium bifolium	16	0.5
Galium sp.	16	1.0
Galium triflorum	83	0.4
Geranium sp.	16	2.0
Geranium richardsonii	16	0.5
Geranium viscosissimum	66	0.5
Habenaria (Platanthera) dilatata var. *dilatata*	33	0.5
Habenaria (Platanthera) saccata	16	0.1
Hackelia micrantha	16	0.5
Heracleum lanatum (maximum)	16	4.0
Lupinus argenteus	33	0.5
Mitella pentandra	33	1.2
Mitella stauropetala	16	0.1
Osmorhiza chilensis	83	0.6
Osmorhiza occidentalis	33	0.5
Pedicularis bracteosa	16	0.5
Pedicularis racemosa	50	0.2
Potentilla glandulosa	50	0.5
Pyrola asarifolia	33	0.5
Pyrola chlorantha	33	0.3
Pyrola (Orthilia) secunda	50	0.5
Pyrola (Moneses) uniflora	33	0.1

PIEN Cryaquolls
(Continued)

Scientific Name	Constancy %	Average Cover %
Rudbeckia occidentalis	50	0.3
Saxifraga arguta (odontoloma)	33	8.0
Senecio sp.	16	0.1
Senecio serra	16	0.5
Senecio triangularis	50	2.8
Silene menziesii	16	0.1
Smilacina (Maianthemum) racemosa	33	0.5
Smilacina (Maianthemum) stellata	50	0.3
Streptopus amplexifolius	33	0.5
Taraxacum officinale	66	0.5
Thalictrum fendleri	16	1.0
Thalictrum occidentale	33	6.0
Trifolium sp.	16	0.5
Trifolium longipes	33	0.7
Valeriana occidentalis	16	0.5
Veronica serpyllifolia	33	0.7
Viola sp.	33	0.3
Viola macloskeyi	16	0.5
Other Ranunculaceae	16	0.1
PIEN/GATR3		
n=10		
Tree d.b.h. ≥ 5 inches		
Abies lasiocarpa	10	1.5
Picea engelmannii	100	17.1
Pseudotsuga menziesii	10	13.0
Tree d.b.h. < 5 inches		
Abies lasiocarpa	30	2.5
Picea engelmannii	80	1.8
Pseudotsuga menziesii	10	0.5
Shrubs		
Amelanchier alnifolia	40	0.5
Berberis (Mahonia) repens	20	0.3
Cornus stolonifera (serecea)	40	8.0
Lonicera involucrata	20	2.5
Lonicera utahensis	40	0.6
Pachistima (Paxistima) myrsinites	30	1.2
Ribes sp.	10	5.0
Ribes hudsonianum	40	1.0
Ribes inerme	10	0.5
Ribes lacustre	80	11.8
Rosa sp.	30	0.5
Rubus idaeus (ssp. *strigosus*) var. *gracilipes*	10	0.5
Rubus sp.	10	0.5
Salix bebbiana	30	17.1
Salix boothii	10	25.0
Salix drummondiana	10	20.0
Salix geyeriana	20	8.0
Salix lasiandra (lucida) var. (ssp.) *caudata*	10	0.5
Salix lutea	10	1.0
Sambucus racemosa	10	0.1
Shepherdia canadensis	10	0.5
Sorbus scopulina	20	0.5
Spiraea betulifolia	10	0.1
Symphoricarpos albus	10	0.5
Symphoricarpos oreophilus	40	0.6
Vaccinium caespitosum (cespitosum)	10	1.0
Graminoids		
Agropyron (Elymus) dasytachyum	10	0.5
Agrostis scabra	10	0.5
Agropyron (Pseudoroegneria) spicatum	10	0.1
Agrostis thurberiana	10	0.5
Agropyron (Elymus) trachycaulum	10	0.5
Bromus carinatus	10	0.5
Bromus ciliatus	20	0.5
Bromus sp.	40	2.1
Calamagrostis canadensis	30	4.1
Calamagrostis rubescens	10	0.5
Carex sp.	20	4.2
Carex geyeri	20	0.5
Carex microptera	20	0.5
Carex norvegica	10	0.5
Carex rostrata	10	0.5
Elymus (Leymus) cinereus	10	0.1
Glyceria striata	20	0.3
Luzula parviflora	10	0.1
Poa sp.	20	3.7
Poa compressa	10	0.1
Poa palustris	20	0.5
Poa pratensis	10	2.0
Other Poaceae	10	8.0
Forbs		
Achillea millefolium	20	0.5
Aconitum columbianum	10	4.0
Actaea rubra	60	3.3
Allium brevistylum	40	0.2
Allium sp.	30	0.2
Angelica arguta	20	0.3

PIEN Cryaquolls
(Continued)

Scientific Name	Constancy %	Average Cover %
Aquilegia coerulea	20	0.1
Aquilegia flavescens	10	1.0
Aquilegia formosa	10	25.0
Arnica cordifolia	30	4.0
Aster engelmannii	10	1.0
Aster sp.	10	0.1
Aster foliaceus var. *canbyi*	10	1.0
Astragalus miser	20	0.5
Aster occidentalis	10	10.0
Cardamine breweri	20	0.7
Cirsium sp.	20	0.1
Disporum trachycarpum	10	0.5
Epilobium angustifolium	40	9.2
Epilobium sp.	20	0.3
Equisetum arvense	40	1.4
Equisetum sp.	10	0.5
Fragaria vesca	30	0.3
Fragaria virginiana	80	3.8
Galium bifolium	10	0.5
Galium boreale	10	0.1
Galium sp.	10	2.0
Galium triflorum	60	0.9
Geranium richardsonii	30	2.1
Geranium viscosissimum	40	0.5
Geum macrophyllum	10	0.5
Heracleum lanatum (maximum)	50	2.4
Ligusticum filicinum	10	0.1
Listera caurina	10	0.1
Mertensia ciliata	40	0.6
Mimulus guttatus	10	0.5
Mitella pentandra	10	0.5
Mitella stauropetala	30	0.5
Nemophila parviflora	10	0.1
Osmorhiza chilensis	70	0.8
Osmorhiza occidentalis	20	0.7
Perideridia gairdneri	10	0.5
Potentilla glandulosa	70	0.8
Potentilla gracilis	10	0.1
Prunella vulgaris	10	0.5
Pyrola asarifolia	30	0.5
Pyrola chlorantha	20	0.3
Pyrola (Orthilia) secunda	40	1.0
Ranunculus uncinatus	10	0.1
Rudbeckia occidentalis	40	5.2
Saxifraga arguta (odontoloma)	40	0.6
Senecio sp.	10	2.0
Senecio serra	10	0.5
Senecio triangularis	20	0.5
Silene menziesii	20	0.5
Smilacina (Maianthemum) racemosa	10	0.5
Smilacina (Maianthemum) stellata	70	0.8
Solidago multiradiata	10	0.5
Taraxacum officinale	70	0.3
Thalictrum fendleri	10	0.5
Thalictrum occidentale	50	2.3
Tragopogon dubius	10	0.1
Trifolium sp.	10	0.1
Trifolium longipes	10	0.5
Urtica dioica	60	8.4
Valeriana occidentalis	10	0.5
Veronica americana	20	0.5
Veronica biloba	10	0.5
Viola adunca	20	0.3
Viola sp.	20	0.3
Other Chenopodiaceae	10	0.5
Other Compositae	30	0.5
Other Cruciferae	10	0.5
Other Labiatae	10	0.5
Other Umbelliferae	10	0.1

PIEN/GATR3 Cryofluvents

n=5

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Abies lasiocarpa	20	1.0
Juniperus scopulorum	20	8.0
Picea engelmannii	20	10.0
Populus angustifolia	100	15.0
Pseudotsuga menziesii	60	13.6
Tree d.b.h. < 5 inches		
Juniperus scopulorum	60	2.5
Picea engelmannii	20	0.5
Populus angustifolia	60	1.1
Pseudotsuga menziesii	20	1.0
Shrubs		
Acer glabrum	40	1.5
Amelanchier alnifolia	60	1.0
Arctostaphylos uva-ursi	40	4.5
Berberis (Mahonia) repens	60	0.5
Betula occidentalis	20	10.0
Clematis ligusticifolia	60	0.8
Cornus stolonifera (serecea)	100	3.4
Crataegus douglasii	40	0.5
Elaeagnus commutata	40	6.2
Prunus virginiana var. *melanocarpa*	40	9.0
Ribes lacustre	60	1.5
Ribes (oxyacanthoides ssp.) *setosum*	20	0.5
Rosa sp.	60	0.5
Rosa acicularis	40	0.5
Salix lutea	20	1.0
Symphoricarpos albus	80	3.2
Symphoricarpos oreophilus	20	1.0
Graminoids		
Agropyron (Elymus) dasytachyum	20	0.5
Bromus inermis	40	2.7
Bromus sp.	60	10.1
Dactylis glomerata	40	0.3
Elymus glaucus	20	0.5
Poa pratensis	100	15.6

Scientific Name	Constancy %	Average Cover %
Forbs		
Achillea millefolium	80	0.4
Actaea rubra	20	0.5
Anemone multifida	40	0.3
Antennaria sp.	20	0.1
Arctium minus	40	0.3
Arenaria (Moehringia) lateriflora	20	0.1
Balsamorhiza sagittata	20	0.1
Cirsium sp.	40	0.3
Collinsia parviflora	20	0.5
Descurainia sp.	20	0.5
Disporum trachycarpum	40	0.1
Equisetum hyemale	20	0.1
Galium boreale	20	0.5
Galium triflorum	80	0.5
Geranium viscosissimum	40	0.3
Glycyrrhiza lepidota	60	0.3
Hackelia sp.	20	0.5
Heracleum lanatum (maximum)	40	1.5
Hydrophyllum capitatum	40	0.5
Nemophila parviflora	20	0.1
Osmorhiza chilensis	80	1.4
Senecio sp.	20	0.1
Senecio integerrimus	20	0.1
Senecio triangularis	20	0.5
Smilacina (Maianthemum) racemosa	60	0.2
Smilacina (Maianthemum) stellata	80	1.2
Solidago canadensis	40	0.7
Taraxacum officinale	60	3.8
Thalictrum occidentale	20	5.0
Trifolium sp.	80	1.5
Urtica dioica	20	0.1
Viola adunca	20	0.5
Viola canadensis	40	22.5
Other Compositae	20	0.1
Other Umbelliferae	20	0.1

PIFL2/LEKI2 Fritz

n=17

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Juniperus scopulorum	5	5.0
Pinus flexilis	58	12.7
Pseudotsuga menziesii	52	5.1
Tree d.b.h. < 5 inches		
Juniperus scopulorum	29	4.7
Pinus flexilis	29	0.9
Pseudotsuga menziesii	23	0.6
Shrubs		
Artemisia nova	29	2.4
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	52	5.2
Artemisia tridentata ssp. *vaseyana* var. *vaseyana*	5	0.5
Artemisia tridentata ssp. *wyomingensis*	5	0.5
Cercocarpus ledifolius var. *intercedens*	70	18.7
Chamaebatiaria millefolium	5	0.5
Chrysothamnus viscidiflorus	76	0.5
Juniperus communis	17	0.6
Ribes cereum	47	0.5
Ribes sp.	5	0.5
Ribes montigenum	11	0.7
Shepherdia canadensis	5	0.5
Symphoricarpos oreophilus	23	0.5
Tetradymia canescens	11	0.5
Graminoids		
Agropyron (Pseudoroegneria) spicatum	70	7.3
Bromus sp.	5	1.0
Carex sp.	47	1.6
Carex rossii	5	0.5
Carex vallicola	5	0.5
Festuca idahoensis	11	10.5
Hordeum jubatum	23	0.5
Koeleria nitida (macrantha)	5	0.5
Leucopoa kingii	58	3.0
Oryzopsis hymenoides	17	0.6
Poa sp.	11	0.5
Poa cusickii (fendleriana)	17	0.5
Poa fendleriana	5	0.5
Poa interior	11	0.5
Poa nevadensis (secunda)	5	0.5
Poa pratensis	11	0.7
Poa secunda	29	0.5
Forbs		
Achillea millefolium	17	0.5
Agoseris glauca	11	0.5
Allium sp.	11	0.5
Angelica roseanna	5	0.5
Antennaria microphylla	23	0.5
Arabis sp.	17	0.5
Arabis holboellii	5	0.5
Arabis lemmonii	17	0.3
Arenaria congesta	5	0.5
Arenaria (Minuartia) nuttallii	11	0.5
Artemisia michauxiana	5	0.5
Astragalus miser	11	0.7
Astragalus sp.	11	0.5
Castilleja angustifolia	5	0.5
Castilleja flava	5	0.5
Castilleja miniata	11	0.5
Cirsium sp.	29	0.7
Collinsia parviflora	5	0.5
Crepis sp.	5	0.5
Cymopterus bipinnatus (nivalis)	5	0.5
Delphinium andersonii	5	0.5
Delphinium occidentale	5	0.5
Delphinium sp.	5	0.5
Erigeron compositus	5	0.5
Eriogonum sp.	5	0.5
Erysimum capitatum	5	0.5
Geranium sp.	5	0.5
Geum triflorum	5	0.5
Hackelia patens	5	0.5
Heuchera sp.	11	0.5
Lappula redowskii occidentalis var. *(occidentalis)*	5	0.5
Leptodactylon pungens	11	0.5
Linum perenne (lewisii) var. *lewisii*	11	0.5
Lomatium triternatum	5	0.5
Lupinus argenteus var. *depressus*	5	0.5
Lupinus sp.	5	0.5
Lupinus lepidus	5	1.0
Lupinus leucophyllus	5	1.0
Mertensia viridis (lanceolata var. *nivalis)*	5	0.5
Oenothera caespitosa (cespitosa)	5	0.5
Orobanche fasciculata	5	0.5
Penstemon aridus	17	0.5
Penstemon gracilis	11	0.5

PIFL2/LEKI2 Fritz

(Continued)

Scientific Name	Constancy %	Average Cover %
Petrophytum (Petrophyton) caespitosum	11	0.7
Phacelia hastata	35	0.4
Phacelia heterophylla	5	0.5
Phlox hoodii	5	0.5
Phlox longifolia	17	0.5
Phlox sp.	23	0.6
Physaria didymocarpa var. *didymocarpa*	29	0.5
Sedum lanceolatum	5	0.5
Senecio canus	52	0.5
Senecio sp.	5	0.5
Senecio integerrimus	5	0.5
Senecio serra	11	0.5
Senecio streptanthifolius	17	0.5
Solidago multiradiata	5	0.5
Taraxacum officinale	5	0.5
Tragopogon dubius	17	0.5
Other Compositae	11	0.7
Other Cruciferae	23	0.5
Other forbs	17	0.5

PSME/ARTRV Fourme

The plots of this ecotone are separated into forestland and shrub steppe communities.

Scientific Name	Constancy %	Average Cover %
Forestland		
n=2		
Tree d.b.h. ≥ 5 inches		
Abies lasiocarpa	50	0.5
Pseudotsuga menziesii	50	9.5
Tree d.b.h. < 5 inches		
Pinus contorta	50	2.0
Pseudotsuga menziesii	50	1.5
Shrubs		
Amelanchier alnifolia	100	0.7
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	100	6.2
Berberis (Mahonia) repens	50	1.0
Lonicera utahensis	50	0.5
Ribes lacustre	50	0.5
Rosa acicularis	50	0.5
Symphoricarpos oreophilus	100	11.5
Graminoids		
Bromus carinatus	100	2.0
Calamagrostis rubescens	50	5.0
Carex sp.	50	0.5
Carex geyeri	50	4.0
Carex raynoldsii	50	5.0
Carex vallicola	50	2.0
Elymus glaucus	50	3.0
Festuca idahoensis	50	0.5
Melica spectabilis	50	2.0
Phleum pratense	50	1.0
Poa pratensis	100	13.0
Poa nervosa var. *wheeleri*	50	0.5
Stipa occidentalis	50	1.0
Forbs		
Achillea millefolium	100	1.0
Agoseris glauca	50	0.5
Antennaria microphylla	50	0.5
Arnica cordifolia	50	0.5
Aster perelegans	50	1.0
Balsamorhiza sagittata	50	1.0
Clematis hirsutissima	50	2.0
Descurainia sp.	50	0.5
Eriogonum heracleoides	50	0.5
Eriogonum sp.	50	0.5
Erigeron peregrinus	50	1.0
Erythronium grandiflorum	50	0.5
Fragaria virginiana	50	2.0
Geranium viscosissimum	100	1.5
Hackelia sp.	50	0.5
Hackelia micrantha	50	2.0
Ligusticum sp.	50	0.5
Lithospermum ruderale	50	0.5
Lupinus argenteus	50	5.0
Lupinus sericeus	50	1.0
Nemophila parviflora	50	1.0
Osmorhiza chilensis	50	0.5
Osmorhiza occidentalis	50	0.5
Oxytropis campestris	50	0.5
Perideridia gairdneri	50	0.5
Potentilla diversifolia	50	2.0
Potentilla glandulosa	50	4.0
Potentilla gracilis	100	2.2
Rudbeckia occidentalis	50	0.5
Senecio serra	50	12.0
Smilacina (Maianthemum) racemosa	50	0.5
Stellaria americana	50	0.5
Taraxacum officinale	100	0.5
Thalictrum occidentale	50	3.0
Tragopogon dubius	50	0.5
Valeriana occidentalis	50	2.0
Viola nuttallii	50	0.5
Other forbs	100	2.0
Shrub steppe		
n=4		
Shrubs		
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	100	27.5
Chrysothamnus viscidiflorus	25	5.0
Potentilla (Pentaphylloides) fruticosa	25	1.0
Shepherdia canadensis	25	0.5
Symphoricarpos oreophilus	25	12.0
Graminoids		
Agrostis stolonifera	25	0.5
Agropyron (Elymus) trachycaulum	25	5.0
Bromus carinatus	50	4.5
Danthonia unispicata	25	0.5
Festuca idahoensis	75	17.3
Hordeum jubatum	25	0.5
Koeleria nitida (macrantha)	50	1.5
Melica spectabilis	25	0.5
Phleum alpinum	25	3.0
Phleum pratense	25	13.0
Poa pratensis	75	2.5

PSME/ARTRV Fourme

(Continued)

Scientific Name	Constancy %	Average Cover %
Stipa comata	50	3.7
Stipa occidentalis	75	2.0
Forbs		
Achillea millefolium	75	0.8
Agastache urticifolia	25	0.5
Agoseris aurantiaca	25	0.5
Agoseris glauca	75	1.3
Allium acuminatum	25	0.5
Antennaria microphylla	50	1.7
Arenaria congesta	25	0.5
Artemisia ludoviciana	25	3.0
Aster perelegans	25	2.0
Balsamorhiza sagittata	25	0.5
Campanula rotundifolia	25	0.5
Castilleja rustica (flava)	25	0.5
Collinsia parviflora	50	0.5
Epilobium minutum	25	0.5
Eriophyllum lanatum	25	0.5
Erigeron peregrinus	50	1.2
Eriogonum umbellatum	75	1.3
Erythronium grandiflorum	25	0.5
Geranium viscosissimum	25	3.0
Geum triflorum	25	1.0
Helianthella uniflora	25	0.5
Linum perenne (lewisii) var. *lewisii*	25	0.5
Lithophragma parviflorum	25	0.5
Lupinus argenteus	25	0.5
Lupinus caudatus	50	2.0
Lupinus sericeus	25	0.5
Microsteris (Phlox) gracilis	50	0.5
Oxytropis campestris	25	0.5
Perideridia gairdneri	50	0.5
Phlox longifolia	25	0.5
Polygonum douglasii	25	3.0
Polygonum (douglasii ssp.*) engelmannii*	25	0.5
Potentilla glandulosa	100	1.1
Potentilla gracilis	25	0.5
Rumex paucifolius	25	0.5
Senecio sp.	25	0.5
Senecio serra	25	0.5
Taraxacum officinale	75	0.6
Tragopogon dubius	25	1.0
Trifolium arvense	25	0.5
Wyethia amplexicaulis	25	1.0
Wyethia helianthoides	25	0.5
Zigadenus venenosus	25	0.5

PSME/ARTRV Meegero

The plots of this ecotone are separated into forestland and shrub steppe communities.

Scientific Name	Constancy %	Average Cover %
Forestland		
n=3		
Tree d.b.h. < 5 inches		
Pinus flexilis	33	0.5
Pseudotsuga menziesii	66	1.7
Shrubs		
Artemisia nova	33	2.0
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	100	17.6
Chrysothamnus viscidiflorus	33	0.5
Symphoricarpos oreophilus	66	1.7
Tetradymia canescens	33	0.5
Graminoids		
Agropyron sp.	33	0.5
Agropyron (Pseudoroegneria) spicatum	66	6.0
Bromus ciliatus	33	0.5
Carex petasata	33	2.0
Carex vallicola	33	4.0
Danthonia intermedia	33	5.0
Elymus (Leymus) cinereus	33	0.5
Elymus sp.	33	0.5
Festuca idahoensis	100	18.5
Koeleria nitida (macrantha)	33	0.5
Leucopoa kingii	66	4.0
Poa sandbergii	66	3.5
Forbs		
Achillea millefolium	66	0.5
Antennaria microphylla	100	2.8
Arabis sp.	100	0.5
Astragalus sp.	100	0.5
Balsamorhiza sagittata	33	1.0
Besseya wyomingensis	33	0.5
Castilleja angustifolia	33	0.5
Castilleja sp.	66	0.5
Crepis sp.	33	0.5
Dodecatheon pulchellum	66	0.5
Eriogonum sp.	33	0.5
Frasera speciosa	33	0.5
Fritillaria atropurpurea	33	0.5
Geum triflorum	66	0.5
Haplopappus (Stenotus) stenophyllus	33	0.5
Heuchera sp.	33	0.5
Lithospermum ruderale	33	0.5
Lomatium triternatum	33	0.5
Lupinus sp.	33	1.0
Lupinus lepidus	33	2.0
Mertensia viridis (lanceolata var. *nivalis)*	66	0.5
Pedicularis sp.	33	0.5
Phlox hoodii	66	1.2
Senecio sp.	33	0.5
Taraxacum officinale	66	0.5
Zigadenus venenosus	66	0.5
Shrub steppe		
n=4		
Shrubs		
Artemisia frigida	25	0.5
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	75	15.3
Chrysothamnus viscidiflorus	50	2.2
Symphoricarpos oreophilus	25	2.0
Graminoids		
Agropyron (Pseudoroegneria) spicatum	50	17.5
Agropyron (Elymus) trachycaulum	25	0.5
Bromus anomalus	25	2.0
Bromus carinatus	25	0.5
Carex sp.	50	0.3
Carex geyeri	25	12.0
Carex petasata	25	0.5
Carex rossii	25	5.0
Danthonia intermedia	25	0.5
Festuca idahoensis	75	19.3
Koeleria nitida (macrantha)	50	0.5
Leucopoa kingii	25	0.1
Poa cusickii (fendleriana)	25	6.0
Poa sandbergii	25	0.5
Poa secunda	25	0.5
Stipa occidentalis	25	0.5
Stipa sp.	25	5.0
Trisetum spicatum	25	0.5
Forbs		
Achillea millefolium	75	0.8
Agoseris glauca	25	0.1
Antennaria sp.	25	2.0
Antennaria microphylla	50	0.5
Arabis sp.	25	0.5
Arenaria congesta	25	0.5
Astragalus lentiginosus	25	0.5
Astragalus miser	25	0.1
Aster perelegans	25	0.5

PSME/ARTRV Meegero

(Continued)

Scientific Name	Constancy %	Average Cover %
Astragalus sp.	25	1.0
Balsamorhiza sagittata	25	0.5
Besseya wyomingensis	50	0.3
Cirsium scariosum	25	0.5
Clematis hirsutissima	25	1.0
Crepis intermedia	25	0.5
Delphinium sp.	25	0.5
Dodecatheon pulchellum	25	0.5
Epilobium angustifolium	25	0.5
Eriophyllum lanatum	25	0.5
Eriogonum umbellatum	25	3.0
Erysimum sp.	25	0.5
Frasera sp.	25	0.5
Frasera speciosa	25	0.5
Geranium viscosissimum	25	3.0
Hackelia micrantha	25	2.0
Helianthella uniflora	25	1.0
Heuchera sp.	25	0.5
Linum perenne (lewisii) var. *lewisii*	25	0.1
Lupinus argenteus	25	3.0
Lupinus sp.	25	0.5
Opuntia polyacantha	25	0.5
Oxytropis sericea	25	0.5
Penstemon gracilis	25	0.5
Phlox hoodii	25	1.0
Phlox longifolia	25	0.5
Phlox multiflora	25	0.5
Phlox sp.	25	1.0
Potentilla gracilis	25	5.0
Solidago multiradiata	25	0.5
Taraxacum officinale	25	0.1
Townsendia montana (alpigena)	25	0.5
Tragopogon dubius	25	0.5
Viola nuttallii	25	0.5
Other Compositae	25	0.1
Other Umbelliferae	25	0.5

PSME/ARTRV Povey

The plots of this ecotone are separated into forestland and shrub steppe communities.

Scientific Name	Constancy %	Average Cover %
Forestland		
n=18		
Tree d.b.h. > 5 inches		
Juniperus scopulorum	5	0.5
Pinus contorta	5	4.0
Pinus flexilis	5	0.5
Pseudotsuga menziesii	33	6.5
Tree d.b.h. < 5 inches		
Juniperus scopulorum	5	0.5
Pinus contorta	5	3.0
Populus tremuloides	22	1.6
Pseudotsuga menziesii	33	1.0
Shrubs		
Acer glabrum	5	1.0
Acer grandidentatum	16	22.3
Amelanchier alnifolia	38	1.7
Arctostaphylos uva-ursi	5	7.0
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	55	24.7
Artemisia tridentata ssp. *vaseyana* var.*vaseyana*	16	1.3
Berberis (Mahonia)repens	66	2.6
Ceanothus velutinus	38	34.0
Chrysothamnus nauseosus	5	0.5
Chrysothamnus viscidiflorus	11	0.5
Pachistima (Paxistima) myrsinites	22	0.6
Physocarpus malvaceus	5	2.0
Prunus virginiana var. *melanocarpa*	77	4.2
Purshia tridentata	50	2.1
Rosa sp.	33	0.5
Spiraea betulifolia	11	2.5
Symphoricarpos oreophilus	94	4.5
Symphoricarpos sp.	5	7.0
Tetradymia canescens	11	0.7
Graminoids		
Agropyron (Elymus) dasytachyum	22	0.6
Agropyron (Elytrigia) intermedium	11	1.5
Agropyron sp.	11	0.5
Agrostis scabra	5	0.1
Agropyron (Pseudoroegneria) spicatum	27	4.1
Agropyron (Elymus) trachycaulum	33	0.6
Bromus carinatus	61	0.9
Bromus inermis	5	2.0
Bromus sp.	27	1.1
Calamagrostis rubescens	22	1.1
Carex sp.	38	1.0
Carex geyeri	16	2.8
Carex petasata	5	0.5
Danthonia intermedia	5	0.5
Danthonia unispicata	5	0.5
Elymus (Leymus) cinereus	11	1.0
Elymus glaucus	33	1.3
Festuca idahoensis	44	7.0
Koeleria nitida (macrantha)	5	0.5
Leucopoa kingii	5	0.5
Melica bulbosa	5	0.5
Melica sp.	5	0.5
Melica spectabilis	33	1.0
Poa sp.	33	1.5
Poa fendleriana	5	0.1
Poa nevadensis (secunda)	5	0.5
Poa pratensis	16	3.8
Poa secunda	5	0.5
Stipa comata	22	0.8
Stipa lettermanii	5	0.5
Stipa occidentalis	33	2.5
Stipa sp.	22	1.1
Trisetum spicatum	5	0.5
Other Poaceae	11	2.7
Forbs		
Achillea millefolium	83	0.6
Agastache urticifolia	55	1.5
Agoseris glauca	16	0.5
Allium acuminatum	16	0.5
Antennaria sp.	5	0.5
Antennaria microphylla	27	0.7
Antennaria racemosa	5	0.5
Arabis sp.	16	0.5
Arabis holboellii	16	0.5
Arenaria congesta	22	1.5
Artemisia ludoviciana	11	0.5
Aster conspicuus	5	0.5
Aster engelmannii	5	0.5
Aster sp.	33	0.9
Astragalus miser	11	0.5
Aster occidentalis	5	0.5
Balsamorhiza macrophylla	16	0.6
Balsamorhiza sagittata	44	0.9
Calochortus sp.	11	0.3
Campanula rotundifolia	5	1.0

PSME/ARTRV Povey

(Continued)

Scientific Name	Constancy %	Average Cover %
Castilleja cusickii	5	0.5
Cirsium sp.	5	0.1
Clematis hirsutissima	5	0.5
Collomia sp.	5	0.5
Collinsia parviflora	5	0.1
Comandra umbellata	11	0.5
Crepis modocensis	5	0.5
Crepis sp.	11	0.3
Delphinium bicolor	5	0.1
Disporum trachycarpum	5	0.5
Epilobium sp.	5	0.5
Erigeron sp.	27	0.9
Eriogonum heracleoides	5	0.5
Eriophyllum lanatum	5	0.5
Eriogonum sp.	27	1.5
Eriogonum umbellatum	44	2.0
Fragaria vesca	5	0.5
Fragaria virginiana	11	0.5
Fritillaria atropurpurea	5	0.5
Fritillaria sp.	5	0.1
Galium triflorum	5	0.5
Geranium viscosissimum	27	1.5
Geum triflorum	5	1.0
Hackelia sp.	5	0.5
Hackelia micrantha	22	1.0
Helianthella uniflora	50	0.7
Heuchera sp.	5	0.5
Hieracium sp.	11	0.7
Hydrophyllum capitatum	5	0.1
Linum perenne (lewisii) var. *lewisii*	11	0.5
Lithophragma parviflorum	11	1.5
Lithospermum ruderale	11	0.5
Lomatium sp.	5	0.5
Lupinus argenteus	5	1.0
Lupinus caudatus	5	0.5
Lupinus sp.	27	1.5
Lupinus sericeus	11	0.5
Microsteris (Phlox) gracilis	33	1.5
Nemophila parviflora	5	1.0
Osmorhiza chilensis	16	0.5
Osmorhiza occidentalis	5	0.5
Osmorhiza sp.	5	0.5
Oxytropis campestris	5	0.5
Penstemon sp.	11	0.3
Perideridia gairdneri	5	0.5
Perideridia sp.	5	0.5
Phacelia heterophylla	5	0.5
Phlox longifolia	11	0.5
Polygonum douglasii	50	1.0
Polygonum sp.	11	0.5
Potentilla sp.	5	1.0
Potentilla glandulosa	38	0.5
Rorippa sinuata	5	0.5
Rudbeckia occidentalis	5	0.5
Rumex paucifolius	5	0.5
Senecio dimorphophyllus	5	0.5
Senecio sp.	22	0.3
Silene menziesii	5	0.1
Smilacina (Maianthemum) racemosa	27	0.6
Smilacina (Maianthemum) stellata	5	0.5
Solidago canadensis	5	0.5
Solidago sp.	5	0.5
Solidago missouriensis	5	1.0
Stanleya sp.	5	0.5
Taraxacum officinale	22	0.4
Thalictrum occidentale	22	0.6
Thlaspi sp.	5	0.5
Tragopogon dubius	38	0.5
Valeriana occidentalis	16	0.6
Viguiera (Heliomeris) multiflora	11	0.5
Viola sp.	5	0.1
Wyethia sp.	5	0.5
Zigadenus venenosus	5	0.5
Other Boraginaceae	16	0.3
Other Cruciferae	5	0.1
Other Compositae	22	0.5
Other forbs	11	1.2
Other Umbelliferae	5	0.1
Shrub steppe		
n=8		
Shrubs		
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	100	22.8
Chrysothamnus viscidiflorus	62	0.4
Symphoricarpos oreophilus	37	0.6
Graminoids		
Agropyron (Pseudoroegneria) spicatum	62	5.4
Agropyron (Elymus) trachycaulum	12	0.5
Bromus carinatus	37	1.6
Carex sp.	25	0.5
Danthonia intermedia	12	1.0
Festuca idahoensis	100	6.8
Koeleria nitida (macrantha)	37	2.0

PSME/ARTRV Povey

(Continued)

Scientific Name	Constancy %	Average Cover %
Melica bulbosa	25	0.7
Melica spectabilis	12	0.5
Poa sp.	12	5.0
Poa arida	12	0.5
Poa sandbergii	12	0.5
Poa secunda	12	0.5
Stipa comata	25	9.0
Stipa occidentalis	12	1.0
Stipa sp.	25	7.0
Forbs		
Achillea millefolium	50	0.4
Agoseris glauca	25	0.5
Allium acuminatum	12	0.5
Antennaria sp.	12	0.5
Antennaria microphylla	75	0.5
Arabis sp.	37	0.3
Arabis holboellii	25	0.5
Arenaria congesta	25	0.7
Astragalus miser	12	0.1
Balsamorhiza sagittata	37	1.0
Castilleja cusickii	12	0.5
Castilleja sp.	50	0.4
Collinsia parviflora	12	0.5
Comandra umbellata	25	0.5
Crepis modocensis	12	0.5
Crepis sp.	50	0.5
Delphinium nuttallianum	12	0.5
Erigeron compositus	12	0.5
Erigeron sp.	25	0.5
Erigeron glabellus	12	0.5
Eriogonum heracleoides	12	0.5
Eriogonum sp.	37	1.8
Eriogonum umbellatum	37	1.2
Geranium viscosissimum	12	0.5
Geum triflorum	25	0.7
Helianthella uniflora	37	1.3
Lupinus sp.	37	0.5
Lupinus lepidus	25	1.7
Microsteris (Phlox) gracilis	12	0.1
Microseris (Nothocalais) troximoides	12	0.5
Perideridia gairdneri	12	0.5
Phacelia hastata	12	0.1
Phlox longifolia	50	0.2
Polygonum douglasii	12	1.0
Polygonum sp.	37	0.7
Potentilla glandulosa	50	0.4
Senecio integerrimus	12	0.5
Taraxacum officinale	25	0.5
Zigadenus venenosus	12	0.5
Other Cruciferae	12	0.1

PSME/ARTRV Tophat

The plots of this ecotone are separated into forestland and shrub steppe communities.

Scientific Name	Constancy %	Average Cover %
Forestland		
n=7		
Tree d.b.h. ≥ 5 inches		
Juniperus scopulorum	14	8.0
Pseudotsuga menziesii	85	4.1
Tree d.b.h. < 5 inches		
Juniperus scopulorum	42	0.5
Pseudotsuga menziesii	14	0.5
Shrubs		
Amelanchier alnifolia	57	0.6
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	57	6.5
Artemisia tridentata ssp. *spiciformis*	71	8.8
Artemisia tridentata ssp. *vaseyana* var. *vaseyana*	14	0.5
Berberis (Mahonia) repens	57	0.6
Pachistima (Paxistima) myrsinites	71	0.5
Prunus virginiana var. *melanocarpa*	14	0.5
Purshia tridentata	100	4.0
Rosa sp.	14	0.5
Rosa woodsii	28	0.3
Symphoricarpos oreophilus	100	10.7
Graminoids		
Agropyron (Elymus) dasytachyum	28	0.3
Agropyron (Pseudoroegneria) spicatum	57	6.2
Agropyron (Elymus) trachycaulum	28	0.5
Bromus carinatus	100	1.1
Bromus tectorum	42	4.2
Carex geyeri	42	1.2
Carex hoodii	14	0.5
Carex petasata	14	0.1
Elymus (Leymus) cinereus	42	0.5
Festuca idahoensis	14	0.5
Koeleria nitida (macrantha)	28	0.5
Melica bulbosa	71	0.6
Poa sp.	14	0.5
Poa compressa	14	0.5
Poa cusickii (fendleriana)	14	0.5
Poa fendleriana	57	0.3
Poa pratensis	57	5.8
Poa sandbergii	14	0.5
Poa nervosa var. *wheeleri*	14	0.5
Stipa occidentalis	28	0.3

Scientific Name	Constancy %	Average Cover %
Forbs		
Achillea millefolium	85	0.5
Agastache urticifolia	28	0.3
Allium sp.	28	0.1
Antennaria microphylla	14	0.1
Arabis sp.	57	0.1
Arabis glabra	28	0.1
Arabis lemmonii	14	0.1
Aster sp.	28	0.3
Aster perelegans	28	0.3
Astragalus sp.	14	0.1
Balsamorhiza macrophylla	14	4.0
Balsamorhiza sagittata	85	2.4
Castilleja miniata	14	0.1
Cirsium sp.	42	0.2
Collinsia parviflora	85	0.3
Comandra umbellata	28	0.3
Crepis acuminata	71	0.4
Delphinium nuttallianum	42	0.3
Descurainia richardsonii (incana incana ssp.)	14	0.1
Epilobium sp.	57	0.4
Epilobium minutum	14	0.5
Eriogonum heracleoides	14	0.5
Eriophyllum lanatum	14	0.1
Erigeron peregrinus	42	0.2
Eriogonum umbellatum	57	0.3
Galium aparine	57	0.4
Galium triflorum	14	0.1
Geranium viscosissimum	57	0.3
Hackelia patens	28	0.3
Helianthella uniflora	42	0.5
Hydrophyllum capitatum	14	0.1
Ligusticum filicinum	57	0.5
Linum perenne (lewisii) var. *lewisii*	28	0.3
Lithospermum ruderale	28	0.1
Lomatium triternatum	14	0.5
Mertensia viridis (lanceolata var. *nivalis)*	14	0.1
Microsteris (Phlox) gracilis	71	0.4
Nemophila parviflora	57	0.6
Osmorhiza occidentalis	14	0.5
Perideridia gairdneri	57	0.3
Phacelia hastata	28	0.5
Polygonum douglasii	42	0.5
Potentilla glandulosa	28	0.3
Potentilla gracilis	14	0.1
Senecio integerrimus	14	0.1

PSME/ARTRV Tophat

(Continued)

Scientific Name	Constancy %	Average Cover %
Senecio pauperculus	57	0.4
Senecio serra	14	0.1
Senecio streptanthifolius	14	0.1
Smilacina (Maianthemum) racemosa	14	0.1
Solidago multiradiata	71	0.7
Stellaria (Pseudostellaria) jamesiana	14	1.0
Tragopogon dubius	42	0.2
Verbascum thapsis	14	0.1
Viguiera (Heliomeris) multiflora	57	0.3
Viola nuttallii	28	0.3
Wyethia amplexicaulis	42	0.2
Zigadenus paniculatus	14	0.1
Other Boraginaceae	28	0.1
Other Cichorium	28	0.3
Other Compositae	14	0.5
Other Cruciferae	28	0.1
Shrub steppe		
n=4		
Shrubs		
Amelanchier alnifolia	100	0.6
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	25	0.1
Artemisia tridentata ssp. *spiciformis*	100	17.2
Artemisia tridentata ssp. *vaseyana* var. *vaseyana*	25	0.5
Chrysothamnus viscidiflorus	25	0.5
Pachistima (Paxistima) myrsinites	25	0.5
Prunus virginiana var. *melanocarpa*	50	0.5
Purshia tridentata	75	6.8
Rosa woodsii	25	0.5
Symphoricarpos oreophilus	100	8.5
Graminoids		
Agropyron (Elymus) dasytachyum	25	0.5
Agropyron (Pseudoroegneria) spicatum	25	0.1
Agropyron (Elymus) trachycaulum	75	0.3
Bromus carinatus	100	2.8
Carex geyeri	25	2.0
Carex hoodii	25	0.5
Festuca idahoensis	25	1.0
Koeleria nitida (macrantha)	25	0.1
Melica bulbosa	75	0.5
Phleum pratense	25	0.5
Poa sp.	25	0.1
Poa cusickii (fendleriana)	25	0.1
Poa pratensis	75	6.3
Poa sandbergii	50	0.3
Stipa occidentalis	75	0.2
Forbs		
Achillea millefolium	50	0.5
Agastache urticifolia	25	1.0
Antennaria microphylla	25	0.5
Arabis sp.	50	0.1
Arabis glabra	75	0.1
Arabis holboellii	25	0.5
Arabis lemmonii	25	0.1
Arenaria congesta	25	0.5
Aster sp.	25	0.1
Aster integrifolius	50	0.5
Aster perelegans	25	2.0
Balsamorhiza macrophylla	25	2.0
Balsamorhiza sagittata	50	1.2
Collinsia parviflora	75	0.5
Comandra umbellata	25	0.5
Crepis acuminata	25	0.1
Delphinium nuttallianum	50	0.3
Delphinium occidentale	25	0.1
Epilobium sp.	25	0.5
Epilobium minutum	25	0.5
Eriogonum heracleoides	50	1.5
Eriophyllum lanatum	25	0.5
Eriogonum umbellatum	75	0.3
Fragaria virginiana	25	0.5
Galium aparine	25	0.5
Geranium viscosissimum	50	1.7
Helianthella quinquenervis	25	1.0
Helianthella uniflora	75	0.3
Hieracium cynoglossoides	25	0.1
Hydrophyllum capitatum	25	0.5
Lithophragma parviflorum	25	0.1
Lithospermum ruderale	25	0.1
Lomatium sp.	25	0.1
Lupinus sericeus	25	0.5
Microsteris (Phlox) gracilis	100	0.4
Nemophila parviflora	25	0.5
Penstemon cyaneus	25	0.1
Perideridia gairdneri	100	0.4
Phacelia hastata	50	0.3
Phlox longifolia	25	0.5
Polygonum douglasii	75	0.5

PSME/ARTRV Tophat

(Continued)

Scientific Name	Constancy %	Average Cover %
Potentilla glandulosa	25	2.0
Potentilla gracilis	25	1.0
Rumex paucifolius	25	0.1
Sedum lanceolatum	25	0.5
Senecio integerrimus	50	0.3
Senecio pauperculus	50	0.1
Solidago multiradiata	50	2.7
Stellaria americana	25	0.5
Stellaria (Pseudostellaria) jamesiana	25	1.0
Thlaspi (monatanum ssp.*) fendleri*	25	0.1
Tragopogon dubius	25	0.1
Valeriana occidentalis	25	0.1
Viola nuttallii	50	0.1
Wyethia amplexicaulis	75	0.3
Other Boraginaceae	25	0.5
Other Cichorium	75	0.2
Other Compositae	50	0.3
Other Cruciferae	25	0.1

PSME/BERE,SYOR2 Cryochrepts

n=3

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Juniperus scopulorum	100	13.3
Pseudotsuga menziesii	100	14.0
Tree d.b.h. < 5 inches		
Juniperus scopulorum	100	3.0
Pseudotsuga menziesii	100	0.5
Shrubs		
Amelanchier alnifolia	33	0.1
Berberis (Mahonia) repens	100	5.0
Cercocarpus ledifolius var. *intercedens*	100	2.0
Pachistima (Paxistima) myrsinites	33	0.1
Purshia tridentata	66	0.5
Symphoricarpos oreophilus	100	3.3
Graminoids		
Agropyron (Pseudoroegneria) spicatum	100	3.3
Elymus (Leymus) cinereus	66	1.2
Leucopoa kingii	66	0.5
Oryzopsis hymenoides	66	0.1
Poa sp.	33	0.1
Poa fendleriana	33	0.5
Forbs		
Achillea millefolium	33	0.5
Arabis sp.	33	0.1
Aster occidentalis	33	0.1
Astragalus sp.	33	0.1
Balsamorhiza sagittata	100	2.0
Cirsium sp.	66	0.3
Comandra umbellata	33	0.1
Eriogonum umbellatum	33	0.5
Gilia (Ipomopsis) aggregata	33	0.1
Helianthella uniflora	33	0.1
Linum perenne (lewisii) var. *lewisii*	33	0.1
Lomatium sp.	33	0.5
Nemophila parviflora	66	0.5
Penstemon sp.	100	0.3
Senecio integerrimus	33	0.5
Tragopogon dubius	33	0.1

PSME/BERE,SYOR2 Fritz

n=11

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Juniperus scopulorum	36	5.0
Pinus flexilis	36	3.2
Pseudotsuga menziesii	100	20.7
Tree d.b.h. < 5 inches		
Juniperus scopulorum	18	2.0
Picea engelmannii	9	0.5
Pinus albicaulis	9	0.5
Pinus flexilis	9	0.1
Pseudotsuga menziesii	54	2.5
Shrubs		
Acer glabrum	45	0.6
Acer grandidentatum	9	0.5
Amelanchier alnifolia	36	0.4
Artemisia tridentata ssp. *spiciformis*	18	0.5
Berberis (Mahonia) repens	100	2.5
Ceanothus velutinus	27	0.6
Cercocarpus ledifolius var. *intercedens*	54	5.1
Juniperus communis	9	3.0
Pachistima (Paxistima) myrsinites	90	2.1
Physocarpus malvaceus	9	0.5
Prunus virginiana var. *melanocarpa*	63	7.7
Ribes viscosissimum	18	0.5
Symphoricarpos oreophilus	90	0.8
Graminoids		
Agropyron (Pseudoroegneria) spicatum	27	0.6
Agropyron (Elymus) trachycaulum	72	0.4
Bromus carinatus	54	0.4
Bromus sp.	18	0.5
Calamagrostis canadensis	18	0.7
Carex sp.	9	0.5
Carex geyeri	45	1.5
Elymus glaucus	18	1.0
Leucopoa kingii	27	0.5
Melica bulbosa	18	0.3
Poa sp.	18	0.5
Poa compressa	9	0.1
Poa secunda	9	0.5
Poa nervosa var. *wheeleri*	18	0.5
Stipa sp.	18	0.1
Stipa pinetorum	9	0.1
Trisetum spicatum	27	0.3
Forbs		
Achillea millefolium	45	0.3
Agastache urticifolia	9	0.5
Apocynum androsaemifolium	27	0.3
Arabis sp.	18	0.1
Aster engelmannii	45	1.0
Aster sp.	72	0.4
Aster perelegans	45	0.8
Balsamorhiza sagittata	81	0.5
Castilleja miniata	27	0.3
Castilleja sulphurea	18	0.5
Cirsium sp.	36	0.2
Collomia grandiflora	9	0.5
Collomia sp.	9	0.5
Collinsia parviflora	45	0.5
Crepis acuminata	18	0.5
Crepis sp.	36	0.3
Delphinium sp.	18	0.1
Epilobium angustifolium	9	0.5
Erigeron sp.	9	0.1
Erigeron speciosus	9	0.1
Eriogonum umbellatum	18	0.1
Galium bifolium	9	0.1
Geranium viscosissimum	27	0.3
Goodyera oblongifolia	9	0.1
Habenaria sp.	18	0.1
Hedysarum boreale	18	0.5
Helianthella uniflora	45	2.4
Heuchera sp.	9	0.1
Hieracium sp.	9	0.1
Ligusticum filicinum	9	0.1
Linum perenne (lewisii) var. *lewisii*	36	0.2
Linaria vulgaris	9	0.1
Lithospermum ruderale	54	0.3
Microsteris (Phlox) gracilis	9	0.5
Osmorhiza chilensis	45	0.3
Osmorhiza occidentalis	18	0.5
Pedicularis racemosa	18	0.3
Penstemon sp.	9	0.1
Phacelia sp.	18	0.1
Phacelia hastata	9	0.1
Sedum debile	27	0.3
Senecio dimorphophyllus	36	0.2
Senecio sp.	54	0.1
Silene menziesii	9	0.5
Smilacina (Maianthemum) racemosa	9	0.1
Solidago canadensis	45	0.4
Taraxacum officinale	9	0.1
Thalictrum occidentale	81	0.4
Tragopogon dubius	27	0.1

PSME/BERE,SYOR2 Fritz

(Continued)

Scientific Name	Constancy %	Average Cover %
Valeriana occidentalis	18	0.1
Viguiera (Heliomeris) multiflora	27	0.5
Other Caryophyllaceae	27	0.2
Other Compositae	9	0.1
Other Cruciferae	27	0.2
Other Orchidaceae	18	0.1

PSME/CARU,CARU Edgway

n=27

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Pinus contorta	3	1.0
Populus tremuloides	25	9.7
Pseudotsuga menziesii	92	27.3
Tree d.b.h. < 5 inches		
Abies lasiocarpa	3	0.5
Pinus contorta	7	0.7
Pinus flexilis	11	0.8
Populus tremuloides	40	14.2
Pseudotsuga menziesii	70	2.2
Shrubs		
Acer glabrum	7	0.7
Amelanchier alnifolia	22	0.5
Artemisia tridentata ssp. *vaseyana* var. *vaseyana*	7	0.5
Artemisia tridentata ssp. *wyomingensis*	3	0.5
Berberis (Mahonia) repens	59	1.5
Lonicera utahensis	3	0.5
Prunus virginiana var. *melanocarpa*	18	1.2
Ribes sp.	7	0.5
Rosa sp.	14	1.6
Rosa acicularis	11	1.1
Salix sp.	3	1.0
Shepherdia canadensis	3	1.0
Sorbus scopulina	3	0.5
Spiraea betulifolia	18	0.5
Symphoricarpos albus	3	0.5
Symphoricarpos oreophilus	96	4.9
Graminoids		
Agropyron (Elymus) dasytachyum	3	0.5
Agropyron sp.	7	0.5
Agropyron (Pseudoroegneria) spicatum	18	0.5
Agropyron (Elymus) trachycaulum	14	1.0
Bromus carinatus	48	1.5
Bromus sp.	29	0.6
Calamagrostis rubescens	92	17.0
Carex sp.	3	0.5
Carex geyeri	51	8.5
Carex hoodii	3	1.0
Carex raynoldsii	3	0.5
Dactylis glomerata	11	1.3
Elymus glaucus	33	1.2
Elymus sp.	3	0.5
Festuca idahoensis	3	0.5
Melica sp.	3	0.5
Melica spectabilis	14	1.2
Phleum alpinum	3	0.5
Phleum pratense	48	1.0
Poa sp.	37	2.1
Poa nevadensis (secunda)	7	0.5
Poa pratensis	22	1.9
Poa nervosa var. *wheeleri*	25	1.0
Stipa occidentalis	3	0.5
Trisetum spicatum	11	0.5
Other grass(es) w/ > trace cover	3	2.0
Forbs		
Achillea millefolium	85	0.5
Agastache urticifolia	18	1.0
Agoseris aurantiaca	3	0.5
Agoseris glauca	25	0.5
Agoseris sp.	3	0.5
Androsace septentrionalis	7	0.5
Antennaria sp.	3	1.0
Antennaria luzuloides	3	0.5
Antennaria microphylla	18	0.5
Antennaria racemosa	11	0.5
Apocynum androsaemifolium	7	0.5
Aquilegia flavescens	11	0.5
Aquilegia sp.	14	0.5
Arabis sp.	3	0.5
Arnica cordifolia	66	1.7
Aster conspicuus	11	1.1
Aster engelmannii	22	1.3
Aster sp.	14	0.5
Aster foliaceus var. *canbyi*	3	0.5
Aster integrifolius	3	0.5
Astragalus miser	40	0.7
Aster occidentalis	37	0.5
Aster perelegans	3	0.5
Astragalus sp.	14	0.6
Balsamorhiza macrophylla	3	0.5
Campanula rotundifolia	3	0.5
Castilleja miniata	7	0.5
Claytonia lanceolata	3	0.5
Collinsia parviflora	14	0.5
Corallorhiza (Corallorrhiza) sp.	3	0.5
Corallorhiza (Corallorrhiza) striata	3	0.5
Crepis occidentalis	3	1.0
Crepis sp.	3	0.5
Delphinium bicolor	3	0.5
Delphinium nuttallianum	7	0.5

PSME/CARU,CARU Edgway

(Continued)

Scientific Name	Constancy %	Average Cover %
Delphinium occidentale	7	1.7
Epilobium angustifolium	29	0.5
Epilobium sp.	7	0.5
Epilobium minutum	11	0.5
Equisetum arvense	3	0.5
Equisetum sp.	3	0.5
Erigeron sp.	3	0.5
Eriogonum sp.	3	0.5
Erigeron peregrinus	7	0.5
Erythronium grandiflorum	18	1.2
Fragaria sp.	7	0.7
Frasera speciosa	3	0.5
Fragaria vesca	62	1.0
Fragaria virginiana	33	0.7
Fritillaria atropurpurea	14	0.5
Galium boreale	22	0.5
Galium sp.	3	0.5
Galium triflorum	3	1.0
Geranium viscosissimum	96	0.9
Habenaria sp.	11	0.5
Hackelia sp.	14	0.6
Hackelia micrantha	44	0.5
Helianthella uniflora	11	1.6
Heuchera sp.	3	0.5
Hieracium albiflorum	7	0.5
Hieracium cynoglossoides	33	0.5
Hieracium sp.	14	0.5
Hydrophyllum capitatum	14	0.5
Ligusticum filicinum	7	0.5
Ligusticum sp.	3	0.5
Lithophragma parviflorum	7	0.5
Lithophragma tenellum	3	0.5
Lupinus argenteus	81	0.9
Lupinus sp.	3	0.5
Lupinus sericeus	3	0.5
Mertensia oblongifolia	3	0.5
Microsteris (Phlox) gracilis	29	0.5
Nemophila parviflora	14	0.6
Osmorhiza chilensis	40	0.5
Osmorhiza occidentalis	22	1.3
Osmorhiza sp.	3	0.5
Oxytropis campestris	18	1.8
Pedicularis bracteosa	3	0.5
Pedicularis racemosa	3	0.5
Perideridia gairdneri	66	0.5
Perideridia sp.	7	0.5
Phacelia heterophylla	11	0.5
Phacelia sericea	7	0.5
Polygonum douglasii	11	1.3
Potentilla sp.	3	0.5
Potentilla glandulosa	59	0.6
Potentilla gracilis	48	0.5
Pyrola (Orthilia) secunda	3	0.5
Ranunculus uncinatus	7	0.5
Rudbeckia occidentalis	18	1.4
Senecio serra	22	0.5
Silene sp.	3	0.5
Smilacina (Maianthemum) racemosa	11	0.5
Smilacina (Maianthemum) stellata	14	0.5
Stellaria americana	3	0.5
Stellaria (Pseudostellaria) jamesiana	3	0.5
Taraxacum officinale	77	0.6
Thalictrum fendleri	11	9.1
Thalictrum occidentale	70	2.7
Tragopogon dubius	11	0.5
Valeriana occidentalis	33	0.7
Viola sp.	11	0.5
Viola nuttallii	18	0.5
Wyethia amplexicaulis	3	2.0
Other Compositae	14	0.6
Other forbs	3	2.0

PSME/CARU,CARU Nopla

n=15

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Pinus contorta	73	6.0
Populus tremuloides	13	1.5
Pseudotsuga menziesii	66	12.2
Tree d.b.h. < 5 inches		
Pinus contorta	73	4.9
Populus tremuloides	26	4.7
Pseudotsuga menziesii	73	3.7
Shrubs		
Amelanchier alnifolia	40	0.7
Berberis (Mahonia) repens	20	1.1
Lonicera utahensis	13	0.5
Prunus virginiana var. *melanocarpa*	6	1.0
Ribes montigenum	6	0.5
Rosa sp.	6	0.5
Salix scouleriana	6	0.5
Sorbus scopulina	13	0.5
Spiraea betulifolia	13	0.7
Symphoricarpos albus	33	3.0
Symphoricarpos oreophilus	26	5.5
Vaccinium globulare (membranaceum)	6	0.5
Vaccinium scoparium	6	0.5
Graminoids		
Agropyron sp.	13	0.7
Agropyron (Elymus) trachycaulum	6	0.5
Bromus carinatus	26	2.8
Bromus sp.	26	1.3
Calamagrostis rubescens	93	21.4
Carex sp.	13	1.0
Carex geyeri	66	14.4
Carex rossii	26	1.0
Dactylis glomerata	6	1.0
Danthonia intermedia	33	1.0
Elymus glaucus	26	5.1
Melica bulbosa	13	0.5
Melica spectabilis	6	1.0
Melica subulata	6	0.5
Phleum pratense	20	1.5
Poa sp.	46	4.0
Poa pratensis	33	1.8
Poa nervosa var. *wheeleri*	13	0.5
Other Poaceae w/ > trace cover	13	0.7
Forbs		
Achillea millefolium	66	0.8
Agastache urticifolia	20	1.5
Agoseris aurantiaca	6	0.5
Antennaria luzuloides	6	0.5
Aquilegia flavescens	6	1.0
Arabis sp.	6	0.5
Arnica cordifolia	33	1.2
Arnica sp.	6	0.5
Arnica latifolia	6	0.5
Aster engelmannii	6	2.0
Aster integrifolius	6	2.0
Aster occidentalis	6	0.5
Astragalus sp.	6	0.5
Calochortus eurycarpus	6	0.5
Castilleja miniata	13	0.5
Cirsium arvense	6	3.0
Cirsium sp.	6	2.0
Claytonia lanceolata	6	0.5
Collinsia parviflora	6	0.5
Crepis sp.	6	0.5
Delphinium nuttallianum	6	0.5
Epilobium angustifolium	80	5.9
Epilobium sp.	6	0.5
Erigeron sp.	13	1.0
Erythronium grandiflorum	6	5.0
Fragaria sp.	33	1.4
Frasera sp.	6	0.5
Frasera speciosa	13	0.5
Fragaria vesca	6	2.0
Fragaria virginiana	13	0.7
Fritillaria atropurpurea	6	0.5
Fritillaria pudica	6	0.5
Galium sp.	6	0.5
Galium triflorum	6	0.5
Geranium sp.	13	0.5
Geranium richardsonii	6	1.0
Geranium viscosissimum	86	3.3
Hackelia sp.	6	0.5
Hackelia micrantha	6	0.5
Hieracium albiflorum	6	0.5
Hieracium cynoglossoides	6	0.5
Hieracium sp.	20	0.5
Hydrophyllum capitatum	6	0.5
Lithophragma parviflorum	6	0.5
Lupinus argenteus	86	2.4
Machaeranthera canescens	6	1.0
Microsteris (Phlox) gracilis	6	0.5
Nemophila parviflora	13	1.7
Osmorhiza chilensis	33	0.9
Osmorhiza sp.	6	0.5
Pedicularis bracteosa	6	1.0

PSME/CARU,CARU Nopla

(Continued)

Scientific Name	Constancy %	Average Cover %
Perideridia gairdneri	46	0.6
Perideridia sp.	6	0.5
Phacelia sericea	6	2.0
Polygonum douglasii	6	0.5
Potentilla sp.	6	0.5
Potentilla glandulosa	33	1.0
Pterospora andromedea	13	0.5
Ranunculus uncinatus	6	0.5
Rorippa sp.	6	0.5
Rudbeckia occidentalis	6	3.0
Rumex paucifolius	6	0.5
Senecio sp.	6	0.5
Senecio serra	6	0.5
Smilacina sp.	6	1.0
Smilacina (Maianthemum) racemosa	13	0.5
Solidago sp.	6	0.5
Taraxacum officinale	26	0.6
Thalictrum fendleri	6	0.5
Thalictrum occidentale	46	2.7
Tragopogon dubius	6	0.5
Trifolium sp.	6	0.5
Valeriana occidentalis	13	1.2
Viola nuttallii	6	0.5
Wyethia sp.	6	0.5
Other Compositae	6	1.0
Other forbs	33	3.6

PSME/FEID Pikaden

n=7

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Juniperus scopulorum	14	0.5
Pinus flexilis	28	5.2
Pseudotsuga menziesii	100	12.1
Tree d.b.h. < 5 inches		
Juniperus scopulorum	14	0.5
Pinus flexilis	28	1.2
Pseudotsuga menziesii	85	2.0
Shrubs		
Acer glabrum	14	0.5
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	85	4.3
Cercocarpus ledifolius var. *intercedens*	14	0.5
Chamaebatiaria millefolium	14	0.5
Chimaphila umbellata	14	0.5
Chrysothamnus viscidiflorus	42	0.5
Juniperus communis	57	1.3
Ribes cereum	28	1.0
Ribes montigenum	14	0.5
Rosa sp.	14	0.5
Symphoricarpos oreophilus	100	1.9
Graminoids		
Agropyron sp.	14	0.5
Agropyron (Pseudoroegneria) spicatum	85	1.4
Carex sp.	28	0.5
Carex rossii	14	0.5
Festuca idahoensis	71	6.8
Hordeum jubatum	28	0.5
Leucopoa kingii	85	0.5
Poa sp.	14	0.5
Poa compressa (fendleriana)	42	0.5
Poa cusickii	14	0.5
Poa sandbergii	42	0.5
Poa nervosa var. *wheeleri*	57	0.5
Forbs		
Achillea millefolium	28	0.5
Antennaria microphylla	71	0.4
Arabis sp.	57	0.4
Arabis holboellii	14	0.5
Arnica cordifolia	14	0.5
Castilleja sp.	14	0.5
Cirsium sp.	14	0.5
Collinsia parviflora	14	0.5
Delphinium nuttallianum	14	0.5
Delphinium occidentale	14	0.5
Erigeron compositus	28	0.5
Eriogonum umbellatum	14	0.5
Fritillaria atropurpurea	14	0.5
Geranium sp.	14	0.5
Heuchera sp.	14	0.5
Lupinus sp.	14	0.5
Lupinus lepidus	14	0.5
Orobanche sp.	14	0.5
Penstemon aridus	14	0.5
Penstemon sp.	28	0.5
Phlox longifolia	42	0.3
Phlox multiflora	14	0.5
Potentilla glandulosa	57	0.6
Sedum lanceolatum	28	0.3
Senecio canus	57	0.5
Senecio streptanthifolius	14	0.5
Taraxacum officinale	28	0.5
Other Caryophyllaceae	14	0.1
Other Compositae	14	0.5
Other Cruciferae	14	0.5
Other Liliaceae	14	0.5

PSME/JUCO6 Gany

n=15

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Picea engelmannii	13	9.0
Pinus flexilis	46	8.4
Pseudotsuga menziesii	100	17.0
Tree d.b.h. < 5 inches		
Juniperus scopulorum	33	1.4
Picea engelmannii	6	1.5
Pinus flexilis	80	1.0
Pseudotsuga menziesii	100	1.7
Shrubs		
Acer glabrum	26	0.8
Artemisia tridentata ssp. *vaseyana* var. *vaseyana*	20	0.6
Chrysothamnus viscidiflorus	6	0.5
Juniperus communis	86	5.3
Ribes cereum	33	0.5
Ribes lacustre	6	0.5
Ribes montigenum	40	0.5
Shepherdia canadensis	33	1.4
Symphoricarpos oreophilus	53	0.9
Graminoids		
Agropyron sp.	13	0.5
Agropyron (Pseudoroegneria) spicatum	20	0.5
Agropyron (Elymus) trachycaulum	6	0.5
Carex sp.	13	0.5
Carex rossii	13	0.5
Festuca idahoensis	13	0.5
Hordeum jubatum	13	0.5
Leucopoa kingii	66	0.5
Poa sp.	40	0.5
Poa arida	6	0.5
Poa compressa	13	0.3
Poa cusickii (fendleriana)	6	0.5
Poa sandbergii	13	0.5
Poa secunda	6	0.5
Poa nervosa var. *wheeleri*	26	0.4
Sitanion (Elymus) hystrix	6	0.5
Trisetum spicatum	6	0.1
Forbs		
Achillea millefolium	33	0.5
Agoseris glauca	6	0.5
Androsace septentrionalis	13	0.5
Antennaria luzuloides	6	0.5
Antennaria microphylla	20	0.5
Aquilegia formosa	13	0.5
Aquilegia sp.	6	0.5
Arabis sp.	33	0.4
Arabis nuttallii	6	0.5
Arenaria sp.	6	0.5
Arnica cordifolia	20	0.3
Astragalus miser	26	0.8
Astragalus sp.	13	0.5
Bryophytes	13	0.7
Castilleja sp.	13	0.5
Cirsium sp.	6	0.5
Collinsia parviflora	6	0.5
Cymopterus bipinnatus (nivalis)	6	0.5
Cymopterus sp.	6	0.5
Delphinium andersonii	6	0.5
Delphinium sp.	13	0.5
Draba sp.	6	0.5
Erigeron compositus	13	0.3
Frasera speciosa	6	0.5
Geum triflorum	6	0.5
Heuchera sp.	33	0.4
Leptodactylon pungens	6	0.5
Lichen	6	0.5
Lupinus sp.	13	0.5
Mertensia viridis (lanceolata var. *nivalis)*	6	0.5
Osmorhiza chilensis	6	0.1
Penstemon aridus	6	0.1
Penstemon attenuatus	6	0.5
Penstemon gracilis	6	0.5
Penstemon montanus	6	0.5
Penstemon sp.	20	0.5
Phacelia hastata	6	0.5
Phlox hoodii	6	0.5
Phlox multiflora	13	0.5
Potentilla concinna	6	0.5
Sedum lanceolatum	6	0.5
Senecio canus	26	0.5
Senecio sp.	13	0.5
Senecio streptanthifolius	33	0.5
Taraxacum officinale	6	0.5
Thalictrum occidentale	6	0.5
Trifolium sp.	6	1.0
Valeriana occidentalis	6	0.5
Other Compositae	6	0.5
Other Cruciferae	6	0.1
Other Umbelliferae	13	0.5

PSME/JUCO6 Pikaden

n=8

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Juniperus scopulorum	12	0.5
Pinus contorta	12	1.0
Pinus flexilis	37	10.0
Pseudotsuga menziesii	87	17.7
Tree d.b.h. < 5 inches		
Juniperus scopulorum	12	0.5
Picea engelmannii	12	0.5
Pinus flexilis	37	0.8
Pseudotsuga menziesii	75	13.3
Shrubs		
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	37	0.3
Juniperus communis	87	19.1
Ribes cereum	25	0.3
Ribes montigenum	12	0.5
Symphoricarpos oreophilus	62	1.0
Graminoids		
Agropyron (Pseudoroegneria) spicatum	37	0.2
Carex sp.	12	0.1
Carex rossii	12	0.1
Festuca idahoensis	75	0.4
Hordeum jubatum	12	0.1
Koeleria nitida (macrantha)	12	0.1
Leucopoa kingii	25	0.5
Poa sp.	12	0.1
Poa compressa	12	0.1
Poa sandbergii	12	0.5
Poa nervosa var. *wheeleri*	62	0.5
Trisetum spicatum	25	0.5
Forbs		
Antennaria microphylla	50	0.4
Antennaria racemosa	25	0.5
Aquilegia sp.	12	0.1
Arabis sp.	12	0.1
Arenaria congesta	12	0.1
Arnica cordifolia	12	0.1
Erigeron compositus	12	0.1
Heuchera sp.	37	0.3
Lichen	12	0.5
Lupinus sp.	12	0.5
Penstemon montanus	25	0.5
Penstemon sp.	25	0.3
Potentilla sp.	25	0.1
Potentilla glandulosa	50	0.3
Potentilla gracilis	12	0.1
Pyrola (Orthilia) secunda	12	0.5
Sedum lanceolatum	37	0.2
Senecio canus	12	0.1
Senecio dimorphophyllus	25	0.3
Senecio streptanthifolius	25	0.5
Solidago multiradiata	12	0.5
Other Compositae	12	0.1

PSME/OSCH Paleborolls

n=4

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Abies lasiocarpa	25	7.0
Pinus contorta	50	12.5
Populus tremuloides	75	11.0
Pseudotsuga menziesii	50	10.5
Tree d.b.h. < 5 inches		
Abies lasiocarpa	25	2.0
Pinus contorta	25	0.5
Populus tremuloides	75	0.5
Pseudotsuga menziesii	100	0.6
Shrubs		
Amelanchier alnifolia	100	10.5
Berberis (Mahonia) repens	50	0.5
Chimaphila umbellata	50	0.3
Pachistima (Paxistima) myrsinites	25	0.5
Prunus virginiana var. *melanocarpa*	50	0.7
Rosa woodsii	50	0.5
Rubus parviflorus	25	0.1
Salix scouleriana	25	0.1
Sorbus scopulina	25	0.5
Spiraea betulifolia	75	9.1
Symphoricarpos albus	75	1.8
Symphoricarpos oreophilus	25	0.5
Graminoids		
Calamagrostis rubescens	100	20.7
Elymus glaucus	100	0.5
Poa pratensis	50	0.3
Forbs		
Achillea millefolium	75	0.2
Apocynum androsaemifolium	50	0.5
Arnica cordifolia	50	0.3
Aster engelmannii	50	0.3
Aster integrifolius	25	0.1
Balsamorhiza sagittata	25	0.1
Campanula rotundifolia	25	0.1
Epilobium angustifolium	75	0.3
Fragaria vesca	25	0.5
Fragaria virginiana	25	0.5
Galium boreale	25	0.1
Galium triflorum	25	0.1
Geranium viscosissimum	100	0.3
Goodyera oblongifolia	25	0.5
Habenaria sp.	50	0.1
Hieracium cynoglossoides	25	0.1
Hieracium sp.	25	0.1
Lupinus argenteus	100	0.4
Osmorhiza chilensis	75	0.5
Osmorhiza occidentalis	25	0.1
Pedicularis bracteosa	50	0.5
Perideridia gairdneri	50	0.3
Potentilla gracilis	25	0.1
Rudbeckia occidentalis	25	0.5
Smilacina (Maianthemum) racemosa	25	0.1
Smilacina (Maianthemum) stellata	50	0.5
Stellaria (Pseudostellaria) jamesiana	25	0.1
Taraxacum officinale	50	0.1
Thalictrum occidentale	100	0.7
Trifolium sp.	25	0.1
Valeriana occidentalis	25	0.1
Verbascum thapsis	25	0.1
Viola adunca	25	0.1
Other Cichorium	25	0.1
Other Compositae	25	0.5

PSME/OSCH Rin

n=4

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Juniperus scopulorum	25	1.0
Populus tremuloides	100	14.5
Pseudotsuga menziesii	25	7.0
Tree d.b.h. < 5 inches		
Juniperus scopulorum	25	0.5
Populus tremuloides	100	5.5
Pseudotsuga menziesii	50	2.7
Shrubs		
Amelanchier alnifolia	100	14.5
Berberis (Mahonia) repens	50	4.0
Clematis columbiana	75	0.6
Cornus stolonifera (serecea)	25	0.5
Crataegus douglasii	50	0.5
Prunus virginiana var. *melanocarpa*	100	4.7
Ribes (oxyacanthoides ssp.*) setosum*	75	0.5
Rosa acicularis	100	0.8
Rosa woodsii	25	0.5
Salix scouleriana	50	1.5
Spiraea betulifolia	50	15.0
Symphoricarpos albus	100	35.0
Symphoricarpos oreophilus	25	1.0
Graminoids		
Agropyron sp.	25	0.5
Bromus carinatus	25	0.5
Calamagrostis canadensis	25	0.5
Calamagrostis rubescens	50	0.5
Carex hoodii	25	0.1
Carex vallicola	25	0.1
Elymus glaucus	100	0.3
Poa pratensis	75	4.1

Scientific Name	Constancy %	Average Cover %
Forbs		
Achillea millefolium	50	0.5
Antennaria microphylla	25	0.1
Aquilegia sp.	50	0.1
Arnica cordifolia	25	0.5
Cerastium (fontanum ssp. *vulgare) vulgatum*	25	0.5
Cirsium sp.	25	0.1
Collinsia parviflora	25	0.5
Disporum trachycarpum	75	0.3
Epilobium sp.	25	0.1
Fragaria vesca	25	0.1
Galium triflorum	75	0.3
Geranium viscosissimum	50	0.5
Hackelia micrantha	25	0.1
Hydrophyllum capitatum	25	0.1
Lithophragma parviflorum	25	0.5
Lupinus argenteus	75	0.5
Osmorhiza chilensis	75	0.3
Osmorhiza occidentalis	50	0.5
Perideridia gairdneri	50	0.3
Potentilla glandulosa	50	0.3
Smilacina (Maianthemum) racemosa	25	0.5
Smilacina (Maianthemum) stellata	75	0.3
Stanleya viridiflora	25	0.1
Taraxacum officinale	100	0.4
Thalictrum fendleri	25	0.5
Tragopogon dubius	25	0.1
Valeriana occidentalis	50	0.3
Verbascum thapsis	25	0.1
Other Compositae	50	0.1

PSME/SPBE2,CARU Vitricryands

n=4

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Pinus contorta	75	13.6
Pseudotsuga menziesii	50	17.5
Tree d.b.h. < 5 inches		
Abies lasiocarpa	25	1.0
Pinus albicaulis	50	0.5
Pinus contorta	75	5.0
Populus tremuloides	25	0.5
Pseudotsuga menziesii	75	3.0
Shrubs		
Amelanchier alnifolia	25	0.5
Berberis (Mahonia) repens	75	1.1
Lonicera utahensis	25	0.5
Prunus virginiana var. *melanocarpa*	25	5.0
Ribes viscosissimum	25	0.5
Rubus parviflorus	50	0.5
Shepherdia canadensis	50	0.5
Spiraea betulifolia	100	7.7
Symphoricarpos oreophilus	25	0.5
Graminoids		
Bromus sp.	25	0.5
Calamagrostis rubescens	75	6.1
Carex geyeri	75	1.1
Carex rossii	75	2.0
Elymus glaucus	25	0.5
Poa sp.	75	0.5

Scientific Name	Constancy %	Average Cover %
Forbs		
Antennaria microphylla	25	0.5
Arnica cordifolia	75	0.5
Aster conspicuus	25	2.0
Corallorhiza (Corallorrhiza) striata	25	0.5
Epilobium angustifolium	25	0.5
Epilobium sp.	25	0.5
Fragaria vesca	25	0.5
Fragaria virginiana	25	0.5
Fritillaria atropurpurea	25	0.5
Hieracium albiflorum	75	0.6
Hieracium cynoglossoides	25	0.5
Microsteris (Phlox) gracilis	25	0.5
Osmorhiza chilensis	25	0.5
Penstemon sp.	25	0.5
Phacelia heterophylla	25	0.5
Potentilla glandulosa	25	0.5
Pyrola chlorantha	50	0.5
Pyrola dentata (picta)	25	0.5
Pyrola (Orthilia) secunda	25	1.0
Senecio dimorphophyllus	75	2.0
Smilacina (Maianthemum) racemosa	25	0.5
Stellaria americana	25	0.5
Thalictrum occidentale	50	0.5
Tragopogon dubius	25	0.5

PSME/SYAL Lagall

n=24

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Pinus contorta	20	1.3
Populus tremuloides	37	7.3
Pseudotsuga menziesii	54	21.0
Tree d.b.h. < 5 inches		
Pinus contorta	25	1.5
Pinus flexilis	4	1.0
Populus tremuloides	70	14.8
Pseudotsuga menziesii	41	2.5
Shrubs		
Acer glabrum	8	1.5
Amelanchier alnifolia	87	5.0
Arctostaphylos uva-ursi	4	1.0
Artemisia tridentata ssp. *vaseyana* var. *vaseyana*	4	1.0
Berberis (Mahonia) repens	87	5.7
Ceanothus velutinus	37	15.8
Clematis columbiana	12	0.6
Crataegus douglasii	12	1.6
Lonicera utahensis	8	1.5
Pachistima (Paxistima) myrsinites	4	12.0
Prunus virginiana var. *melanocarpa*	91	7.2
Purshia tridentata	4	4.0
Rosa sp.	16	2.2
Rosa acicularis	4	15.0
Rubus parviflorus	12	5.5
Salix scouleriana	25	2.6
Sorbus scopulina	37	2.8
Spiraea betulifolia	79	11.3
Symphoricarpos albus	70	18.0
Symphoricarpos oreophilus	33	6.2
Symphoricarpos sp.	4	6.0
Graminoids		
Agropyron (Elytrigia) intermedium	4	0.5
Agropyron sp.	4	0.5
Agropyron (Elymus) trachycaulum	20	0.5
Bromus carinatus	54	1.1
Bromus sp.	4	5.0
Calamagrostis rubescens	91	11.8
Carex sp.	33	2.4
Carex geyeri	16	4.8
Carex rossii	37	6.3
Elymus glaucus	70	1.4
Melica bulbosa	37	0.6
Phleum pratense	8	0.7
Poa sp.	8	0.7
Poa pratensis	16	1.7
Poa secunda	4	0.5
Stipa sp.	8	2.2
Trisetum spicatum	4	1.0
Other Poaceae w/ > trace cover	4	2.0
Forbs		
Achillea millefolium	37	0.7
Agastache urticifolia	58	2.2
Agoseris aurantiaca	8	0.5
Antennaria sp.	4	3.0
Apocynum androsaemifolium	25	2.6
Arabis sp.	4	0.5
Arnica cordifolia	25	2.5
Aster engelmannii	41	3.6
Aster sp.	8	4.2
Aster integrifolius	4	0.5
Astragalus sp.	4	1.0
Balsamorhiza sagittata	25	2.5
Castilleja sp.	8	1.0
Cirsium sp.	4	0.5
Claytonia lanceolata	4	0.1
Collinsia parviflora	8	0.3
Corallorhiza (Corallorrhiza) maculata	4	0.5
Crepis sp.	4	0.1
Disporum trachycarpum	8	0.3
Epilobium angustifolium	62	3.1
Epilobium minutum	8	0.5
Erigeron sp.	4	4.0
Eriogonum heracleoides	8	0.5
Eriogonum sp.	4	0.5
Fragaria sp.	4	1.0
Fragaria vesca	4	0.5
Fragaria virginiana	8	1.0
Fritillaria atropurpurea	8	0.3
Galium triflorum	8	0.5
Geranium viscosissimum	70	2.3
Goodyera oblongifolia	4	0.5
Hackelia micrantha	4	0.5
Helianthella uniflora	8	0.5
Hieracium albiflorum	12	1.0
Hieracium sp.	12	0.3
Hydrophyllum capitatum	4	0.5
Iliamna rivularis	8	1.7
Ligusticum filicinum	4	2.0
Lomatium sp.	4	0.5
Lupinus argenteus	58	2.7
Lupinus sp.	8	2.5
Lupinus sericeus	4	2.0

PSME/SYAL Lagall

(Continued)

Scientific Name	Constancy %	Average Cover %
Malva sp.	4	0.5
Microsteris (Phlox) gracilis	4	3.0
Osmorhiza chilensis	54	1.8
Osmorhiza occidentalis	4	4.0
Pedicularis racemosa	4	3.0
Perideridia gairdneri	8	0.7
Polygonum persicaria	4	0.5
Potentilla sp.	41	1.0
Potentilla glandulosa	12	0.5
Pteridium aquilinum	8	15.0
Senecio sp.	8	2.2
Senecio pauperculus	4	0.5
Senecio serra	16	1.8
Smilacina sp.	4	0.5
Smilacina (Maianthemum) racemosa	62	1.0
Stellaria americana	4	0.5
Taraxacum officinale	16	0.5
Thalictrum fendleri	4	5.0
Thalictrum occidentale	79	4.6
Tragopogon dubius	12	0.5
Viguiera (Heliomeris) multiflora	8	0.7
Viola nuttallii	4	0.1
Other Compositae	37	0.7
Other Cruciferae	4	0.5
Other forbs	50	2.5

PSME/SYAL Lagall, till substratum

n=7

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Pinus contorta	14	15.0
Populus tremuloides	28	10.0
Pseudotsuga menziesii	42	20.0
Tree d.b.h. < 5 inches		
Populus tremuloides	28	7.5
Pseudotsuga menziesii	28	3.0
Shrubs		
Amelanchier alnifolia	100	6.1
Berberis (Mahonia) repens	85	2.0
Lonicera utahensis	14	0.5
Prunus virginiana var. *melanocarpa*	71	7.4
Ribes lacustre	14	0.5
Ribes viscosissimum	14	0.5
Rosa sp.	14	5.0
Sorbus scopulina	14	0.5
Spiraea betulifolia	57	22.5
Symphoricarpos albus	100	32.1
Graminoids		
Bromus sp.	57	0.4
Calamagrostis rubescens	42	7.8
Carex sp.	28	0.3
Carex geyeri	85	19.5
Poa sp.	14	0.1
Other Poaceae w/ > trace cover	14	10.0
Forbs		
Achillea millefolium	57	1.1
Agastache urticifolia	14	0.1
Aquilegia sp.	14	0.1
Arnica cordifolia	42	0.8
Aster engelmannii	14	0.1
Balsamorhiza sagittata	14	0.5
Claytonia lanceolata	42	0.3
Corallorhiza (Corallorrhiza) sp.	14	0.1
Crepis sp.	14	0.1
Disporum trachycarpum	14	0.5
Epilobium angustifolium	14	0.5
Fragaria vesca	14	0.1
Fragaria virginiana	42	0.3
Fritillaria atropurpurea	42	0.1
Galium sp.	28	2.7
Galium triflorum	28	0.3
Geranium sp.	28	0.5
Geranium viscosissimum	71	6.2
Hackelia sp.	28	0.1
Hieracium sp.	14	0.1
Hydrophyllum capitatum	42	0.3
Lithophragma sp.	14	0.1
Lupinus argenteus	28	0.3
Lupinus sp.	42	6.3
Nemophila parviflora	14	0.5
Osmorhiza chilensis	71	2.1
Paeonia brownii	14	0.1
Perideridia gairdneri	57	0.6
Potentilla glandulosa	57	0.1
Smilacina (Maianthemum) racemosa	57	0.4
Smilacina (Maianthemum) stellata	14	0.5
Taraxacum officinale	14	0.1
Thalictrum fendleri	28	29.0
Thalictrum occidentale	57	0.5
Valeriana occidentalis	14	0.5
Viola nuttallii	57	0.6
Other Compositae	14	0.5
Other Umbelliferae	28	0.5

PSME/SYAL Potrmound

n=3

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Pinus contorta	66	4.0
Populus tremuloides	66	2.7
Tree d.b.h. < 5 inches		
Pinus contorta	66	9.0
Populus tremuloides	66	10.0
Shrubs		
Amelanchier alnifolia	33	3.0
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	33	0.5
Artemisia tridentata ssp. *vaseyana* var. *vaseyana*	33	1.0
Berberis (Mahonia) repens	100	4.6
Ceanothus velutinus	33	3.0
Prunus virginiana var. *melanocarpa*	66	1.7
Purshia tridentata	66	3.0
Spiraea betulifolia	66	3.0
Symphoricarpos albus	100	3.0
Symphoricarpos oreophilus	66	2.5
Graminoids		
Agropyron (Elytrigia) intermedium	33	0.5
Agropyron (Pseudoroegneria) spicatum	33	0.5
Agropyron (Elymus) trachycaulum	33	1.0
Calamagrostis rubescens	100	1.8
Carex geyeri	66	26.0
Carex hoodii	33	0.5
Festuca idahoensis	33	5.0
Juncus sp.	33	0.5
Poa pratensis	33	1.0
Stipa occidentalis	33	1.0
Poa nervosa var. *wheeleri*	33	0.1
Forbs		
Achillea millefolium	66	0.5
Agoseris glauca	33	0.5
Antennaria luzuloides	33	0.5
Antennaria microphylla	33	0.5
Apocynum androsaemifolium	33	3.0
Arabis sp.	33	0.1
Arnica cordifolia	33	0.5
Aster sp.	33	0.5
Collinsia parviflora	33	0.5
Delphinium nuttallianum	33	0.5
Epilobium angustifolium	66	0.5
Eriogonum umbellatum	33	0.5
Fragaria virginiana	66	0.7
Fritillaria atropurpurea	33	0.1
Geranium viscosissimum	100	1.0
Hackelia micrantha	33	1.0
Helianthella uniflora	33	3.0
Hieracium cynoglossoides	33	1.0
Hieracium sp.	33	0.5
Lithospermum ruderale	33	0.5
Lupinus argenteus	66	0.7
Lupinus sp.	33	0.5
Machaeranthera canescens	33	3.0
Microsteris (Phlox) gracilis	33	0.1
Perideridia gairdneri	33	0.1
Potentilla glandulosa	100	0.6
Ranunculus glaberrimus	33	0.5
Solidago missouriensis	33	1.0
Viola nuttallii	33	0.5
Other Chenopodiaceae	33	0.5

PSME/SYOR2 Kyway

n=4

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Populus tremuloides	25	0.5
Pseudotsuga menziesii	75	28.3
Tree d.b.h. < 5 inches		
Populus tremuloides	25	8.0
Pseudotsuga menziesii	100	1.6
Shrubs		
Acer grandidentatum	75	8.8
Amelanchier alnifolia	25	0.5
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	50	1.0
Berberis (Mahonia) repens	50	0.5
Ceanothus velutinus	25	0.5
Chrysothamnus nauseosus	25	0.5
Prunus virginiana var. *melanocarpa*	100	1.0
Purshia tridentata	25	1.0
Rosa acicularis	25	0.5
Symphoricarpos oreophilus	100	14.5
Graminoids		
Agropyron sp.	25	0.5
Agropyron (Pseudoroegneria) spicatum	25	2.0
Agropyron (Elymus) trachycaulum	50	0.7
Bromus carinatus	50	0.7
Calamagrostis rubescens	50	1.2
Elymus glaucus	75	0.3
Melica bulbosa	50	0.3
Melica spectabilis	25	0.5
Poa nervosa var. *wheeleri*	50	1.7
Stipa occidentalis	25	0.5
Forbs		
Achillea millefolium	50	0.5
Agastache urticifolia	75	1.0
Agoseris glauca	25	0.1
Antennaria luzuloides	50	4.2
Arabis sp.	25	0.5
Arenaria sp.	25	0.1
Arnica cordifolia	25	0.1
Aster sp.	50	0.5
Aster foliaceus var. *canbyi*	25	2.0
Aster integrifolius	50	0.7
Balsamorhiza sagittata	50	1.2
Campanula rotundifolia	25	0.5
Claytonia lanceolata	50	0.5
Collinsia parviflora	25	1.0
Corallorhiza (Corallorrhiza) sp.	25	0.1
Crepis sp.	25	0.1
Delphinium nuttallianum	50	0.5
Epilobium minutum	50	1.2
Eriogonum heracleoides	25	3.0
Erigeron speciosus	50	1.0
Galium bifolium	25	0.1
Gayophytum diffusum	25	10.0
Geranium viscosissimum	75	2.0
Hackelia micrantha	75	0.6
Hieracium cynoglossoides	25	1.0
Hydrophyllum capitatum	50	0.5
Lithophragma bulbifera (glabrum)	50	1.2
Lithospermum ruderale	25	0.1
Lomatium ambiguum	50	0.5
Lomatium sp.	50	0.5
Lupinus argenteus	50	0.7
Lupinus sericeus	25	0.5
Microsteris (Phlox) gracilis	25	0.1
Nemophila parviflora	50	1.0
Paeonia brownii	100	2.8
Perideridia gairdneri	50	0.5
Polygonum douglasii	50	6.0
Potentilla glandulosa	75	0.5
Potentilla gracilis	25	1.0
Senecio serra	75	1.8
Silene oregana	25	0.5
Smilacina (Maianthemum) racemosa	75	1.3
Solidago sp.	25	8.0
Taraxacum officinale	25	0.1
Thalictrum occidentale	50	0.3
Valeriana occidentalis	25	0.5
Viguiera (Heliomeris) multiflora	50	3.5
Viola nuttallii	50	0.3
Other Compositae	50	0.3
Other Liliaceae	25	0.1

Salix/Graminoid Cryaquolls

n=15

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. < 5 inches		
Populus tremuloides	13	2.2
Pseudotsuga menziesii	6	0.5
Shrubs		
Alnus incana var. *occidentalis* (ssp. *tenuifolia*)	13	4.0
Arctostaphylos uva-ursi	6	0.5
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	6	1.0
Artemisia tridentata ssp. *vaseyana* var. *vaseyana*	6	0.5
Betula occidentalis	6	0.1
Cornus stolonifera (serecea)	6	0.5
Lonicera involucrata	33	0.5
Potentilla (Pentaphylloides) fruticosa	26	2.5
Ribes aureum	6	0.5
Ribes sp.	13	0.5
Ribes hudsonianum	13	0.7
Ribes lacustre	40	1.2
Rosa sp.	20	3.5
Rosa acicularis	13	0.5
Rubus parviflorus	6	0.5
Salix bebbiana	6	2.0
Salix boothii	73	23.4
Salix drummondiana	26	14.7
Salix exigua	13	5.2
Salix geyeriana	40	23.5
Salix wolfii	6	1.0
Symphoricarpos oreophilus	6	1.0
Tetradymia canescens	6	2.0
Graminoids		
Agropyron sp.	6	0.5
Agropyron (Elymus) trachycaulum	33	3.5
Bromus carinatus	20	2.0
Bromus ciliatus	20	0.6
Calamagrostis canadensis	26	5.6
Carex bebbii	6	0.5
Carex sp.	33	9.4
Carex hoodii	13	0.7
Carex lanuginosa	6	10.0
Carex microptera	33	0.5
Carex pachystachya	6	0.5
Carex praticola	13	0.5
Carex raynoldsii	6	1.0
Carex rostrata	6	0.5
Carex vesicaria	20	6.8
Dactylis glomerata	6	0.5
Danthonia intermedia	6	0.5
Deschampsia cespitosa	13	1.2
Elymus glaucus	13	0.5
Festuca idahoensis	13	0.5
Juncus balticus	13	7.7
Juncus sp.	20	7.1
Juncus longistylis	6	0.5
Koeleria nitida (macrantha)	6	0.5
Melica spectabilis	13	3.5
Phleum alpinum	26	0.5
Phleum pratense	66	9.3
Poa sp.	46	4.0
Poa ampla (secunda)	6	0.5
Poa palustris	53	12.9
Poa pratensis	46	13.2
Stipa occidentalis	13	7.7
Trisetum spicatum	13	0.7
Forbs		
Achillea millefolium	86	0.8
Actaea rubra	6	0.5
Agoseris glauca	20	0.5
Allium geyeri	6	0.5
Antennaria microphylla	13	0.7
Antennaria umbrinella	6	2.0
Arabis sp.	13	0.5
Arabis drummondii	6	0.5
Arabis glabra	6	0.5
Arnica chamissonis	13	2.7
Artemisia douglasiana	6	0.5
Artemisia ludoviciana	13	0.3
Aster sp.	6	0.5
Aster foliaceus var. *canbyi*	40	3.3
Aster integrifolius	26	7.2
Astragalus miser	6	5.0
Aster occidentalis	6	0.5
Astragalus sp.	6	0.5
Calochortus eurycarpus	6	0.5
Castilleja miniata	40	2.0
Cirsium arvense	6	2.0
Cirsium scariosum	13	0.5
Cirsium sp.	66	0.5
Clematis hirsutissima	6	0.5
Collomia linearis	6	3.0
Collinsia parviflora	6	0.5
Delphinium bicolor	6	2.0
Draba sp.	6	0.5
Epilobium angustifolium	33	0.5
Epilobium sp.	40	0.5
Epilobium minutum	6	0.5
Equisetum arvense	13	0.5
Equisetum sp.	6	0.5

Salix/Graminoid Cryaquolls

(Continued)

Scientific Name	Constancy %	Average Cover %
Eriophyllum lanatum	6	0.5
Erigeron speciosus	6	0.5
Eriogonum umbellatum	6	0.5
Floerkea proserpinacoides	6	2.0
Fragaria vesca	6	0.5
Fragaria virginiana	73	11.0
Galium bifolium	6	0.5
Galium boreale	33	0.5
Galium triflorum	6	0.5
Geranium viscosissimum	53	4.0
Geum macrophyllum	6	0.5
Geum triflorum	6	0.1
Heracleum lanatum (maximum)	13	0.5
Hieracium sp.	6	0.5
Hydrophyllum capitatum	13	0.7
Iris missouriensis	6	5.0
Ligusticum filicinum	6	0.5
Lupinus argenteus	20	2.1
Mentha arvensis (canadensis) var. *glabrata*	6	0.5
Microsteris (Phlox) gracilis	6	0.5
Nemophila parviflora	6	1.0
Oenothera (Camissonia) subacaulis	6	0.5
Orobanche uniflora var. *minuta*	6	0.5
Osmorhiza chilensis	6	0.5
Osmorhiza occidentalis	20	0.6
Pedicularis groenlandica	13	0.5
Penstemon procerus	6	2.0
Penstemon sp.	6	0.1
Perideridia gairdneri	53	0.6
Plagiobothrys stipitatus	6	2.0
Potentilla (Argentina) anserina	13	0.7
Potentilla glandulosa	60	0.7
Potentilla gracilis	73	3.4
Prunella vulgaris	6	0.5
Ranunculus uncinatus	13	0.5
Rudbeckia occidentalis	26	0.4
Rumex sp.	6	0.5
Rumex paucifolius	13	0.7
Rumex salicifolius	6	0.5
Senecio sp.	6	0.1
Senecio integerrimus	20	10.6
Senecio serra	33	0.6
Senecio triangularis	6	0.5
Smilacina (Maianthemum) stellata	33	0.7
Solidago canadensis	26	3.5
Solidago sp.	6	0.5
Solidago missouriensis	20	2.0
Stellaria americana	13	0.5
Stellaria sp.	6	0.1
Taraxacum officinale	73	1.3
Thalictrum fendleri	13	0.5
Thalictrum occidentale	40	0.5
Tragopogon dubius	13	0.5
Trifolium arvense	6	0.5
Trifolium longipes	6	2.0
Trifolium longipes ssp. *reflexum*	6	0.5
Urtica dioica	13	0.5
Valeriana occidentalis	26	0.5
Veronica sp.	6	10.0
Veronica wormskjoldii	6	0.5
Viola adunca	13	5.2
Viola canadensis	6	1.0
Viola sp.	13	0.7
Viola nuttallii	20	0.6
Wyethia amplexicaulis	20	0.5
Wyethia helianthoides	6	0.5
Wyethia sp.	6	0.5
Zigadenus venenosus	13	0.5
Other Chenopodiaceae	6	0.5
Other Compositae	6	0.5
Other Cruciferae	13	0.5

Salix/Graminoid Cryaquolls, poorly drained

n=9

Scientific Name	Constancy %	Average Cover %
Tree d.b.h. ≥ 5 inches		
Pinus contorta	11	1.0
Tree d.b.h. < 5 inches		
Pinus contorta	11	1.0
Populus tremuloides	22	1.2
Shrubs		
Cornus stolonifera (serecea)	11	0.5
Lonicera involucrata	22	0.5
Potentilla (Pentaphylloides) fruticosa	11	1.0
Ribes sp.	11	2.0
Ribes lacustre	33	1.0
Rosa acicularis	11	0.1
Rubus sp.	11	0.5
Salix boothii	44	25.0
Salix drummondiana	11	10.0
Salix exigua	22	10.0
Salix geyeriana	66	24.3
Salix lemmonii	11	25.0
Graminoids		
Agrostis sp.	11	0.5
Alopecurus aequalis	22	1.2
Bromus carinatus	11	3.0
Bromus ciliatus	11	0.5
Bromus sp.	11	5.0
Calamagrostis canadensis	55	44.6
Carex aquatilis	11	20.0
Carex douglasii	11	0.1
Carex sp.	44	2.2
Carex lanuginosa	11	0.5
Carex leporinella	11	20.0
Carex microptera	33	4.5
Carex nebrascensis	22	0.5
Carex praegracilis	11	3.0
Carex rostrata	66	40.0
Carex vesicaria	22	21.5
Deschampsia cespitosa	11	0.5
Elymus glaucus	22	6.0
Hordeum brachyantherum	11	0.5
Juncus balticus	22	2.5
Juncus sp.	22	2.7
Phleum alpinum	22	4.2
Phleum pratense	22	4.0
Poa compressa	11	0.1
Poa palustris	33	6.0
Poa pratensis	22	5.5
Trisetum spicatum	11	0.5
Other grass(es) w/ > trace cover	22	15.0
Forbs		
Achillea millefolium	44	0.5
Aconitum columbianum	22	3.5
Arabis sp.	11	0.5
Arnica chamissonis	11	2.0
Aster sp.	11	5.0
Aster foliaceus var. *canbyi*	22	1.2
Castilleja miniata	11	0.5
Cirsium arvense	11	15.0
Cirsium sp.	33	3.7
Delphinium occidentale	11	0.5
Epilobium angustifolium	33	0.5
Epilobium sp.	55	0.6
Equisetum hyemale	11	0.1
Fragaria virginiana	33	6.8
Galium boreale	11	1.0
Galium sp.	22	1.2
Galium triflorum	11	0.5
Geranium sp.	11	1.0
Geranium viscosissimum	22	0.5
Geum macrophyllum	22	0.7
Helianthella uniflora	11	0.5
Heracleum lanatum (maximum)	44	5.8
Mitella sp.	11	0.1
Potentilla sp.	11	0.5
Potentilla glandulosa	44	0.4
Potentilla gracilis	22	1.0
Prunella vulgaris	22	0.5
Ranunculus uncinatus	11	0.5
Rudbeckia occidentalis	44	2.8
Rumex sp.	11	0.5
Senecio crassulus	11	0.5
Senecio serra	11	2.0
Solidago canadensis	11	0.1
Taraxacum officinale	11	0.5
Thalictrum occidentale	11	0.5
Urtica dioica	33	1.8
Veronica serpyllifolia	11	0.5
Viola adunca	11	0.5
Other Caryophyllaceae	11	0.5
Other Compositae	44	4.7
Other Cruciferae	22	0.5
Other forbs	33	4.0
Other Labiatae	11	0.1

Salix/Graminoid Tepete

n=3

Scientific Name	Constancy %	Average Cover %
Shrubs		
Betula glandulosa (nana)	66	20.0
Salix boothii	33	2.0
Salix exigua	66	0.5
Salix geyeriana	33	10.0
Salix sp.	33	35.0
Salix planifolia	33	25.0
Salix wolfii	33	1.0
Graminoids		
Agropyron (Elymus) dasytachyum	33	0.1
Bromus ciliatus	33	0.5
Calamagrostis canadensis	100	1.3
Carex aquatilis	33	3.0
Carex sp.	66	21.5
Carex nebrascensis	33	0.5
Carex rostrata	33	70.0
Deschampsia cespitosa	66	4.0
Juncus balticus	33	5.0
Juncus confusus	33	5.0
Juncus sp.	33	2.0
Poa palustris	66	0.5
Forbs		
Achillea millefolium	33	0.5
Aster occidentalis	33	0.5
Astragalus sp.	33	0.1
Calypso bulbosa	66	0.5
Epilobium angustifolium	33	0.5
Epilobium sp.	33	0.1
Fragaria vesca	33	0.5
Gentiana sp.	66	0.3
Potentilla glandulosa	66	0.5
Solidago canadensis	33	0.5
Other Caryophyllaceae	33	0.1

Tall Forb Etnass

n=3

Scientific Name	Constancy %	Average Cover %
Shrubs		
Artemisia tridentata ssp. *vaseyana* var. *pauciflora*	33	1.0
Artemisia tridentata ssp. *spiciformis*	66	1.0
Artemisia tripartita	66	0.5
Artemisia cana ssp. *viscidula*	33	0.5
Prunus virginiana var. *melanocarpa*	33	0.5
Symphoricarpos oreophilus	33	0.5
Graminoids		
Agropyron (Elymus) trachycaulum	100	0.3
Bromus carinatus	100	0.5
Carex hoodii	33	0.5
Carex petasata	33	0.5
Dactylis glomerata	33	0.5
Festuca idahoensis	66	0.5
Melica bulbosa	100	0.3
Phleum pratense	100	0.3
Poa pratensis	100	4.3
Forbs		
Achillea millefolium	100	0.5
Arabis sp.	33	0.1
Arenaria congesta	33	0.5
Balsamorhiza macrophylla	33	2.0
Calochortus sp.	33	0.1
Draba sp.	33	0.1
Epilobium sp.	33	2.0
Fritillaria atropurpurea	33	0.1
Helianthella uniflora	33	0.5
Lomatium sp.	66	0.5
Lomatium triternatum	33	0.5
Lupinus argenteus	100	0.3
Madia glomerata	66	2.2
Microsteris (Phlox) gracilis	100	0.6
Nemophila parviflora	33	0.1
Perideridia gairdneri	33	0.5
Phlox longifolia	100	0.8
Potentilla glandulosa	33	0.5
Potentilla gracilis	66	0.5
Rumex paucifolius	33	0.5
Senecio integerrimus	33	0.5
Solidago multiradiata	33	1.0
Stellaria americana	33	0.1
Tragopogon dubius	66	0.1
Viguiera (Heliomeris) multiflora	66	0.3
Wyethia amplexicaulis	100	38.3
Other Caryophyllaceae	33	0.5

Chemical Properties of the Soils

This table provides estimates of some chemical properties that affect soil behavior. The estimates are based on field observations and on laboratory test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties are given in the ecological type descriptions.

Clay content listed in this table refers to the estimated percentage, by weight, of the mineral particles less than 0.002 mm in diameter in the less than 2 mm fraction. Clay particles are the most chemically and physically active part of mineral soil.

Cation Exchange Capacity is a measure of the ability of a soil to retain cations and is expressed in milliequivalents (meq) per 100 grams. Within this inventory the cation exchange capacity ranges from 0.0 to 65.0 meq/100g for mineral soil, and 60.0 to 150.0 meq/100g for organic soil material.

Soil Reaction is a numerical expression of the relative acidity or alkalinity of a soil. Reaction is expressed as pH on a scale from 0 to 14. A pH of 6.6 to 7.3 is neutral. A pH of less than 6.6 is acidic and a pH greater than 7.3 is alkaline.

Calcium Carbonate is the quantity of calcium carbonate in the less than 2 mm fraction and is expressed as a weight percent.

Salinity is a measure of water-soluble salt concentration and is expressed as the electrolytic conductivity of a saturation extract, in millimhos (mmhos) per centimeter at 25 degrees C. Within this inventory salinity ranges from 0 to 4 mmhos/cm; 0 to 2 mmhos/cm is nonsaline and 2 to 4 mmhos/cm is very slightly saline.

Sodium Adsorption Ratio expresses the relative activity of sodium ions in exchange reactions and is displayed on a scale of 0 to 200. Within this inventory the sodium adsorption ratio ranges from 0 to 10.

Chemical Properties of the Soils

Ecological Unit Symbol and Ecological Type Name	Depth inch	Clay pct	Cation Exchange Capacity meq/100g	Soil Reaction pH	Calcium Carbonate pct	Salinity mmhos/cm	Sodium Adsorption Ratio
1000							
PICO/VASC Islandpark	0-6	7-12	6.0-22.0	4.5-5.5			
	6-36	7-12	5.0-26.0	4.5-6.0			
	36-65	7-16	5.0-15.0	5.1-6.0			
	65-75	24-35	15.0-20.0	5.6-6.5			
	75						
PSME/SYAL Potrmound	0-30	10-18	15.0-30.0	5.6-6.5			
	30-39	10-18	10.0-15.0	5.6-6.5			
	39						
PICO/ARTRP4 Spliten	0-3	8-16	10.0-25.0	5.1-6.0			
	3-12	8-16	9.0-20.0	5.1-6.0			
	12						
1046							
PICO/ARTRP4 Vadnais	0-12	12-16	14.0-18.0	5.6-6.5			
	12-30	22-27	21.0-28.0	5.6-6.5			
	30						
Rock Outcrop							
1050							
Cinder Cones							
1106							
ABLA/PHMA5 Gany	0-8	12-20	34.0-42.0	7.4-7.8	0-15		
	8-19	14-22	29.0-34.0	7.4-8.4	15-30		
	19-62	10-16	15.0-29.0	7.9-8.4	25-60		
PSME/BERE,SYOR2 Fritz	0-5	7-15	9.0-20.0	7.4-8.4	15-45		
	5-11	7-18	9.0-20.0	7.4-8.4	25-50		
	11-39	8-18	9.0-20.0	7.4-8.4	40-80		
	39-45	8-18	6.0-17.0	7.4-8.4	40-80		
	45						
1110							
ARTRP4/FEID Raynoldson	0-4	8-12	10.0-30.0	6.6-8.4			
	4-16	8-12	10.0-30.0	6.6-8.4			
	16-29	8-12	10.0-25.0	6.6-8.4			
	29-44	2-12	2.0-10.0	7.4-8.4	5-15		
	44-60	2-6	2.0-10.0	7.9-8.4	5-15		
1112							
ABLA/VAGL,PAMY Huckridge	0-5	4-9	5.0-15.0	5.1-6.5			
	5-27	4-15	5.0-15.0	5.1-6			
	27-48	15-24	10.0-20.0	5.1-6.5			
	48-59	20-30	15.0-25.0	5.6-7.3			
	59-70	15-27	10.0-20.0	5.6-7.3			
PSME/OSCH Paleborolls	0-14	12-18	11.0-26.0	5.6-6.5			
	14-20	10-18	7.0-18.0	5.6-6.5			
	20-31	12-25	9.0-22.0	5.6-6.5			
	31-70	18-35	11.0-30.0	5.6-7.3			

Ecological Unit Symbol and Ecological Type Name	Depth inch	Clay pct	Cation Exchange Capacity meq/100g	Soil Reaction pH	Calcium Carbonate pct	Salinity mmhos/cm	Sodium Adsorption Ratio
1123							
ABLA/CARU,CARU Hopburn	0-3	4-12	5.0-20.0	5.1-6.5			
	3-21	4-12	3.0-12.0	5.6-7.3			
	21-45	15-27	10.0-20.0	6.1-7.3			
	45-70	7-18	4.0-12.0	6.1-7.3			
PICO/ARTRP4 Vadnais	0-12	12-16	14.0-18.0	5.6-6.5			
	12-30	22-27	21.0-28.0	5.6-6.5			
	30						
Rock Outcrop							
1125							
ARNO4/AGSP Simeroi	0-3	7-12	7.0-12.0	7.4-8.4	5-25	0-2	0-5
	3-10	7-18	7.0-17.0	7.4-8.4	30-70	0-2	0-5
	10-60	4-15	3.0-12.0	7.9-9.0	40-70	0-2	0-5
ARTRP4/FEID Zeale	0-15	15-20	15.0-20.0	7.4-8.4	15-45		
	15-60	15-25	15.0-20.0	7.9-9.0	40-80		
1126							
ARNO4/AGSP Simeroi	0-3	7-12	7.0-12.0	7.4-8.4	5-25	0-2	0-5
	3-10	7-18	7.0-17.0	7.4-8.4	30-70	0-2	0-5
	10-60	4-15	3.0-12.0	7.9-9.0	40-70	0-2	0-5
1127							
ARTRW8/ARARA Simeroi	0-2	7-12	7.0-12.0	7.4-8.4	5-25	0-2	0-5
	2-8	7-18	7.0-17.0	7.4-8.4	30-70	0-2	0-5
	8-60	4-15	3.0-12.0	7.9-9.0	40-70	0-2	0-5
1128							
ARTRP4/FEID Monida	0-7	10-18	13.0-25.0	6.6-7.8			
	7-27	27-35	14.0-30.0	7.4-8.4			
	27-38	18-27	13.0-23.0	7.4-8.4	5-15		
	38-60	12-18	9.0-15.0	7.9-8.4	15-40		
ARTRP4/FEID Zeale	0-15	15-20	15.0-20.0	7.4-8.4	15-45		
	15-60	15-25	15.0-20.0	7.9-9.0	40-80		
1129							
PIFL2/LEKI2 Fritz	0-4	7-15	9.0-20.0	7.4-8.4	15-45		
	4-12	7-18	9.0-20.0	7.4-8.4	25-60		
	12-60	8-18	6.0-17.0	7.4-8.4	40-80		
PSME/JUCO6 Gany	0-9	12-20	34.0-42.0	7.4-8.4	5-15		
	9-33	14-22	29.0-34.0	7.4-8.4	15-30		
	33-60	10-16	15.0-29.0	7.9-8.4	25-60		
1130							
Alpine Graminoid Fritz	0-3	7-15	9.0-20.0	7.4-8.4	15-45		
	3-12	7-18	9.0-20.0	7.4-8.4	25-60		
	12-60	8-18	6.0-17.0	7.4-8.4	40-80		
1131							
ARARA/FEID Mountainboy	0-6	10-15	17.0-25.0	7.4-7.8	35-60	0-2	0-1
	6-11	10-15	17.0-25.0	7.4-8.4	35-60	0-2	0-1
	11-16	12-20	10.0-20.0	7.4-8.4	50-70	0-2	1-5
	16-19	3-5	1.0-5.0	8.5-11.0	70-80	0-2	1-5
	19-20						
	20-60	5-10	1.0-5.0	8.5-11.0	70-80	0-4	6-10

Ecological Unit Symbol and Ecological Type Name	Depth inch	Clay pct	Cation Exchange Capacity meq/100g	Soil Reaction pH	Calcium Carbonate pct	Salinity mmhos/cm	Sodium Adsorption Ratio
1133							
PSME/ARTRV Meegero	0-6	12-18	11.0-15.0	6.6-7.8	0-10		
	6-18	14-22	12.0-20.0	7.4-8.4	20-30		
	18-24	16-26	15.0-20.0	7.4-8.4	35-45		
	24-60	12-24	9.0-20.0	7.9-9.0	40-60		
ARTRP4/FEID Monida	0-7	10-18	13.0-25.0	6.6-7.8			
	7-27	27-35	14.0-30.0	7.4-8.4			
	27-38	18-27	13.0-23.0	7.4-8.4	5-15		
	38-60	12-18	9.0-15.0	7.9-8.4	15-40		
1140							
ABLA/THOC Nearl	0-4	18-27	20.0-40.0	6.1-7.3			
	4-10	20-35	18.0-35.0	6.1-7.3			
	10-21	27-40	20.0-30.0	6.1-7.3			
	21-60	35-50	25.0-35.0	5.6-7.8			
1144							
ABLA/SPBE2 Koffgo	0-8	7-16	7.0-20.0	5.1-6.0			
	8-25	7-14	6.0-15.0	5.6-6.5			
	25-45	5-12	3.0-10.0	5.6-7.3			
	45-60						
1145							
ARTRP4/FEID Monida	0-7	10-18	13.0-25.0	6.6-7.8			
	7-27	27-35	14.0-30.0	7.4-8.4			
	27-38	18-27	13.0-23.0	7.4-8.4	5-15		
	38-60	12-18	9.0-15.0	7.9-8.4	15-40		
ARTRP4/FEID Zeebar	0-3	10-16	11.0-15.0	6.1-7.3			
	3-13	18-27	8.0-14.0	6.1-7.3			
	13-27	20-30	15.0-20.0	6.1-7.3			
	27-49	25-30	15.0-20.0	6.1-7.3			
	49-60	15-25	11.0-15.0	6.1-7.8			
1146							
ARTRP4/FEID Zeebar	0-3	10-16	11.0-15.0	6.1-7.3			
	3-13	18-27	8.0-14.0	6.1-7.3			
	13-27	20-30	15.0-20.0	6.1-7.3			
	27-49	25-30	15.0-20.0	6.1-7.3			
	49-60	15-25	11.0-15.0	6.1-7.8			
1147							
ARTRP4/FEID Zeebar	0-3	10-16	11.0-15.0	6.1-7.3			
	3-13	18-27	8.0-14.0	6.1-7.3			
	13-27	20-30	15.0-20.0	6.1-7.3			
	27-49	25-30	15.0-20.0	6.1-7.3			
	49-60	15-25	11.0-15.0	6.1-7.8			
1149							
PSME/CARU,CARU Edgway	0-10	15-24	20.0-35.0	6.1-7.3			
	10-15	15-24	10.0-25.0	6.1-7.3			
	15-42	24-34	30.0-45.0	6.1-7.3			
	42-60	18-24	20.0-30.0	6.1-7.3			
1150							
ABLA/CARU,CARU Rhylow	0-12	7-15	5.0-15.0	5.6-6.5			
	12-31	5-18	3.0-12.0	5.6-6.5			
	31-44	5-12	3.0-9.0	5.6-6.5			
	44-60	4-8	3.0-6.0	5.6-6.5			

Ecological Unit Symbol and Ecological Type Name	Depth inch	Clay pct	Cation Exchange Capacity meq/100g	Soil Reaction pH	Calcium Carbonate pct	Salinity mmhos/cm	Sodium Adsorption Ratio
1150 (con.)							
ABLA/CARU,CARU Fitzwil	0-7	10-14	11.0-21.0	5.6-6.5			
	7-14	7-14	7.0-18.0	5.6-6.5			
	14-27	7-12	5.0-10.0	5.6-6.5			
	27-36	12-18	8.0-12.0	5.6-6.5			
	36-60	18-27	12.0-19.0	5.6-6.5			
1154							
PSME/JUCO6 Pikaden	0-5	4-12	7.0-16.0	6.1-7.3			
	5-12	2-10	2.0-11.0	5.6-7.3			
	12-27	1-4	1.0-5.0	5.6-7.3			
	27-60						
PSME/FEID Pikaden	0-7	4-10	7.0-15.0	6.1-7.3			
	7-17	2-10	2.0-11.0	5.6-7.3			
	17-30	1-4	1.0-5.0	5.6-7.3			
	30-60						
Rubble Land							
1170							
ABLA/Tall Forb Yodal	0-3	12-22	14.0-28.0	5.6-6.5			
	3-17	15-25	15.0-28.0	5.1-6.5			
	17-38	18-27	15.0-25.0	5.1-6.5			
	38-55	15-25	10.0-18.0	5.1-7.3			
	55-70	40-60	25.0-40.0	5.1-7.3			
1172							
ABLA/ACGL Gany	0-12	12-20	34.0-42.0	7.4-8.4	5-15		
	12-48	14-22	29.0-34.0	7.4-8.4	15-30		
	48-60	10-16	15.0-29.0	7.9-8.4	25-60		
ABLA/THOC Katpa	0-7	10-16	11.0-20.0	6.6-7.8			
	7-16	12-18	12.0-23.0	6.6-7.8	0-5		
	16-32	10-18	9.0-18.0	7.4-7.8	2-15		
	32-60	4-16	4.0-15.0	7.4-8.4	15-40		
PSME/BERE,SYOR2 Fritz	0-5	7-15	9.0-20.0	7.4-8.4	15-45		
	5-11	7-18	9.0-20.0	7.4-8.4	25-50		
	11-39	8-18	9.0-20.0	7.4-8.4	40-80		
	39-45	8-18	6.0-17.0	7.4-8.4	40-80		
	45						
1175							
ABLA/Tall Forb Yodal	0-3	12-22	14.0-28.0	5.6-6.5			
	3-17	15-25	15.0-28.0	5.1-6.5			
	17-38	18-27	15.0-25.0	5.1-6.5			
	38-55	15-25	10.0-18.0	5.1-7.3			
	55-70	40-60	25.0-40.0	5.1-7.3			
1204							
PSME/ARTRV Povey	0-27	8-18	12.0-30.0	6.1-7.3			
	27-39	10-20	10.0-25.0	6.1-7.3			
	39-60	8-18	4.0-15.0	6.1-7.3			
1209							
Tall Forb Etnass	0-5	30-40	30.0-50.0	6.6-7.3			
	5-11	40-60	35.0-65.0	6.6-7.3			
	11-45	40-60	30.0-65.0	7.4-8.4	5-40		
	45-60	35-50	30.0-50.0	7.9-8.4	15-40		

Ecological Unit Symbol and Ecological Type Name	Depth inch	Clay pct	Cation Exchange Capacity meq/100g	Soil Reaction pH	Calcium Carbonate pct	Salinity mmhos/cm	Sodium Adsorption Ratio
1209 (con.)							
ABLA/THOC Nearl	0-4	18-27	20.0-40.0	6.1-7.3			
	4-10	20-35	18.0-35.0	6.1-7.3			
	10-21	27-40	20.0-30.0	6.1-7.3			
	21-60	35-50	25.0-35.0	5.6-7.8			
PSME/ARTRV Tophat	0-7	20-27	25.0-40.0	6.6-7.3			
	7-17	27-40	25.0-50.0	6.1-7.3			
	17-34	35-50	30.0-55.0	6.1-7.3			
	34-60	27-40	20.0-40.0	5.6-7.3			
1216							
ABLA/ACGL Koffgo	0-9	7-16	7.0-20.0	5.1-6.0			
	9-16	7-14	6.0-15.0	5.6-6.5			
	16-54	5-12	3.0-10.0	5.6-7.3			
	54-60						
ABLA/ACGL Rhylow	0-14	7-15	5.0-15.0	5.6-6.5			
	14-30	5-18	3.0-12.0	5.6-6.5			
	30-50	5-12	3.0-9.0	5.6-6.5			
	50-60	4-8	3.0-6.0	5.6-6.5			
PSME/ARTRV Povey	0-27	8-18	12.0-30.0	6.1-7.3			
	27-39	10-20	10.0-25.0	6.1-7.3			
	39-60	8-18	4.0-15.0	6.1-7.3			
1219							
ABLA/PHMA5 Lagall	0-10	10-16	15.0-30.0	6.1-7.3			
	10-30	7-14	6.0-15.0	6.1-7.3			
	30-60	5-12	3.0-10.0	6.1-7.3			
PSME/ARTRV Povey	0-27	8-18	12.0-30.0	6.1-7.3			
	27-39	10-20	10.0-25.0	6.1-7.3			
	39-60	8-18	4.0-15.0	6.1-7.3			
PSME/BERE,SYOR2 Fritz	0-5	7-15	9.0-20.0	7.4-8.4	15-45		
	5-11	7-18	9.0-20.0	7.4-8.4	25-50		
	11-39	8-18	9.0-20.0	7.4-8.4	40-80		
	39-45	8-18	6.0-17.0	7.4-8.4	40-80		
	45						
1222							
ABLA/ACGL Koffgo	0-9	7-16	7.0-20.0	5.1-6.0			
	9-16	7-14	6.0-15.0	5.6-6.5			
	16-54	5-12	3.0-10.0	5.6-7.3			
	54-60						
PSME/SYAL Lagall	0-7	10-16	15.0-30.0	6.1-7.3			
	7-15	10-16	15.0-30.0	6.1-7.3			
	15-23	7-14	6.0-15.0	6.1-7.3			
	23-60	5-12	3.0-10.0	6.1-7.3			
ABLA/ACGL Rhylow	0-14	7-15	5.0-15.0	5.6-6.5			
	14-30	5-18	3.0-12.0	5.6-6.5			
	30-50	5-12	3.0-9.0	5.6-6.5			
	50-60	4-8	3.0-6.0	5.6-6.5			

Ecological Unit Symbol and Ecological Type Name	Depth inch	Clay pct	Cation Exchange Capacity meq/100g	Soil Reaction pH	Calcium Carbonate pct	Salinity mmhos/cm	Sodium Adsorption Ratio
1224							
ABLA/VAGL,PAMY Huckridge	0-5	4-9	5.0-15.0	5.1-6.5			
	5-27	4-15	5.0-15.0	5.1-6.5			
	27-48	15-24	10.0-20.0	5.1-6.5			
	48-59	20-30	15.0-25.0	5.6-7.3			
	59-70	15-27	10.0-20.0	5.6-7.3			
ABLA/VAGL,PAMY Koffgo	0-7	7-16	9.0-20.0	5.1-6.0			
	7-16	8-12	6.0-11.0	5.6-6.5			
	16-55	4-8	3.0-7.0	5.6-6.5			
	55-60						
PSME/ARTRV Povey	0-27	8-18	12.0-30.0	6.1-7.3			
	27-39	10-20	10.0-25.0	6.1-7.3			
	39-60	8-18	4.0-15.0	6.1-7.3			
1225							
PIAL Lasac	0-6		10.0-20.0	5.1-6.0			
	6-10		5.0-15.0	5.1-6.0			
	10-17		1.0-2.0	5.6-6.5			
	17-60		1.0-2.0	6.1-7.3			
ABLA/VASC,VASC Castan	0-11		10.0-20.0	5.6-6.5			
	11-16		10.0-20.0	5.6-6.5			
	16-49		5.0-15.0	5.6-6.5			
	49-60		1.0-2.0	6.1-7.3			
1228							
PSME/CARU,CARU Nopla	0-14	7-14	12.0-25.0	5.6-7.3			
	14-24	7-14	10.0-20.0	5.6-7.3			
	24-39	16-27	12.0-25.0	5.6-7.3			
	39-54	20-35	15.0-30.0	5.6-7.3			
	54-75	18-27	12.0-20.0	5.6-7.3			
1230							
PSME/SPBE2,CARU Vitricryands	0-8		10.0-20.0	4.5-6.0			
	8-19		5.0-15.0	4.5-6.5			
	19-30		1.0-2.0	4.5-6.5			
	30-60		1.0-2.0	6.1-7.3			
1250							
PSME/ARTRV Povey	0-27	8-18	12.0-30.0	6.1-7.3			
	27-39	10-20	10.0-25.0	6.1-7.3			
	39-60	8-18	4.0-15.0	6.1-7.3			
1270							
ABLA/ARTRS2 Cryumbrepts	0-5	7-18	10.0-25.0	5.6-6.5			
	5-20	7-18	7.0-20.0	5.6-6.5			
	20-31	4-15	4.0-16.0	5.6-6.5			
	31-35						
	35						
Rock Outcrop							
1280							
Rubble Land							

Ecological Unit Symbol and Ecological Type Name	Depth inch	Clay pct	Cation Exchange Capacity meq/100g	Soil Reaction pH	Calcium Carbonate pct	Salinity mmhos/cm	Sodium Adsorption Ratio
1280 (con.)							
Low Alpine Forb Cryochrepts, loamy-skeletal	0-2	4-12	4.0-12.0	6.6-8.4	0-25		
	2-8	4-15	4.0-14.0	6.6-8.4	0-60		
	8-36	2-15	2.0-12.0	6.6-8.4	0-70		
	36						
Rock Outcrop							
1294							
ARTRP4/SYOR2/FEID Tetonia	0-7	13-17	15.0-19.0	6.6-7.8			
	7-22	12-18	14.0-18.0	6.6-7.8			
	22-60	12-18	9.0-15.0	7.9-8.4	15-30		
PSME/OSCH Rin	0-29	6-18	12.0-20.0	5.6-7.3			
	29-60	10-18	14.0-19.0	5.6-7.3			
1303							
ABLA/OSCH,PAMY Edgway	0-11	15-24	15.0-25.0	5.6-6.5			
	11-19	15-24	8.0-19.0	5.6-6.5			
	19-60	24-34	12.0-25.0	5.6-7.3			
ABLA/THOC Jumpstart	0-9	12-27	14.0-35.0	6.1-7.3			
	9-15	18-27	20.0-40.0	6.1-7.3			
	15-43	35-55	25.0-35.0	5.6-7.3			
	43-60	30-45	25.0-35.0	7.4-8.4	5-20		
PSME/ARTRV Tophat	0-7	20-27	25.0-40.0	6.6-7.3			
	7-17	27-40	25.0-50.0	6.1-7.3			
	17-34	35-50	30.0-55.0	6.1-7.3			
	34-60	27-40	20.0-40.0	5.6-7.3			
1307							
ABLA/VAGL,PAMY Huckridge	0-5	4-9	5.0-15.0	5.1-6.5			
	5-27	4-15	5.0-15.0	5.1-6.5			
	27-48	15-24	10.0-20.0	5.1-6.5			
	48-59	20-30	15.0-25.0	5.6-7.3			
	59-70	15-27	10.0-20.0	5.6-7.3			
1313							
ARTRP4/FEID Cryoborolls	0-15	12-16	13.0-25.0	6.6-7.8			
	15-38	15-18	9.0-18.0	6.6-7.8			
	38-53	7-16	4.0-14.0	7.9-8.4	5-40		
	53-60	2-10	1.0-8.0	7.4-8.4	5-20		
1315							
ABLA/OSCH,PAMY Edgway	0-11	15-24	15.0-25.0	5.6-6.5			
	11-19	15-24	8.0-19.0	5.6-6.5			
	19-60	24-34	12.0-25.0	5.6-7.3			
ABLA/VAGL,PAMY Koffgo	0-7	7-16	9.0-20.0	5.1-6.0			
	7-16	8-12	6.0-11.0	5.6-6.5			
	16-55	4-8	3.0-7.0	5.6-6.5			
	55-60						
PSME/ARTRV Povey	0-27	8-18	12.0-30.0	6.1-7.3			
	27-39	10-20	10.0-25.0	6.1-7.3			
	39-60	8-18	4.0-15.0	6.1-7.3			

Ecological Unit Symbol and Ecological Type Name	Depth inch	Clay pct	Cation Exchange Capacity meq/100g	Soil Reaction pH	Calcium Carbonate pct	Salinity mmhos/cm	Sodium Adsorption Ratio
1316							
ABLA/VAGL,PAMY Koffgo	0-7	7-16	9.0-20.0	5.1-6.0			
	7-16	8-12	6.0-11.0	5.6-6.5			
	16-55	4-8	3.0-7.0	5.6-6.5			
	55-60						
ABLA/THOC Koffgo	0-2	7-16	7.0-20.0	5.1-6.0			
	2-24	7-14	6.0-15.0	5.6-6.5			
	24-45	5-12	3.0-10.0	5.6-7.3			
	45-60						
Rock Outcrop							
1331							
Low Alpine Forb Oorang	0-4	7-27	6.0-23.0	6.6-8.4	0-15		
	4-12	7-27	6.0-23.0	6.6-8.4	15-40		
	12-41						
	41						
Rubble Land							
1332							
ARTRP4/FEID Quirt	0-7	15-27	15.0-30.0	6.6-7.3			
	7-18	35-45	25.0-35.0	6.6-7.8			
	18-28	35-50	25.0-40.0	7.4-8.4	5-15		
	28-50	30-40	20.0-30.0	7.9-8.4	15-40		
	50-60	27-40	20.0-30.0	7.4-8.4	5-25		
1333							
ARTRP4/FEID Quirt	0-7	15-27	15.0-30.0	6.6-7.3			
	7-18	35-45	25.0-35.0	6.6-7.8			
	18-28	35-50	25.0-40.0	7.4-8.4	5-15		
	28-50	30-40	20.0-30.0	7.9-8.4	15-40		
	50-60	27-40	20.0-30.0	7.4-8.4	5-25		
ARTRP4/SYOR2/FEID Tetonia	0-7	13-17	15.0-19.0	6.6-7.8			
	7-22	12-18	14.0-18.0	6.6-7.8			
	22-60	12-18	9.0-15.0	7.9-8.4	15-30		
1400							
ARTRP4/ARART Trude	0-8	6-14	6.0-17.0	5.6-7.3			
	8-21	6-16	5.0-14.0	5.6-7.3			
	21-60	0-6	0.0-5.0	5.6-7.3			
1401							
ARTRP4/ARART Trude	0-8	6-14	6.0-17.0	5.6-7.3			
	8-21	6-16	5.0-14.0	5.6-7.3			
	21-60	0-6	0.0-5.0	5.6-7.3			
ABLA/CACA4,CACA4 Bootjack	0-3	18-25	12.0-22.0	5.1-6.5			
	3-15	18-32	11.0-23.0	5.1-7.3			
	15-60	3-8	2.0-7.0	5.6-7.3			
1414							
ABLA/VASC,PIAL Winegar	0-4		10.0-25.0	5.1-6.5			
	4-25		5.0-20.0	5.1-6.5			
	25-35		2.0-10.0	5.1-6.5			
	35-60		1.0-8.0	5.1-6.5			

Ecological Unit Symbol and Ecological Type Name	Depth inch	Clay pct	Cation Exchange Capacity meq/100g	Soil Reaction pH	Calcium Carbonate pct	Salinity mmhos/cm	Sodium Adsorption Ratio
1414 (con.)							
CALE4 Oxyaquic Cryochrepts	0-5	7-16	7.0-20.0	5.1-6.0			
	5-38	7-18	6.0-17.0	5.1-6.0			
	38-60	4-12	3.0-10.0	5.1-6.0			
Rock Outcrop							
1430							
PSME/SYOR2 Kyway	0-18	10-14	10.0-20.0	6.1-7.3			
	18-32	10-14	8.0-15.0	6.1-7.3			
	32						
1505							
ARTRP4/SYOR2/FEID Tetonia	0-7	13-17	15.0-19.0	6.6-7.8			
	7-22	12-18	14.0-18.0	6.6-7.8			
	22-60	12-18	9.0-15.0	7.9-8.4	15-30		
1506							
PSME/SYAL Lagall, till substratum	0-14	8-16	10.0-30.0	6.1-7.3			
	14-35	10-18	8.0-20.0	6.1-7.3			
	35-48	8-12	5.0-12.0	6.1-7.3			
	48-60	4-10	2.0-7.0	6.1-7.3			
1507							
ARTRT/AGSP Buist	0-10	12-18	11.0-22.0	7.4-8.4	0-5		
	10-32	7-18	5.0-18.0	7.4-8.4	15-25		
	32-60	7-15	5.0-16.0	7.9-9.0	15-40		
ABLA/PHMA5 Lagall	0-10	10-16	15.0-30.0	6.1-7.3			
	10-30	7-14	6.0-15.0	6.1-7.3			
	30-60	5-12	3.0-10.0	6.1-7.3			
1516							
ABLA/VAGL,VAGL Winegar	0-4		10.0-25.0	5.1-6.5			
	4-26		5.0-20.0	5.1-6.5			
	26-38		2.0-10.0	5.1-6.5			
	38-60		1.0-8.0	5.1-6.5			
ABLA/VASC,CARU Bradco	0-10		10.0-20.0	5.1-6.5			
	10-18		9.0-20.0	5.1-6.5			
	18-29		8.0-17.0	5.1-6.5			
	29-36		5.0-12.0	5.1-6.5			
	36-60		1.0-8.0	5.1-6.5			
1570							
ABLA/VASC,VASC Dashiki	0-9		10.0-20.0	5.1-6.0			
	9-31		5.0-15.0	5.1-6.0			
	31-37		1.0-2.0	5.6-6.5			
	37-75		0.0-1.0	5.6-6.5			
PIAL/CARO5,PICO Lasac	0-6		10.0-20.0	5.1-6.0			
	6-12		5.0-15.0	5.1-6.0			
	12-20		1.0-2.0	5.6-6.5			
	20-60		1.0-2.0	6.1-7.3			
1573							
ABLA/VASC Oleo	0-2		10.0-20.0	5.1-6.0			
	2-10		8.0-18.0	5.1-6.0			
	10-28		4.0-12.0	5.1-6.0			
	28-60		4.0-9.0	5.1-6.0			

Ecological Unit Symbol and Ecological Type Name	Depth inch	Clay pct	Cation Exchange Capacity meq/100g	Soil Reaction pH	Calcium Carbonate pct	Salinity mmhos/cm	Sodium Adsorption Ratio
1573 (con.)							
PIAL/CARO5,PICO Lasac	0-6		10.0-20.0	5.1-6.0			
	6-12		5.0-15.0	5.1-6.0			
	12-20		1.0-2.0	5.6-6.5			
	20-60		1.0-2.0	6.1-7.3			
1575							
ABLA/CARU,CARU Koffgo	0-6	7-16	9.0-20.0	5.1-6.0			
	6-18	8-12	6.0-11.0	5.6-6.5			
	18-52	4-8	3.0-7.0	5.6-6.5			
	52-70						
ABLA/VAGL,VAGL Koffgo	0-4	7-16	7.0-20.0	5.1-6.0			
	4-27	7-14	6.0-15.0	5.6-6.5			
	27-41	5-12	3.0-10.0	5.6-7.3			
	41-60						
1576							
ABLA/ARCO9,ARCO9 Fitzwil	0-3	7-18	9.0-22.0	5.1-6.5			
	3-10	7-18	7.0-18.0	5.1-6.5			
	10-14	7-18	6.0-12.0	5.1-6.5			
	14-25	12-18	8.0-14.0	5.1-6.5			
	25-60	18-27	12.0-20.0	5.6-6.5			
PIAL/ARTRP4 Fitzwil	0-5	7-18	9.0-22.0	5.1-6.5			
	5-10	7-18	7.0-18.0	5.1-6.5			
	10-17	7-18	6.0-12.0	5.1-6.5			
	17-26	12-18	8.0-14.0	5.1-6.5			
	26-60	18-27	12.0-20.0	5.6-6.5			
1585							
ABLA/VASC,CARU Rhylow	0-14	7-15	5.0-15.0	5.6-6.5			
	14-32	5-18	3.0-12.0	5.6-6.5			
	32-50	5-12	3.0-9.0	5.6-6.5			
	50-65	4-8	3.0-6.0	5.6-6.5			
1592							
PSME/SYAL Lagall	0-7	10-16	15.0-30.0	6.1-7.3			
	7-15	10-16	15.0-30.0	6.1-7.3			
	15-23	7-14	6.0-15.0	6.1-7.3			
	23-60	5-12	3.0-10.0	6.1-7.3			
1593							
ABLA/VAGL,PAMY Koffgo	0-7	7-16	9.0-20.0	5.1-6.0			
	7-16	8-12	6.0-11.0	5.6-6.5			
	16-55	4-8	3.0-7.0	5.6-6.5			
	55-60						
1594							
ABLA/VAGL,VAGL Koffgo	0-4	7-16	7.0-20.0	5.1-6.0			
	4-27	7-14	6.0-15.0	5.6-6.5			
	27-41	5-12	3.0-10.0	5.6-7.3			
	41-60						

Ecological Unit Symbol and Ecological Type Name	Depth inch	Clay pct	Cation Exchange Capacity meq/100g	Soil Reaction pH	Calcium Carbonate pct	Salinity mmhos/cm	Sodium Adsorption Ratio
1595							
ABLA/VAGL,PAMY Koffgo	0-7	7-16	9.0-20.0	5.1-6.0			
	7-16	8-12	6.0-11.0	5.6-6.5			
	16-55	4-8	3.0-7.0	5.6-6.5			
	55-60						
1597							
ABLA/SPBE2 Koffgo	0-8	7-16	7.0-20.0	5.1-6.0			
	8-25	7-14	6.0-15.0	5.6-6.5			
	25-45	5-12	3.0-10.0	5.6-7.3			
	45-60						
1600							
ABLA/VAGL,VASC Koffgo	0-4	7-16	7.0-20.0	5.1-6.0			
	4-29	7-14	6.0-15.0	5.6-6.5			
	29-45	5-12	3.0-10.0	5.6-7.3			
	45-60						
1646							
ABLA/VAGL,PAMY Huckridge	0-5	4-9	5.0-15.0	5.1-6.5			
	5-27	4-15	5.0-15.0	5.1-6.5			
	27-48	15-24	10.0-20.0	5.1-6.5			
	48-59	20-30	15.0-25.0	5.6-7.3			
	59-70	15-27	10.0-20.0	5.6-7.3			
ABLA/VAGL,PAMY Koffgo	0-7	7-16	9.0-20.0	5.1-6.0			
	7-16	8-12	6.0-11.0	5.6-6.5			
	16-55	4-8	3.0-7.0	5.6-6.5			
	55-60						
ABLA/OSCH,PAMY Edgway	0-11	15-24	15.0-25.0	5.6-6.5			
	11-19	15-24	8.0-19.0	5.6-6.5			
	19-60	24-34	12.0-25.0	5.6-7.3			
1700							
ABLA/VASC,CARU Koffgo	0-4	7-16	9.0-20.0	5.1-6.0			
	4-18	8-12	6.0-11.0	5.6-6.5			
	18-50	4-8	3.0-7.0	5.6-6.5			
	50-60						
1720							
ABLA/VAGL,VAGL Flatstone	0-5	10-14	8.0-17.0	5.6-6.0			
	5-13	10-14	7.0-13.0	5.6-6.0			
	13-44	10-14	6.0-12.0	5.6-6.0			
	44-67	14-30	10.0-25.0	5.6-6.5			
ABLA/VASC,CARU Koffgo	0-4	7-16	9.0-20.0	5.1-6.0			
	4-18	8-12	6.0-11.0	5.6-6.5			
	18-50	4-8	3.0-7.0	5.6-6.5			
	50-60						
1730							
ABLA/VASC,CARU Koffgo	0-4	7-16	9.0-20.0	5.1-6.0			
	4-18	8-12	6.0-11.0	5.6-6.5			
	18-50	4-8	3.0-7.0	5.6-6.5			
	50-60						

Ecological Unit Symbol and Ecological Type Name	Depth inch	Clay pct	Cation Exchange Capacity meq/100g	Soil Reaction pH	Calcium Carbonate pct	Salinity mmhos/cm	Sodium Adsorption Ratio
1730 (con.)							
PICO Perfa	0-11	7-15	6.0-18.0	5.1-6.5			
	11-62	2-6	1.0-6.0	5.1-6.5			
1760							
PSME/ARTRV Fourme	0-5	14-24	14.0-30.0	6.1-7.3			
	5-11	15-26	10.0-25.0	6.1-7.3			
	11-30	20-34	15.0-30.0	6.1-7.8			
	30-60	2-8	2.0-7.0	6.6-8.4			
1970							
ABLA Cryoboralfs	0-7	18-27	14.0-27.0	6.1-7.3			
	7-20	40-60	30.0-45.0	6.6-7.8	0-10		
	20-31	35-60	25.0-45.0	7.4-8.4	15-60		
	31-41						
PSME/BERE,SYOR2 Cryochrepts, fine	0-2	27-40	20.0-35.0	7.9-8.4	40-80		
	2-18	35-60	25.0-40.0	7.9-8.4	60-70		
	18-30	35-60	25.0-40.0	7.9-8.4	60-70		
	30-40						
1999							
Valleys							
2000							
Graminoid Cryaquolls	0-16	10-16	10.0-25.0	5.6-6.5			
	16-44	10-18	5.0-15.0	5.6-6.5			
	44-60	27-50	15.0-45.0	5.6-6.5			
2020							
Graminoid Chickreek	0-6		60-120	5.6-7.8			
	6-31	25-35	25.0-38.0	5.6-7.8			
	31-66	4-8	3.0-10.0	5.6-7.8			
Salix/Graminoid Tepete	0-28		100-150	5.1-7.3			
	28-40	10-30	8.0-36.0	5.6-6.5			
	40-70	0-5	0.0-5.0	6.1-7.3			
2040							
PICO Perfa	0-11	7-15	6.0-18.0	5.1-6.5			
	11-62	2-6	1.0-6.0	5.1-6.5			
ABLA/CACA4,CACA4 Bootjack	0-3	18-25	12.0-22.0	5.1-6.5			
	3-15	18-32	11.0-23.0	5.1-7.3			
	15-60	3-8	2.0-7.0	5.6-7.3			
2604							
PIEN/GATR3 Cryofluvents	0-4	1-5	2.0-8.0	6.6-8.4	0-15		
	4-15	1-14	2.0-13.0	6.6-8.4	0-15		
	15-60	0-5	0.0-6.0	6.6-8.4	0-15		
2606							
Salix/Graminoid Cryaquolls	0-5	12-27	15.0-40.0	6.1-7.3			
	5-24	15-30	15.0-30.0	6.1-7.3			
	24-34	4-20	4.0-16.0	6.1-7.3			
	34-60	0-12	1.0-8.0	6.1-7.3			
Salix/Graminoid Cryaquolls, poorly drained	0-13	12-27	15.0-40.0	6.1-7.3			
	13-20	15-30	15.0-30.0	6.1-7.3			
	20-60	4-20	4.0-16.0	6.1-7.3			
	60-65	0-12	0.0-8.0	6.1-7.3			

Ecological Unit Symbol and Ecological Type Name	Depth inch	Clay pct	Cation Exchange Capacity meq/100g	Soil Reaction pH	Calcium Carbonate pct	Salinity mmhos/cm	Sodium Adsorption Ratio
2608							
ABLA/CACA4,CACA4 Bootjack	0-3	18-25	12.0-22.0	5.1-6.5			
	3-15	18-32	11.0-23.0	5.1-7.3			
	15-60	3-8	2.0-7.0	5.6-7.3			
Salix/Graminoid Cryaquolls, poorly drained	0-13	12-27	15.0-40.0	6.1-7.3			
	13-20	15-30	15.0-30.0	6.1-7.3			
	20-60	4-20	4.0-16.0	6.1-7.3			
	60-65	0-12	0.0-8.0	6.1-7.3			
2609							
PIEN Cryaquolls	0-20	4-12	7.0-18.0	6.1-7.8			
	20-30	4-18	3.0-16.0	6.1-7.8			
	30-60	0-12	1.0-8.0	5.6-7.8			
3000							
Pits							

For properties of map units 4028 through 4302 refer to the original adjoining soil survey(s).

Engineering Index Properties

This table gives estimates of USDA texture, Unified and AASHTO classifications, sieve separates, liquid limit and plasticity index.

Depth to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given in the ecological type descriptions.

USDA Texture is given for soils in standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages by weight of sand, silt, and clay in the less than 2 mm fraction, percent by volume of rock fragments, and dominant size of rock fragments. Textural classes used to describe the less than 2 mm fraction include: coarse sand, sand, loamy coarse sand, loamy sand, loamy fine sand, loamy very fine sand, coarse sandy loam, sandy loam, fine sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, silty clay and clay. Textural classes are used without modifiers for soils that have less than 15 percent rock fragments. The dominant size of rock fragment is used as a modifier for soils with 15 to 35 percent fragments. The word very plus the dominant size of rock fragment is used as a modifier for soils with 35 to 60 percent fragments. The word extremely plus the dominant size of rock fragment is used as a modifier for soils with 60 to 90 percent fragments. Terms describing the size of rock fragments in increasing size include: gravelly or channery, cobbly or flaggy, and stony. For example a very gravelly loam , has 7 to 27 percent clay, 28 to 50 percent silt, less than 52 percent sand, and 35 to 60 percent rock fragments with at least 2.0 times more gravels than cobbles and 2.5 times more gravels than stones. Other terms used in lieu of texture are: cemented, fragmental material, mucky-peat, unweathered bedrock and weathered bedrock. Fragmental material contains greater than 90 percent rock fragments. Mucky-peat is partially decomposed organic soil material.

Engineering **Classification** of the soils is displayed according to the Unified Soil Classification System and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO).

The **Unified** system classifies soils according to properties that affect their use as construction material. Soils are classified according to the liquid limit, organic matter content, plasticity index and particle-size distribution of the fraction less than 3 inches in diameter. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The **AASHTO** system classifies soils specifically for geotechnical engineering purposes that are related to highway and airfield construction. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups, A-1 to A-7, based on particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and soils in group A-7 are fine grained. Highly organic soils are classified in group A-8.

Rock **Fragments** larger than 10 inches in diameter and fragments 3 to 10 inches in diameter are indicated as a percentage of the total soils on a dry-weight basis. These estimates are calculated by converting percent volume estimates made in the field to weight percentage.

Percentage Passing Sieve Number displays the estimated percentage of soil particles in the less than 3 inch fraction that pass the designated sieves. This percentage is based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory analysis of soils sampled in the inventory area and in nearby areas and on estimates made in the field.

Liquid Limit is the percent water content of a soil when it is between the liquid and plastic consistency states. The estimates are inferred from relationships among clay mineralogy, clay content and liquid limit.

Plasticity Index is the numerical difference between the liquid limit and the plasticity limit and represents the range of water content in which soils exhibit the characteristics of a plastic solid. The plastic limit is the water content that corresponds to an arbitrary limit between the plastic and semisolid states of a soil.

Engineering Index Properties

Ecological Unit Symbol and Ecological Type Name	Depth inch	USDA Texture	Classification		Fragments		Percentage Passing Sieve #				Liquid Limit	Plasticity Index
			Unified	AASHTO	>10 inches pct	3-10 inches pct	4	10	40	200		
1000												
PICO/VASC Islandpark	0-6	Silt loam	ML	A-4, A-5	0	0	100	100	85-100	70-95	20-45	NP-10
	6-36	Silt loam	ML	A-4, A-5	0-10	0-15	95-100	80-100	75-100	70-95	20-45	NP-10
	36-65	Silt loam, loam	ML	A-4, A-5	0-10	0-25	90-100	80-100	70-100	50-90	20-45	NP-10
	65-75	Clay loam, gravelly loam, gravelly clay loam	CL	A-6, A-7	0-10	0-25	90-100	70-100	50-85	50-80	30-50	10-25
	75	Unweathered bedrock										
PSME/SYAL Potrmound	0-30	Extremely stony loam	GM, SM, ML	A-2, A-4	30-90	0-60	50-95	40-85	30-80	30-75	25-35	NP-5
	30-39	Extremely stony loam, extremely cobbly silt loam	GM, SM, ML	A-2, A-4	30-90	0-60	50-95	70-90	30-80	30-75	25-35	NP-5
	39	Unweathered bedrock										
PICO/ARTRP4 Spliten	0-3	Cobbly loam	ML, CL-ML	A-4	0-5	25-40	95-100	95-100	70-100	60-90	20-35	NP-10
	3-12	Cobbly loam, loam	ML, CL-ML	A-4	0-5	10-40	95-100	95-100	70-100	60-90	20-35	NP-10
	12	Unweathered bedrock										
1046												
PICO/ARTRP4 Vadnais	0-12	Silt loam	ML	A-4	0	0	100	100	95-100	85-95	20-25	NP-5
	12-30	Silt loam, loam	CL	A-6	0	0-5	100	85-100	80-100	75-85	25-35	10-15
	30	Unweathered bedrock										
Rock Outcrop												
1050												
Cinder Cones												
1106												
ABLA/PHMA5 Gany	0-8	Gravelly silt loam	GC-GM	A-4	0-5	0-10	55-85	50-80	40-70	40-60	25-30	5-10
	8-19	Extremely gravelly loam, extremely gravelly silt loam	GC-GM, GP-GC	A-2	0-15	0-25	20-50	10-35	10-30	5-25	25-30	5-10
	19-62	Extremely gravelly sandy loam, extremely gravelly loam	GM, GP-GM, GC-GM	A-1	0-15	5-45	20-50	10-35	10-30	5-25	20-30	NP-5
PSME/ BERE,SYOR2 Fritz	0-5	Gravelly silt loam	ML	A-6	0-10	0-10	50-90	45-85	45-80	50-80	35-40	10-15
	5-11	Gravelly silt loam, very gravelly loam, very gravelly silt loam	ML, SM, GM	A-6	0-10	0-25	30-80	25-75	20-70	40-70	35-40	10-15
	11-39	Very gravelly loam, very gravelly sandy loam, extremely gravelly sandy loam	SM, GM	A-2, A-6	0-15	0-35	15-75	10-70	10-55	15-50	35-40	10-15
	39-45	Extremely cobbly sandy loam, very cobbly sandy loam, very cobbly loam	SM, GM	A-2, A-6	0-25	30-65	15-85	10-80	10-55	15-50	35-40	10-15
	45	Unweathered bedrock										
1110												
ARTRP4/FEID Raynoldson	0-4	Gravelly loam	GM	A-4	0-5	0-5	60-70	55-70	50-65	35-50	20-25	NP-5
	4-16	Gravelly loam	GM	A-4	0-5	0-5	60-70	55-70	50-65	35-50	20-25	NP-5
	16-29	Gravelly loam, very gravelly loam	GM	A-4, A-1, A-2	0-5	0-5	50-70	45-55	35-50	20-40	20-25	NP-5
	29-44	Extremely gravelly sandy loam, very gravelly sandy loam	GM	A-1	0-15	10-20	30-45	25-40	15-30	10-25	20-25	NP-5
	44-60	Extremely gravelly loamy sand	GM, GP-GM	A-1	0-15	15-30	25-35	20-30	10-20	5-15		NP

Ecological Unit Symbol and Ecological Type Name	Depth inch	USDA Texture	Classification		Fragments		Percentage Passing Sieve #				Liquid Limit	Plasticity Index
			Unified	AASHTO	>10 inches pct	3-10 inches pct	4	10	40	200		
1112												
ABLA/ VAGL,PAMY Huckridge	0-5	Silt loam	ML	A-4	0	0-5	95-100	95-100	95-100	90-100	20-30	NP-5
	5-27	Silt loam, silt	ML	A-4	0	0-5	95-100	95-100	95-100	90-100	20-30	NP-5
	27-48	Silt loam	CL, CL-ML	A-4, A-6	0	0-5	95-100	95-100	95-100	90-100	25-35	5-15
	48-59	Silt loam, silty clay loam	CL	A-6	0	0-5	95-100	95-100	95-100	90-100	30-40	10-20
	59-70	Silt loam	CL, CL-ML	A-4, A-6	0-5	0-5	95-100	95-100	90-100	85-100	25-35	5-15
PSME/OSCH Paleborolls	0-14	Silt loam	CL-ML	A-4	0	0	100	100	95-100	85-95	25-30	5-10
	14-20	Silt loam	CL-ML	A-4	0	0	100	100	95-100	85-95	25-30	5-10
	20-31	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	85-95	25-35	5-15
	31-70	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	95-100	90-100	85-95	30-45	10-20
1123												
ABLA/CARU, CARU Hopburn	0-3	Silt loam	ML	A-4	0-5	0-5	100	100	95-100	60-90	20-30	NP-5
	3-21	Silt loam, loam, very fine sandy loam	ML	A-4	0-5	0-5	95-100	95-100	90-100	50-85	20-30	NP-5
	21-45	Loam, sandy clay loam, fine sandy loam	ML, CL-ML, CL	A-4, A-6	0-5	0-5	95-100	95-100	85-100	50-85	25-35	5-15
	45-70	Loam, fine sandy loam, very fine sandy loam	ML, CL-ML	A-4	0-5	0-5	95-100	95-100	85-100	50-85	20-30	NP-10
PICO/ARTRP4 Vadnais	0-12	Silt loam	ML	A-4	0	0	100	100	95-100	85-95	20-25	NP-5
	12-30	Silt loam, loam	CL	A-6	0	0-5	100	85-100	80-100	75-85	25-35	10-15
	30	Unweathered bedrock										
Rock Outcrop												
1125												
ARNO4/AGSP Simeroi	0-3	Very gravelly silt loam	GC-GM, SC-SM, GC, SC	A-2, A-4, A-6	0-5	0-10	60-80	35-55	35-50	30-45	25-35	5-15
	3-10	Very gravelly loam, very gravelly silt loam, extremely gravelly silt loam	GC-GM, SC-SM, GC, SC	A-2, A-4, A-6	0-5	0-15	50-75	20-50	15-45	15-45	25-35	5-15
	10-60	Extremely gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	GM, SM	A-2	0-5	0-25	50-80	10-40	10-40	5-35	30-40	5-15
ARTRP4/FEID Zeale	0-15	Gravelly silt loam	ML, GM	A-6	0-5	0-5	55-80	50-75	40-70	40-60	35-45	10-15
	15-60	Extremely gravelly sandy loam, very gravelly loam, extremely cobbly loam	GM	A-2	0-5	5-60	25-50	20-50	10-40	10-35	35-40	10-15
1126												
ARNO4/AGSP Simeroi	0-3	Very gravelly silt loam	GC-GM, SC-SM, GC, SC	A-2, A-4, A-6	0-5	0-10	60-80	35-55	35-50	30-45	25-35	5-15
	3-10	Very gravelly loam, very gravelly silt loam, extremely gravelly silt loam	GC-GM, SC-SM, GC, SC	A-2, A-4, A-6	0-5	0-15	50-75	20-50	15-45	15-45	25-35	5-15
	10-60	Extremely gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	GM, SM	A-2	0-5	0-25	50-80	10-40	10-40	5-35	30-40	5-15
1127												
ARTRW8/ARARA Simeroi	0-2	Gravelly silt loam	SC-SM, CL-ML, CL	A-4, A-6	0	0-10	70-90	55-75	45-65	40-60	25-35	5-15
	2-8	Very gravelly loam, very gravelly silt loam, extremely gravelly silt loam	GC-GM, SC-SM, GC, SC	A-2, A-4, A-6	0-5	0-15	50-75	20-50	15-45	15-45	25-35	5-15
	8-60	Extremely gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	GM, SM	A-2	0-5	0-25	50-80	10-40	10-40	5-35	30-40	5-15

Ecological Unit Symbol and Ecological Type Name	Depth inch	USDA Texture	Classification		Fragments		Percentage Passing Sieve #				Liquid Limit	Plasticity Index
			Unified	AASHTO	>10 inches pct	3-10 inches pct	4	10	40	200		
1128												
ARTRP4/FEID Monida	0-7	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	80-100	70-90	55-85	25-35	5-15
	7-27	Silty clay loam, clay loam, gravelly clay loam	CL	A-6, A-7	0	0	85-100	65-100	60-95	50-85	30-45	10-25
	27-38	Loam, gravelly loam, silt loam	CL, SC	A-6	0	0-5	80-100	55-100	50-95	45-85	30-45	10-25
	38-60	Loam, gravelly loam, silt loam	CL, SC	A-6	0	0-5	80-100	55-100	50-95	45-85	30-40	10-20
ARTRP4/FEID Zeale	0-15	Gravelly silt loam	ML, GM	A-6	0-5	0-5	55-80	50-75	45-70	40-60	35-45	10-15
	15-60	Extremely gravelly sandy loam, very gravelly loam, extremely cobbly loam	GM	A-2	0-5	5-60	25-50	20-50	10-40	10-35	35-40	10-15
1129												
PIFL2/LEKI2 Fritz	0-4	Very gravelly loam	SM, SC-SM	A-2, A-4	0	0-5	70-90	30-50	25-45	20-40	25-30	NP-10
	4-12	Very gravelly loam, very gravelly silt loam, extremely gravelly sandy loam	SM, GM	A-2	0	0-10	50-75	20-45	20-40	15-35	25-35	5-10
	12-60	Extremely gravelly sandy loam, extremely gravelly loam	GM, SM, SW-SM, GW-GM	A-2	0-5	5-45	45-70	10-35	10-30	5-25	30-40	NP-15
PSME/JUCO6 Gany	0-9	Extremely gravelly silt loam	GC-GM, GP-GC	A-2	0-5	0-10	20-40	10-30	10-25	5-20	25-30	5-10
	9-33	Extremely gravelly loam, extremely gravelly silt loam	GC-GM, GP-GC	A-2	0-15	0-25	20-50	10-35	10-30	5-25	25-30	5-10
	33-60	Extremely gravelly sandy loam, extremely gravelly loam	GC-GM, GM, GP-GM	A-1	0-15	5-45	20-50	10-35	10-30	5-25	20-30	NP-5
1130												
Alpine Graminoid Fritz	0-3	Gravelly silt loam	ML, CL-ML	A-4	0	0-5	75-95	55-75	50-70	50-65	25-30	NP-10
	3-12	Very gravelly loam, very gravelly silt loam, extremely gravelly sandy loam	SM, GM	A-2	0	0-10	50-75	20-45	20-40	15-35	25-35	5-10
	12-60	Extremely gravelly sandy loam, extremely gravelly loam	GM, SM, SW-SM, GW-GM	A-2	0-5	5-45	45-70	10-35	10-30	5-25	30-40	NP-15
1131												
ARARA/FEID Mountainboy	0-6	Gravelly silt loam	ML, GM	A-4	0	0	60-80	55-70	50-65	40-60	20-25	NP-5
	6-11	Gravelly loam	ML, GM	A-4	0	0	60-80	55-70	50-65	40-60	20-25	NP-5
	11-16	Very gravelly silt loam, very gravelly loam	GC-GM, GC	A-2	0	0-5	45-60	40-55	35-50	25-35	25-35	5-15
	16-19	Extremely gravelly coarse sandy loam	GP-GM	A-1	0	5-10	15-25	10-20	10-15	5-10	20-25	NP-5
	19-20	Cemented			0	0	0	0	0	0		NP
	20-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sandy loam	GP	A-1	0	5-10	15-30	10-25	5-10	0-5	0-14	NP
1133												
PSME/ARTRV Meegero	0-6	Loam	CL-ML	A-4	0	0	75-90	75-90	55-80	50-75	25-30	5-10
	6-18	Gravelly loam, gravelly silt loam	SC-SM, CL-ML, GC-GM	A-4, A-2	0	0-5	55-75	50-70	35-60	30-55	25-35	5-10
	18-24	Very gravelly loam, extremely gravelly loam	GC	A-6, A-2	0	5-40	15-60	15-55	10-50	10-45	30-40	10-15
	24-60	Extremely cobbly loam, extremely gravelly loam, extremely cobbly sandy loam	GC-GM, GC	A-2	0	45-65	30-60	25-50	20-40	20-35	25-35	5-15
ARTRP4/FEID Monida	0-7	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	80-100	70-90	55-85	25-35	5-15
	7-27	Silty clay loam, clay loam, gravelly clay loam	CL	A-6, A-7	0	0	85-100	65-100	60-95	50-85	30-45	10-25
	27-38	Loam, gravelly loam, silt loam	CL, SC	A-6	0	0-5	80-100	55-100	50-95	45-85	30-45	10-25
	38-60	Loam, gravelly loam, silt loam	CL, SC	A-6	0	0-5	80-100	55-100	50-95	45-85	30-40	10-20

Ecological Unit Symbol and Ecological Type Name	Depth inch	USDA Texture	Classification		Fragments		Percentage Passing Sieve #				Liquid Limit	Plasticity Index
			Unified	AASHTO	>10 inches pct	3-10 inches pct	4	10	40	200		
1140												
ABLA/THOC Nearl	0-4	Loam	CL	A-6	0-5	0-5	85-100	80-100	75-95	65-80	30-40	10-20
	4-10	Clay loam, loam, silt loam	CL	A-6, A-7	0-5	0-5	85-100	80-100	70-95	60-90	30-45	10-20
	10-21	Cobbly clay loam, gravelly silty clay loam, clay loam	CL	A-6, A-7	0-5	0-45	70-100	60-100	55-95	50-85	30-50	10-25
	21-60	Clay, silty clay, silty clay loam	ML, MH	A-6, A-7	0-5	0-15	85-100	85-100	75-100	70-100	35-55	10-25
1144												
ABLA/SPBE2 Koffgo	0-8	Gravelly loam	SM, SC-SM	A-4, A-2	0-5	0-15	75-95	55-75	40-65	30-50	20-30	NP-10
	8-25	Very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	SM, GM, SC-SM, GC-GM	A-4, A-2	0-45	15-45	40-90	20-70	20-60	20-50	20-30	NP-10
	25-45	Extremely stony sandy loam, extremely cobbly sandy loam, extremely flaggy sandy loam	SM, GM	A-4, A-2, A-1	15-80	0-75	40-90	20-70	15-55	15-45	20-30	NP-5
	45-60	Fragmental material										
1145												
ARTRP4/FEID Monida	0-7	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	80-100	70-90	55-85	25-35	5-15
	7-27	Silty clay loam, clay loam, gravelly clay loam	CL	A-6, A-7	0	0	85-100	65-100	60-95	50-85	30-45	10-25
	27-38	Loam, gravelly loam, silt loam	CL, SC	A-6	0	0-5	80-100	55-100	50-95	45-85	30-45	10-25
	38-60	Loam, gravelly loam, silt loam	CL, SC	A-6	0	0-5	80-100	55-100	50-95	45-85	30-40	10-20
ARTRP4/FEID Zeebar	0-3	Gravelly loam	ML, GM, SM	A-2, A-4	0-5	0-5	55-80	50-75	40-70	30-55	20-25	NP-5
	3-13	Gravelly loam, very gravelly loam	GC-GM, SC-SM	A-2, A-4	0-5	0-10	40-75	35-70	25-50	25-45	20-30	5-10
	13-27	Very gravelly sandy clay loam, very gravelly clay loam, gravelly clay loam	GC	A-2, A-6, A-7	0-5	10-20	30-55	25-50	20-45	20-40	30-45	10-20
	27-49	Extremely gravelly clay loam, extremely gravelly sandy clay loam	GC, GP-GC	A-2	0-5	10-45	20-35	10-25	5-25	5-20	30-45	10-20
	49-60	Extremely gravelly loam, extremely gravelly sandy loam, extremely gravelly sandy clay loam	GC-GM, GP-GC	A-2	0-5	10-45	20-35	10-25	10-20	5-20	25-30	5-10
1146												
ARTRP4/FEID Zeebar	0-3	Gravelly loam	ML, GM, SM	A-2, A-4	0-5	0-5	55-80	50-75	40-70	30-55	20-25	NP-5
	3-13	Gravelly loam, very gravelly loam	GC-GM, SC-SM	A-2, A-4	0-5	0-10	40-75	35-70	25-50	25-45	20-30	5-10
	13-27	Very gravelly sandy clay loam, very gravelly clay loam, gravelly clay loam	GC	A-2, A-6, A-7	0-5	10-20	30-55	25-50	20-45	20-40	30-45	10-20
	27-49	Extremely gravelly clay loam, extremely gravelly sandy clay loam	GC, GP-GC	A-2	0-5	10-45	20-35	10-25	5-25	5-20	30-45	10-20
	49-60	Extremely gravelly loam, extremely gravelly sandy loam, extremely gravelly sandy clay loam	GC-GM, GP-GC	A-2	0-5	10-45	20-35	10-25	10-20	5-20	25-30	5-10
1147												
ARTRP4/FEID Zeebar	0-3	Gravelly loam	ML, GM, SM	A-2, A-4	0-5	0-5	55-80	50-75	40-70	30-55	20-25	NP-5
	3-13	Gravelly loam, very gravelly loam	GC-GM, SC-SM	A-2, A-4	0-5	0-10	40-75	35-70	25-50	25-45	20-30	5-10
	13-27	Very gravelly sandy clay loam, very gravelly clay loam, gravelly clay loam	GC	A-2, A-6, A-7	0-5	10-20	30-55	25-50	20-45	20-40	30-45	10-20
	27-49	Extremely gravelly clay loam, extremely gravelly sandy clay loam	GC, GP-GC	A-2	0-5	10-45	20-35	10-25	5-25	5-20	30-45	10-20
	49-60	Extremely gravelly loam, extremely gravelly sandy loam, extremely gravelly sandy clay loam	GC-GM, GP-GC	A-2	0-5	10-45	20-35	10-25	10-20	5-20	25-30	5-10

Ecological Unit Symbol and Ecological Type Name	Depth inch	USDA Texture	Classification		Fragments		Percentage Passing Sieve #				Liquid Limit	Plasticity Index
			Unified	AASHTO	>10 inches pct	3-10 inches pct	4	10	40	200		
1149												
PSME/ CARU,CARU Edgway	0-10	Very gravelly loam	GM, GC-GM	A-2, A-4	0	10-15	50-65	45-55	35-55	30-50	20-30	NP-10
	10-15	Gravelly loam, very gravelly loam, very gravelly sandy loam	GM, GC-GM	A-2, A-4	0	10-15	50-65	45-60	30-55	20-40	15-30	NP-10
	15-42	Very gravelly loam, very gravelly clay loam, very gravelly sandy clay loam	SC, GC	A-2	0-15	10-25	45-65	40-65	30-50	15-35	30-45	10-25
	42-60	Very gravelly sandy loam, very cobbly loam, extremely gravelly sandy loam	SC, GC, SC-SM, GC-GM	A-2	10-25	15-40	50-75	45-70	35-55	15-35	25-35	5-15
1150												
ABLA/ CARU,CARU Rhylow	0-12	Gravelly loam	ML, SM	A-4, A-2	0-10	0-10	65-95	50-80	40-70	30-60	20-30	NP-5
	12-31	Gravelly loam, very gravelly loam, very gravelly sandy loam	SM, GM	A-4, A-2	0-5	0-15	50-85	35-70	25-60	15-50	20-30	NP-5
	31-44	Very cobbly sandy loam, very cobbly loam, extremely cobbly sandy loam	SM, GM	A-4, A-2	0-25	45-75	55-85	35-65	30-55	25-45	20-30	NP-5
	44-60	Extremely cobbly sandy loam, extremely flaggy sandy loam, extremely stony sandy loam	SM, GM	A-4, A-2	45-70	55-75	45-85	25-65	25-60	25-50	20-25	NP
ABLA/ CARU,CARU Fitzwil	0-7	Gravelly silt loam	ML, SM	A-4	0	0	75-100	55-75	45-70	40-65	25-35	NP-5
	7-14	Gravelly loam, gravelly silt loam, very gravelly silt loam	ML, SM, GM	A-4, A-2	0	0-5	60-95	35-75	30-70	25-65	25-35	NP-5
	14-27	Gravelly loam, very gravelly silt loam, very gravelly loam	ML, SM, GM	A-4, A-2	0-5	0-20	50-90	30-70	25-65	20-60	25-35	NP-5
	27-36	Extremely gravelly loam, extremely cobbly loam, very gravelly silt loam	SM, GM	A-4, A-2	0-20	25-50	40-80	30-65	25-60	20-50	25-35	NP-10
	36-60	Extremely cobbly loam, very cobbly loam, extremely cobbly silt loam	SM, GM	A-4, A-2	0-25	30-55	40-80	35-60	30-60	30-50	30-40	5-15
1154												
PSME/JUCO6 Pikaden	0-5	Extremely gravelly silt loam	GM	A-1	0-5	0-10	20-50	10-25	10-25	10-25	20-30	NP-5
	5-12	Extremely gravelly loam, extremely gravelly sandy loam, extremely gravelly silt loam	GM, GP-GM	A-1	0-5	0-10	20-50	10-25	5-25	5-20	20-30	NP-5
	12-27	Extremely gravelly loamy sand, extremely cobbly loamy sand, extremely gravelly sand	GW, GP	A-1	0-10	5-60	10-40	10-25	5-15	0-5		NP
	27-60	Fragmental material	GP, GP-GM	A-1	0-10	5-60	5-25	0-10	0-10	0-10		NP
PSME/FEID Pikaden	0-7	Extremely gravelly sandy loam	GM, GW-GM	A-1	0-5	0-10	40-70	10-25	5-20	5-15	20-30	NP-5
	7-17	Extremely gravelly loam, extremely gravelly sandy loam, extremely gravelly silt loam	GM, GP-GM	A-1	0-5	0-10	20-50	10-25	5-25	5-20	20-30	NP-5
	17-30	Extremely gravelly loamy sand, extremely cobbly loamy sand, extremely gravelly sand	GW, GP	A-1	0-10	5-60	10-40	10-25	5-15	0-5		NP
	30-60	Fragmental material	GP, GP-GM	A-1	0-10	5-60	5-25	0-10	0-10	0-10		NP
Rubble Land												

Ecological Unit Symbol and Ecological Type Name	Depth inch	USDA Texture	Classification		Fragments		Percentage Passing Sieve #				Liquid Limit	Plasticity Index
			Unified	AASHTO	>10 inches pct	3-10 inches pct	4	10	40	200		
1170												
ABLA/Tall Forb Yodal	0-3	Gravelly loam	CL-ML, GC-GM	A-4	0-10	0-10	50-90	45-85	35-75	35-70	25-30	5-10
	3-17	Gravelly loam, loam, gravelly silt loam	CL, GC	A-6	0-10	0-10	60-95	55-90	40-80	40-80	30-35	10-15
	17-38	Gravelly loam, cobbly loam, gravelly silt loam	CL, SC, GC	A-6	0-15	0-30	45-95	40-90	35-75	35-75	30-35	10-15
	38-55	Very gravelly very fine sandy loam, very cobbly loam, very gravelly loam	CL, SC	A-2, A-6	0-15	10-45	35-90	30-85	25-75	20-60	30-35	10-15
	55-70	Silty clay, clay, cobbly clay	CH	A-7	0-15	0-30	75-100	70-100	55-85	55-85	50-80	25-45
1172												
ABLA/ACGL Gany	0-12	Extremely gravelly silt loam	GC-GM, GP-GC	A-2	0-5	0-10	20-40	10-30	10-25	5-20	25-30	5-10
	12-48	Extremely gravelly loam, extremely gravelly silt loam	GC-GM, GP-GC	A-2	0-15	0-25	20-50	10-35	10-30	5-25	25-30	5-10
	48-60	Extremely gravelly sandy loam, extremely gravelly loam	GM, GP-GM, GC-GM	A-1	0-15	5-45	20-50	10-35	10-30	5-25	20-30	NP-5
ABLA/THOC Katpa	0-7	Gravelly silt loam	CL-ML, GC-GM, SC-SM	A-4	0-15	0-15	55-90	50-85	40-75	40-75	25-30	5-10
	7-16	Gravelly silt loam, very gravelly silt loam, very gravelly loam	GC-GM	A-2	0-15	0-30	20-70	15-65	10-40	10-35	25-30	5-10
	16-32	Extremely gravelly silt loam, extremely gravelly loam, very gravelly loam	GC-GM, GW	A-1, A-2	0-15	0-45	10-60	5-55	5-40	5-35	25-30	5-10
	32-60	Extremely cobbly loam, extremely cobbly sandy loam, extremely gravelly sandy loam	GW	A-1	0-15	10-65	10-30	5-25	0-15	0-15	20-30	NP-10
PSME/ BERE,SYOR2 Fritz	0-5	Gravelly silt loam	ML	A-6	0-10	0-10	50-90	45-85	45-80	50-80	35-40	10-15
	5-11	Gravelly silt loam, very gravelly loam, very gravelly silt loam	ML, SM, GM	A-6	0-10	0-25	30-80	25-75	20-70	40-70	35-40	10-15
	11-39	Very gravelly loam, very gravelly sandy loam, extremely gravelly sandy loam	SM, GM	A-2, A-6	0-15	0-35	15-75	10-70	10-55	15-50	35-40	10-15
	39-45	Extremely cobbly sandy loam, very cobbly sandy loam, very cobbly loam	SM, GM	A-2, A-6	0-25	30-65	15-85	10-80	10-55	15-50	35-40	10-15
	45	Unweathered bedrock										
1175												
ABLA/Tall Forb Yodal	0-3	Gravelly loam	CL-ML, GC-GM	A-4	0-10	0-10	50-90	45-85	35-75	35-70	25-30	5-10
	3-17	Gravelly loam, loam, gravelly silt loam	CL, GC	A-6	0-10	0-10	60-95	55-90	40-80	40-80	30-35	10-15
	17-38	Gravelly loam, cobbly loam, gravelly silt loam	CL, SC, GC	A-6	0-15	0-30	45-95	40-90	35-75	35-75	30-35	10-15
	38-55	Very gravelly very fine sandy loam, very cobbly loam, very gravelly loam	CL, SC	A-2, A-6	0-15	10-45	35-90	30-85	25-75	20-60	30-35	10-15
	55-70	Silty clay, clay, cobbly clay	CH	A-7	0-15	0-30	75-100	70-100	55-85	55-85	50-80	25-45
1204												
PSME/ARTRV Povey	0-27	Gravelly loam	GM, GC-GM, CL-ML, ML	A-4	0	0-10	65-85	60-80	45-65	40-60	20-30	NP-10
	27-39	Very gravelly loam, very gravelly sandy loam, very cobbly loam	GC-GM	A-2	0-5	0-35	35-55	30-50	25-40	20-35	25-30	5-10
	39-60	Very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly loam	GC-GM, GM	A-2, A-1	0-25	10-45	30-55	25-50	20-40	10-40	20-30	NP-10

Ecological Unit Symbol and Ecological Type Name	Depth inch	USDA Texture	Classification		Fragments		Percentage Passing Sieve #				Liquid Limit	Plasticity Index
			Unified	AASHTO	>10 inches pct	3-10 inches pct	4	10	40	200		
1209												
Tall Forb Etnass	0-5	Clay loam	CL	A-7	0	0	95-100	90-100	75-100	70-90	40-50	15-25
	5-11	Silty clay, clay	CH	A-7	0	0	95-100	90-100	75-100	70-100	50-85	25-45
	11-45	Silty clay, clay	CH	A-7	0	0	95-100	90-100	75-100	70-100	50-85	25-45
	45-60	Gravelly clay loam, clay, silty clay	CL, CH	A-7	0	0	75-100	70-100	65-100	60-100	45-65	20-35
ABLA/THOC Nearl	0-4	Loam	CL	A-6	0-5	0-5	85-100	80-100	75-95	65-80	30-40	10-20
	4-10	Clay loam, loam, silt loam	CL	A-6, A-7	0-5	0-5	85-100	80-100	70-95	60-90	30-45	10-20
	10-21	Cobbly clay loam, gravelly silty clay loam, clay loam	CL	A-6, A-7	0-5	0-45	70-100	60-100	55-95	50-85	30-50	10-25
	21-60	Clay, silty clay, silty clay loam	ML, MH	A-6, A-7	0-5	0-15	85-100	85-100	75-100	70-100	35-55	10-25
PSME/ARTRV Tophat	0-7	Cobbly loam	SC, CL	A-6	0-10	15-30	70-100	65-95	45-75	40-70	30-40	10-15
	7-17	Cobbly clay loam, cobbly silty clay loam, clay loam	CL	A-7	0-10	0-30	70-100	65-100	55-95	50-90	40-50	15-25
	17-34	Cobbly clay loam, cobbly clay, silty clay loam	CL, CH	A-7	0-10	0-30	70-100	65-100	55-100	50-95	45-65	20-35
	34-60	Cobbly silty clay loam, very cobbly silty clay loam, cobbly clay loam	GC, CL, SC	A-7	0-30	0-45	60-100	55-95	45-95	40-90	40-50	15-25
1216												
ABLA/ACGL Koffgo	0-9	Gravelly loam	SM, SC-SM	A-4, A-2	0-5	0-15	75-95	55-75	40-65	30-50	20-30	NP-10
	9-16	Very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	SM, GM, SC-SM, GC-GM	A-4, A-2	0-45	15-45	40-90	20-70	20-60	20-50	20-30	NP-10
	16-54	Extremely stony sandy loam, extremely cobbly sandy loam, extremely flaggy sandy loam	SM, GM	A-4, A-2, A-1	15-80	0-75	40-90	20-70	15-55	15-45	20-30	NP-5
	54-60	Fragmental material			0	0	0	0	0	0		NP
ABLA/ACGL Rhylow	0-14	Very gravelly loam	SM, GM	A-4, A-2	0-10	0-10	50-80	30-60	25-55	25-50	20-30	NP-5
	14-30	Gravelly loam, very gravelly loam, very gravelly sandy loam	SM, GM	A-4, A-2	0-5	0-15	50-85	35-70	25-60	15-50	20-30	NP-5
	30-50	Very cobbly sandy loam, very cobbly loam, extremely cobbly sandy loam	SM, GM	A-4, A-2	0-25	45-75	55-85	35-65	30-55	25-45	20-30	NP-5
	50-60	Extremely cobbly sandy loam, extremely flaggy sandy loam, extremely stony sandy loam	SM, GM	A-4, A-2	45-70	55-75	45-85	25-65	25-60	25-50	20-25	NP
PSME/ARTRV Povey	0-27	Gravelly loam	GM, GC-GM, CL-ML, ML	A-4	0	0-10	65-85	60-80	45-65	40-60	20-30	NP-10
	27-39	Very gravelly loam, very gravelly sandy loam, very cobbly loam	GC-GM	A-2	0-5	0-35	35-55	30-50	25-40	20-35	25-30	5-10
	39-60	Very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly loam	GC-GM, GM	A-2, A-1	0-25	10-45	30-55	25-50	20-40	10-40	20-30	NP-10
1219												
ABLA/PHMA5 Lagall	0-10	Very gravelly loam	SM, SC-SM	A-4, A-2	0-20	0-20	70-90	30-60	25-55	20-50	20-30	NP-10
	10-30	Very gravelly loam, extremely cobbly loam, extremely gravelly sandy loam	GM, GC-GM	A-4, A-2	5-45	25-65	45-85	15-65	15-55	10-50	20-30	NP-10
	30-60	Extremely stony sandy loam, extremely cobbly sandy loam, extremely cobbly loam	GM, SM	A-4, A-2	15-80	5-75	75-100	50-80	35-65	25-45	20-30	NP-5
PSME/ARTRV Povey	0-27	Gravelly loam	GM, GC-GM, CL-ML, ML	A-4	0	0-10	65-85	60-80	45-65	40-60	20-30	NP-10
	27-39	Very gravelly loam, very gravelly sandy loam, very cobbly loam	GC-GM	A-2	0-5	0-35	35-55	30-50	25-40	20-35	25-30	5-10
	39-60	Very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly loam	GC-GM, GM	A-2, A-1	0-25	10-45	30-55	25-50	20-40	10-40	20-30	NP-10

Ecological Unit Symbol and Ecological Type Name	Depth inch	USDA Texture	Classification		Fragments		Percentage Passing Sieve #				Liquid Limit	Plasticity Index
			Unified	AASHTO	>10 inches pct	3-10 inches pct	4	10	40	200		
1219 (con.)												
PSME/ BERE,SYOR2 Fritz	0-5	Gravelly silt loam	ML	A-6	0-10	0-10	50-90	45-85	45-80	50-80	35-40	10-15
	5-11	Gravelly silt loam, very gravelly loam, very gravelly silt loam	ML, SM, GM	A-6	0-10	0-25	30-80	25-75	20-70	40-70	35-40	10-15
	11-39	Very gravelly loam, very gravelly sandy loam, extremely gravelly sandy loam	SM, GM	A-2, A-6	0-15	0-35	15-75	10-70	10-55	15-50	35-40	10-15
	39-45	Extremely cobbly sandy loam, very cobbly sandy loam, very cobbly loam	SM, GM	A-2, A-6	0-25	30-65	15-85	10-80	10-55	15-50	35-40	10-15
	45	Unweathered bedrock										
1222												
ABLA/ACGL Koffgo	0-9	Gravelly loam	SM, SC-SM	A-4, A-2	0-5	0-15	75-95	55-75	40-65	30-50	20-30	NP-10
	9-16	Very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	SM, GM, SC-SM, GC-GM	A-4, A-2	0-45	15-45	40-90	20-70	20-60	20-50	20-30	NP-10
	16-54	Extremely stony sandy loam, extremely cobbly sandy loam, extremely flaggy sandy loam	SM, GM	A-4, A-2, A-1	15-80	0-75	40-90	20-70	15-55	15-45	20-30	NP-5
	54-60	Fragmental material										
PSME/SYAL Lagall	0-7	Very gravelly loam	SM, SC-SM	A-4, A-2	0-20	0-20	70-90	30-60	25-55	20-50	20-30	NP-10
	7-15	Very gravelly loam, extremely cobbly sandy loam, very cobbly loam	SM, SC-SM	A-4, A-2	0-20	0-65	55-75	20-65	15-55	15-50	20-30	NP-10
	15-23	Very gravelly loam, extremely cobbly loam, extremely gravelly sandy loam	GM, GC-GM	A-4, A-2	5-45	25-65	45-85	15-65	15-55	10-50	20-30	NP-10
	23-60	Extremely stony sandy loam, extremely cobbly sandy loam, extremely cobbly loam	GM, SM	A-4, A-2	15-80	5-75	75-100	50-80	35-65	25-45	20-30	NP-5
ABLA/ACGL Rhylow	0-14	Very gravelly loam	SM, GM	A-4, A-2	0-10	0-10	50-80	30-60	25-55	25-50	20-30	NP-5
	14-30	Gravelly loam, very gravelly loam, very gravelly sandy loam	SM, GM	A-4, A-2	0-5	0-15	50-85	35-70	25-60	15-50	20-30	NP-5
	30-50	Very cobbly sandy loam, very cobbly loam, extremely cobbly sandy loam	SM, GM	A-4, A-2	0-25	45-75	55-85	35-65	30-55	25-45	20-30	NP-5
	50-60	Extremely cobbly sandy loam, extremely flaggy sandy loam, extremely stony sandy loam	SM, GM	A-4, A-2	45-70	55-75	45-85	25-65	25-60	25-50	20-25	NP
1224												
ABLA/ VAGL,PAMY Huckridge	0-5	Silt loam	ML	A-4	0	0-5	95-100	95-100	95-100	90-100	20-30	NP-5
	5-27	Silt loam, silt	ML	A-4	0	0-5	95-100	95-100	95-100	90-100	20-30	NP-5
	27-48	Silt loam	CL, CL-ML	A-4, A-6	0	0-5	95-100	95-100	95-100	90-100	25-35	5-15
	48-59	Silt loam, silty clay loam	CL	A-6	0	0-5	95-100	95-100	95-100	90-100	30-40	10-20
	59-70	Silt loam	CL, CL-ML	A-4, A-6	0-5	0-5	95-100	95-100	90-100	85-100	25-35	5-15
ABLA/ VAGL,PAMY Koffgo	0-7	Gravelly silt loam	ML, SM	A-4	0-5	0-10	70-100	60-90	55-85	45-80	20-40	NP-10
	7-16	Gravelly silt loam, very gravelly silt loam, gravelly loam	SM, ML	A-4	0	10-30	55-80	50-75	40-60	40-60	20-30	NP-10
	16-55	Very cobbly sandy loam, extremely cobbly sandy loam	GM, SM	A-1, A-2, A-4	10-30	45-70	20-90	20-85	20-60	15-50	20-30	NP-5
	55-60	Fragmental material										

Ecological Unit Symbol and Ecological Type Name	Depth inch	USDA Texture	Classification		Fragments		Percentage Passing Sieve #				Liquid Limit	Plasticity Index
			Unified	AASHTO	>10 inches pct	3-10 inches pct	4	10	40	200		
1224 (con.)												
PSME/ARTRV Povey	0-27	Gravelly loam	GM, GC-GM, CL-ML, ML	A-4	0	0-10	65-85	60-80	45-65	40-60	20-30	NP-10
	27-39	Very gravelly loam, very gravelly sandy loam, very cobbly loam	GC-GM	A-2	0-5	0-35	35-55	30-50	25-40	20-35	25-30	5-10
	39-60	Very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly loam	GC-GM, GM	A-2, A-1	0-25	10-45	30-55	25-50	20-40	10-40	20-30	NP-10
1225												
PIAL Lasac	0-6	Gravelly silt loam	ML, MH, SM	A-4, A-5	0-10	0-10	75-100	55-80	45-75	35-65	35-60	NP-5
	6-10	Gravelly silt loam, very gravelly sandy loam, gravelly coarse sandy loam	SM	A-4, A-5, A-2	0-10	0-10	70-95	50-75	35-60	25-50	35-60	NP-5
	10-17	Extremely gravelly loamy sand, very gravelly loamy sand, extremely gravelly loamy coarse sand	SM, SP-SM, GM, GP-GM	A-1	5-40	5-35	55-80	20-45	10-35	5-20	10-20	NP
	17-60	Very gravelly coarse sand, very gravelly sand, extremely gravelly coarse sand	SW, SP, SW-SM, SP-SM	A-1	5-40	5-35	55-80	20-45	0-15	0-10	10-15	NP
ABLA/ VASC,VASC Castan	0-11	Cobbly silt loam	ML, MH	A-4, A-5	0-5	5-25	80-100	70-90	60-80	50-65	35-60	NP-5
	11-16	Cobbly loam, gravelly sandy loam, gravelly silt loam	ML, MH, SM	A-4, A-5, A-2	0-15	5-30	65-95	55-85	40-70	30-60	35-60	NP-5
	16-49	Very gravelly sandy loam, extremely gravelly sandy loam, very gravelly silt loam	SM, GM	A-4, A-5, A-2	0-30	5-30	55-80	35-60	25-55	20-45	35-60	NP-5
	49-60	Extremely gravelly loamy sand, extremely gravelly loamy coarse sand	SM, GM, SW-SM, GW-GM	A-1	0-30	5-45	45-65	10-30	5-25	5-20	10-15	NP
1228												
PSME/ CARU,CARU Nopla	0-14	Silt loam	ML, CL-ML	A-4	0-10	0-10	90-100	80-100	75-95	55-80	20-30	NP-10
	14-24	Silt loam, loam, gravelly silt loam	ML, CL-ML	A-4	0-10	0-10	90-100	70-100	60-95	50-75	20-30	NP-10
	24-39	Gravelly silt loam, gravelly loam, silt loam	CL-ML, CL, SC-SM, SC	A-4, A-6	0-10	0-15	85-100	60-95	50-90	40-70	25-35	5-15
	39-54	Very cobbly loam, very cobbly clay loam, cobbly loam	CL, SC, GC	A-6, A-7	0-25	15-55	50-85	35-70	35-65	35-60	30-45	10-20
	54-75	Silt loam, loam, cobbly loam	CL	A-6	0-10	0-30	85-100	70-90	60-80	50-70	30-40	10-20
1230												
PSME/ SPBE2,CARU Vitricryands	0-8	Gravelly sandy loam	SM	A-4, A-5, A-2	0	0-10	75-100	50-75	35-60	25-50	35-60	NP-5
	8-19	Very gravelly sandy loam, gravelly loam, gravelly sandy loam	SM, GM	A-4, A-5, A-2	0-15	0-15	60-95	35-70	30-60	25-50	35-60	NP-5
	19-30	Extremely gravelly loamy sand, very gravelly loamy sand, extremely gravelly loamy coarse sand	SM	A-1	0-15	0-45	50-80	15-50	10-35	5-20	10-20	NP
	30-60	Extremely cobbly loamy sand, extremely gravelly sand, extremely gravelly coarse sand	SW, SP, SW-SM, SP-SM	A-1	0-15	5-75	50-80	10-40	5-25	0-10	10-15	NP
1250												
PSME/ARTRV Povey	0-27	Gravelly loam	GM, GC-GM, CL-ML, ML	A-4	0	0-10	65-85	60-80	45-65	40-60	20-30	NP-10
	27-39	Very gravelly loam, very gravelly sandy loam, very cobbly loam	GC-GM	A-2	0-5	0-35	35-55	30-50	25-40	20-35	25-30	5-10
	39-60	Very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly loam	GC-GM, GM	A-2, A-1	0-25	10-45	30-55	25-50	20-40	10-40	20-30	NP-10

Ecological Unit Symbol and Ecological Type Name	Depth inch	USDA Texture	Classification		Fragments		Percentage Passing Sieve #				Liquid Limit	Plasticity Index
			Unified	AASHTO	>10 inches pct	3-10 inches pct	4	10	40	200		
1270												
ABLA/ARTRS2 Cryumbrepts	0-5	Loam	ML	A-4	0-5	0-5	90-100	85-100	70-85	50-65	25-30	NP-5
	5-20	Loam, cobbly loam, cobbly silt loam	ML	A-4	0-5	5-30	90-100	80-95	65-85	50-70	25-30	NP-5
	20-31	Extremely cobbly sandy loam, very cobbly loam, extremely gravelly sandy loam	SM, GM	A-2	0-20	25-55	35-75	10-50	10-40	5-35	20-25	NP-5
	31-35	Weathered bedrock										
	35	Unweathered bedrock										
Rock Outcrop												
1280												
Rubble Land												
Low Alpine Forb Cryochrepts, loamy-skeletal	0-2	Extremely gravelly sandy loam	GM, GW-GM, SM, SC-SM	A-1, A-2	0-10	5-30	20-80	10-30	10-25	5-25	20-30	NP-10
	2-8	Extremely gravelly sandy loam, very gravelly loam, very gravelly fine sandy loam	GM, GC-GM, SM, SC-SM	A-1, A-2	0-10	5-30	45-75	30-60	20-50	10-35	20-30	NP-10
	8-36	Extremely cobbly sandy loam, extremely cobbly fine sandy loam, extremely gravelly sandy loam	GM, GC-GM, SM, SC-SM	A-1, A-2	0-10	15-85	20-95	10-80	10-65	10-45	20-30	NP-10
	36	Unweathered bedrock										
Rock Outcrop												
1294												
ARTRP4/SYOR2/ FEID Tetonia	0-7	Silt loam	ML	A-4	0	0	100	100	100	90-100	20-30	NP-5
	7-22	Silt loam	CL-ML, ML	A-4	0	0	100	100	100	90-100	20-30	NP-10
	22-60	Silt loam	CL-ML, ML	A-4	0	0	100	100	100	90-100	20-30	NP-10
PSME/OSCH Rin	0-29	Silt loam	CL-ML, ML	A-4	0	0	100	100	100	95-100	20-30	NP-10
	29-60	Silt loam	CL-ML, ML	A-4	0	0	100	100	100	95-100	20-30	NP-10
1303												
ABLA/ OSCH,PAMY Edgway	0-11	Silt loam	CL-ML	A-4	0	0-5	90-100	85-100	75-95	70-90	25-30	5-10
	11-19	Silt loam, gravelly silt loam, loam	CL-ML	A-4	0	0-5	75-100	70-95	60-95	55-90	25-30	5-10
	19-60	Very cobbly silt loam, very cobbly silty clay loam, very cobbly clay loam	CL, GC, SC	A-6, A-7	0-5	35-50	55-85	50-75	45-75	35-70	30-45	10-20
ABLA/THOC Jumpstart	0-9	Silt loam	CL, CL-ML	A-4, A-6	0-5	0-15	85-100	80-100	60-95	60-95	20-40	5-20
	9-15	Loam, silt loam	CL	A-6, A-7	0-5	0-15	85-100	80-100	60-90	60-90	30-45	10-20
	15-43	Clay loam, silty clay loam, silty clay	ML, MH	A-6, A-7	0-5	0-15	85-100	80-100	65-100	65-100	35-55	10-25
	43-60	Silty clay loam, clay loam, silty clay	ML, MH	A-6, A-7	0-10	0-15	80-100	75-100	65-100	65-100	35-55	10-25
PSME/ARTRV Tophat	0-7	Cobbly loam	SC, CL	A-6	0-10	15-30	70-100	65-95	45-75	40-70	30-40	10-15
	7-17	Cobbly clay loam, cobbly silty clay loam, clay loam	CL	A-7	0-10	0-30	70-100	65-100	55-95	50-90	40-50	15-25
	17-34	Cobbly clay loam, cobbly clay, silty clay loam	CL, CH	A-7	0-10	0-30	70-100	65-100	55-100	50-95	45-65	20-35
	34-60	Cobbly silty clay loam, very cobbly silty clay loam, cobbly clay loam	GC, CL, SC	A-7	0-30	0-45	60-100	55-95	45-95	40-90	40-50	15-25

Ecological Unit Symbol and Ecological Type Name	Depth inch	USDA Texture	Classification		Fragments		Percentage Passing Sieve #				Liquid Limit	Plasticity Index
			Unified	AASHTO	>10 inches pct	3-10 inches pct	4	10	40	200		
1307												
ABLA/ VAGL,PAMY Huckridge	0-5	Silt loam	ML	A-4	0	0-5	95-100	95-100	95-100	90-100	20-30	NP-5
	5-27	Silt loam, silt	ML	A-4	0	0-5	95-100	95-100	95-100	90-100	20-30	NP-5
	27-48	Silt loam	CL, CL-ML	A-4, A-6	0	0-5	95-100	95-100	95-100	90-100	25-35	5-15
	48-59	Silt loam, silty clay loam	CL	A-6	0	0-5	95-100	95-100	95-100	90-100	30-40	10-20
	59-70	Silt loam	CL, CL-ML	A-4, A-6	0-5	0-5	95-100	95-100	90-100	85-100	25-35	5-15
1313												
ARTRP4/FEID Cryoborolls	0-15	Gravelly silt loam	CL-ML, GC-GM, SC-SM	A-4	0-5	0-10	65-80	60-75	50-70	40-60	25-30	5-10
	15-38	Very flaggy silt loam, extremely flaggy loam, very gravelly loam	GC-GM	A-2, A-4	0-15	20-60	50-60	45-55	40-50	25-45	25-30	5-10
	38-53	Extremely cobbly loam, extremely flaggy sandy loam, extremely flaggy loam	GM, GC-GM	A-1, A-2	0-10	55-65	40-55	35-50	20-40	10-35	20-30	NP-10
	53-60	Very gravelly sandy loam, very flaggy sandy loam, extremely flaggy sandy loam	GM, GP-GM	A-1	0-5	15-60	20-60	10-55	10-35	5-20	20-25	NP-5
1315												
ABLA/ OSCH,PAMY Edgway	0-11	Silt loam	CL-ML	A-4	0	0-5	90-100	85-100	75-95	70-90	25-30	5-10
	11-19	Silt loam, gravelly silt loam, loam	CL-ML	A-4	0	0-5	75-100	70-95	60-95	55-90	25-30	5-10
	19-60	Very cobbly silt loam, very cobbly silty clay loam, very cobbly clay loam	CL, GC, SC	A-6, A-7	0-5	35-50	55-85	50-75	45-75	35-70	30-45	10-20
ABLA/ VAGL,PAMY Koffgo	0-7	Gravelly silt loam	SM, ML	A-4	0-5	0-10	70-100	60-90	55-85	45-80	20-40	NP-10
	7-16	Gravelly silt loam, very gravelly silt loam, gravelly loam	SM, ML	A-4	0	10-30	55-80	50-75	40-60	40-60	20-30	NP-10
	16-55	Very cobbly sandy loam, extremely cobbly sandy loam	GM, SM	A-1, A-2, A-4	10-30	45-70	20-90	20-85	20-60	15-50	20-30	NP-5
	55-60	Fragmental material										
PSME/ARTRV Povey	0-27	Gravelly loam	GM, GC-GM, CL-ML, ML	A-4	0	0-10	65-85	60-80	45-65	40-60	20-30	NP-10
	27-39	Very gravelly loam, very gravelly sandy loam, very cobbly loam	GC-GM	A-2	0-5	0-35	35-55	30-50	25-40	20-35	25-30	5-10
	39-60	Very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly loam	GC-GM, GM	A-2, A-1	0-25	10-45	30-55	25-50	20-40	10-40	20-30	NP-10
1316												
ABLA/ VAGL,PAMY Koffgo	0-7	Gravelly silt loam	SM, ML	A-4	0-5	0-10	70-100	60-90	55-85	45-80	20-40	NP-10
	7-16	Gravelly silt loam, very gravelly silt loam, gravelly loam	SM, ML	A-4	0	10-30	55-80	50-75	40-60	40-60	20-30	NP-10
	16-55	Very cobbly sandy loam, extremely cobbly sandy loam	GM, SM	A-1, A-2, A-4	10-30	45-70	20-90	20-85	20-60	15-50	20-30	NP-5
	55-60	Fragmental material										
ABLA/THOC Koffgo	0-2	Gravelly loam	SM, SC-SM	A-4, A-2	0-5	0-15	75-95	55-75	40-65	30-50	20-30	NP-10
	2-24	Very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	SM, GM, SC-SM, GC-GM	A-4, A-2	0-45	15-45	40-90	20-70	20-60	20-50	20-30	NP-10
	24-45	Extremely stony sandy loam, extremely cobbly sandy loam, extremely flaggy sandy loam	SM, GM	A-4, A-2, A-1	15-80	0-75	40-90	20-70	15-55	15-45	20-30	NP-5
	45-60	Fragmental material										
Rock Outcrop												

Ecological Unit Symbol and Ecological Type Name	Depth inch	USDA Texture	Classification		Fragments		Percentage Passing Sieve #				Liquid Limit	Plasticity Index
			Unified	AASHTO	>10 inches pct	3-10 inches pct	4	10	40	200		
1331												
Low Alpine Forb Oorang	0-4	Extremely gravelly silt loam	GM	A-1, A-2, A-6	0-30	5-55	10-55	5-55	5-40	5-40	35-40	10-15
	4-12	Extremely gravelly silt loam, extremely flaggy silt loam, extremely gravelly loam	GM	A-1, A-2, A-6	0-30	25-85	10-75	5-70	5-50	5-50	35-40	10-15
	12-41	Fragmental material										
	41	Weathered bedrock										
Rubble Land												
1332												
ARTRP4/FEID Quirt	0-7	Silt loam	ML	A-4, A-6	0	0	90-100	85-100	55-95	55-95	30-40	5-15
	7-18	Silty clay loam, silty clay, clay loam	CL, CH	A-7	0	0	90-100	85-100	60-95	60-95	45-60	20-30
	18-28	Silty clay loam, silty clay, clay loam	CL, CH	A-7	0	0	90-100	85-100	60-95	60-95	45-65	20-35
	28-50	Silty clay loam, clay loam	CL, CH	A-7	0	0	95-100	90-100	60-95	60-95	40-55	15-30
	50-60	Silty clay loam, clay loam	CL, CH	A-7	0	0	95-100	90-100	60-95	60-95	35-55	15-30
1333												
ARTRP4/FEID Quirt	0-7	Silt loam	ML	A-4, A-6	0	0	90-100	85-100	55-95	55-95	30-40	5-15
	7-18	Silty clay loam, silty clay, clay loam	CL, CH	A-7	0	0	90-100	85-100	60-95	60-95	45-60	20-30
	18-28	Silty clay loam, silty clay, clay loam	CL, CH	A-7	0	0	90-100	85-100	60-95	60-95	45-65	20-35
	28-50	Silty clay loam, clay loam	CL, CH	A-7	0	0	95-100	90-100	60-95	60-95	40-55	15-30
	50-60	Silty clay loam, clay loam	CL, CH	A-7	0	0	95-100	90-100	60-95	60-95	35-55	15-30
ARTRP4/SYOR2/ FEID Tetonia	0-7	Silt loam	ML	A-4	0	0	100	100	100	90-100	20-30	NP-5
	7-22	Silt loam	CL-ML, ML	A-4	0	0	100	100	100	90-100	20-30	NP-10
	22-60	Silt loam	CL-ML, ML	A-4	0	0	100	100	100	90-100	20-30	NP-10
1400												
ARTRP4/ARART Trude	0-8	Gravelly sandy loam	SM	A-2, A-4	0	0-10	70-85	50-75	40-55	20-40	20-30	NP-10
	8-21	Gravelly coarse sandy loam, gravelly loam	SM	A-2, A-4	0	0-15	70-85	50-75	15-65	10-50	20-35	NP-10
	21-60	Stratified coarse sand to extremely gravelly coarse sand	SP, SM, GP, GM	A-1, A-2	0	0-15	20-100	5-90	0-60	0-30	0-14	NP
1401												
ARTRP4/ARART Trude	0-8	Gravelly sandy loam	SM	A-2, A-4	0	0-10	70-85	50-75	40-55	20-40	20-30	NP-10
	8-21	Gravelly coarse sandy loam, gravelly loam	SM	A-2, A-4	0	0-15	70-85	50-75	15-65	10-50	20-35	NP-10
	21-60	Stratified coarse sand to extremely gravelly coarse sand	SP, SM, GP, GM	A-1, A-2	0	0-15	20-100	5-90	0-60	0-30	0-14	NP
ABLA/ CACA4,CACA4 Bootjack	0-3	Silt loam	ML	A-4	0	0	100	100	90-100	70-90	30-35	5-10
	3-15	Loam, silt loam, clay loam	CL-ML, CL	A-4, A-6	0	0	80-100	80-100	55-100	50-90	25-35	5-15
	15-60	Stratified fine sand to extremely gravelly coarse sand	SP, GM, GP, GM	A-1, A-2	0	0-15	30-100	25-100	10-100	0-30		NP
1414												
ABLA/VASC,PIAL Winegar	0-4	Gravelly silt loam	ML, MH	A-4, A-5	0-10	0-10	90-100	65-75	55-75	50-70	35-60	NP-5
	4-25	Silt loam, loam, gravelly loam	ML, MH, SM	A-4, A-5	0-10	0-15	80-100	60-95	45-80	35-65	35-60	NP-5
	25-35	Very gravelly loam, very gravelly sandy loam, very cobbly sandy loam	SM	A-4, A-5, A-2	0-10	0-30	60-80	35-55	30-45	20-40	35-60	NP-5
	35-60	Very gravelly sandy loam, very gravelly loamy sand, gravelly loamy sand	SM	A-2	0-10	0-15	60-80	35-60	20-40	10-30	20-30	NP-5

Ecological Unit Symbol and Ecological Type Name	Depth inch	USDA Texture	Classification		Fragments		Percentage Passing Sieve #				Liquid Limit	Plasticity Index
			Unified	AASHTO	>10 inches pct	3-10 inches pct	4	10	40	200		
1414 (con.)												
CALE4 Oxyaquic Cryochrepts	0-5	Silt loam	ML	A-4	0-5	0-5	80-100	75-100	60-95	60-95	25-30	NP-5
	5-38	Silt loam, loam, gravelly loam	ML, CL-ML	A-4	0-5	0-5	55-100	50-100	50-95	50-95	25-30	NP-10
	38-60	Very gravelly sandy loam, extremely cobbly sandy loam, extremely gravelly sandy loam	GM, SM	A-2, A-4	0-25	0-75	30-90	25-85	25-60	20-50	20-25	NP-5
Rock Outcrop												
1430												
PSME/SYOR2 Kyway	0-18	Sandy loam	ML	A-4, A-5	0-5	0-5	90-100	80-100	70-100	60-90	20-45	NP-10
	18-32	Sandy loam	ML	A-4, A-5	0-5	0-5	90-100	80-100	70-100	60-90	20-45	NP-10
	32	Unweathered bedrock			0	0	0	0	0	0		NP
1505												
ARTRP4/SYOR2/ FEID Tetonia	0-7	Silt loam	ML	A-4	0	0	100	100	100	90-100	20-30	NP-5
	7-22	Silt loam	CL-ML, ML	A-4	0	0	100	100	100	90-100	20-30	NP-10
	22-60	Silt loam	CL-ML, ML	A-4	0	0	100	100	100	90-100	20-30	NP-10
1506												
PSME/SYAL Lagall, till substratum	0-14	Silt loam	ML	A-4	0	0-5	85-100	80-100	65-80	50-65	20-30	NP-10
	14-35	Very gravelly silt loam, very gravelly loam	SM	A-4	0-10	0-35	75-95	40-65	40-60	35-50	25-35	NP-10
	35-48	Very gravelly loam, very gravelly sandy loam, extremely gravelly loam	SM	A-4, A-2	0-10	0-35	60-90	30-60	25-55	20-50	20-30	NP-10
	48-60	Very gravelly sandy loam, extremely gravelly sandy loam	SM	A-1, A-2	0-10	5-35	60-85	30-50	20-45	15-35	20-30	NP-5
1507												
ARTRT/AGSP Buist	0-10	Gravelly silt loam	ML	A-4	0-15	0-10	65-90	60-85	55-85	55-85	20-35	NP-10
	10-32	Very gravelly silt loam, very gravelly loam	ML, GM	A-4	5-20	5-20	50-80	45-65	45-60	40-60	20-35	NP-10
	32-60	Very stony loam, very stony fine sandy loam, very cobbly fine sandy loam	ML, GM	A-4	15-50	15-35	60-95	55-90	50-80	40-75	20-30	NP-5
ABLA/PHMA5 Lagall	0-10	Very gravelly loam	SM, SC-SM	A-2, A-4	0-20	0-20	70-90	30-60	24-55	20-50	20-30	NP-10
	10-30	Very gravelly loam, extremely cobbly loam, extremely gravelly sandy loam	GC-GM, GM	A-4, A-2	5-45	25-65	45-85	15-65	15-55	10-50	20-30	NP-10
	30-60	Extremely stony sandy loam, extremely cobbly sandy loam, extremely cobbly loam	GM, SM	A-2, A-4	15-80	5-75	75-100	50-80	35-65	25-45	20-30	NP-5
1516												
ABLA/VAGL,VAGL Winegar	0-4	Gravelly silt loam	ML, MH	A-4, A-5	0-10	0-10	90-100	65-75	55-75	50-70	35-60	NP-5
	4-26	Silt loam, loam, gravelly loam	ML, MH, SM	A-4, A-5	0-10	0-15	80-100	60-95	45-80	35-65	35-60	NP-5
	26-38	Very gravelly loam, very gravelly sandy loam, very cobbly sandy loam	SM	A-4, A-5, A-2	0-10	0-30	60-80	35-55	30-45	20-40	35-60	NP-5
	38-60	Very gravelly sandy loam, very gravelly loamy sand, gravelly loamy sand	SM	A-2	0-10	0-15	60-80	35-60	20-40	10-30	20-30	NP-5

Ecological Unit Symbol and Ecological Type Name	Depth inch	USDA Texture	Classification		Fragments		Percentage Passing Sieve #				Liquid Limit	Plasticity Index
			Unified	AASHTO	>10 inches pct	3-10 inches pct	4	10	40	200		
1516 (con.)												
ABLA/ VASC,CARU Bradco	0-10	Fine sandy loam	SM	A-4, A-5	0-1	0-5	85-100	80-95	75-90	35-45	35-60	NP-5
	10-18	Fine sandy loam, loam, gravelly fine sandy loam	SM	A-4, A-2, A-5	0-5	0-5	85-100	70-95	60-85	30-50	35-60	NP-5
	18-29	Gravelly sandy loam, gravelly fine sandy loam, gravelly loam	SM	A-4, A-2, A-5	0-5	0-15	80-95	60-75	45-65	30-50	35-60	NP-5
	29-36	Gravelly sandy loam, very gravelly sandy loam, very gravelly fine sandy loam	SM	A-4, A-2, A-5	0-5	0-30	60-80	30-60	30-45	20-40	35-60	NP-5
	36-60	Gravelly loamy sand, very gravelly loamy sand, very gravelly sandy loam	SM	A-2, A-1	0-5	0-15	60-80	35-55	20-40	10-30	20-30	NP-5
1570												
ABLA/ VASC,VASC Dashiki	0-9	Silt loam	ML, MH	A-4, A-5	0-5	0-5	95-100	90-100	80-95	55-70	35-60	NP-5
	9-31	Gravelly silt loam, gravelly loam, silt loam	SM, ML, MH	A-4, A-2, A-5	0-5	0-5	80-100	60-90	45-70	35-65	35-60	NP-5
	31-37	Gravelly loamy coarse sand, very gravelly loamy coarse sand	SM, SP-SM	A-1	0-5	0-5	70-100	35-75	15-30	10-20	10-15	NP
	37-75	Stratified gravelly coarse sand to extremely gravelly coarse sand	SP, GP	A-1	0-5	0-15	50-95	5-75	0-10	0-5	10-15	NP
PIAL/ CARO5,PICO Lasac	0-6	Gravelly sandy loam	SM, ML, MH	A-4, A-5, A-2	0-10	0-10	75-100	55-80	40-65	25-50	35-60	NP-5
	6-12	Gravelly silt loam, very gravelly sandy loam, gravelly coarse sandy loam	SM	A-4, A-5, A-2	0-10	0-10	70-95	50-75	35-60	25-50	35-60	NP-5
	12-20	Extremely gravelly loamy sand, very gravelly loamy sand, extremely gravelly loamy coarse sand	SM, SP-SM, GM, GP-GM	A-1	5-40	5-35	55-80	20-45	10-35	5-20	10-20	NP
	20-60	Very gravelly coarse sand, very gravelly sand, extremely gravelly coarse sand	SW, SP, SW-SM, SP-SM	A-1	5-40	5-35	55-80	20-45	0-15	0-10	10-15	NP
1573												
ABLA/VASC Oleo	0-2	Silt loam	ML, MH	A-4, A-5	0-5	0-5	90-100	80-100	70-90	50-70	35-60	NP-5
	2-10	Silt loam, gravelly silt loam, loam	ML, MH, SM	A-4, A-5	0-5	0-5	85-100	70-95	60-85	45-70	35-60	NP-5
	10-28	Silt loam, gravelly silt loam, loam	ML, MH, SM	A-4, A-5	0-25	0-25	75-95	55-90	50-80	35-65	35-60	NP-5
	28-60	Gravelly silt loam, very cobbly silt loam, cobbly loam	ML, MH, SM	A-4, A-5	0-25	0-30	80-95	55-90	55-80	40-65	35-60	NP-5
PIAL/ CARO5,PICO Lasac	0-6	Gravelly sandy loam	SM, ML, MH	A-4, A-5, A-2	0-10	0-10	75-100	55-80	40-65	25-50	35-60	NP-5
	6-12	Gravelly silt loam, very gravelly sandy loam, gravelly coarse sandy loam	SM	A-4, A-5, A-2	0-10	0-10	70-95	50-75	35-60	25-50	35-60	NP-5
	12-20	Extremely gravelly loamy sand, very gravelly loamy sand, extremely gravelly loamy coarse sand	SM, SP-SM, GM, GP-GM	A-1	5-40	5-35	55-80	20-45	10-35	5-20	10-20	NP
	20-60	Very gravelly coarse sand, very gravelly sand, extremely gravelly coarse sand	SW, SP, SW-SM, SP-SM	A-1	5-40	5-35	55-80	20-45	0-15	0-10	10-15	NP
1575												
ABLA/ CARU,CARU Koffgo	0-6	Silt loam	ML	A-4	0-5	0-5	90-100	85-100	75-95	55-90	20-40	NP-10
	6-18	Gravelly silt loam, very gravelly silt loam, gravelly loam	SM, ML	A-4	0	10-30	55-80	50-75	40-60	40-60	20-30	NP-10
	18-52	Very cobbly sandy loam, extremely cobbly sandy loam	GM, SM	A-1, A-2, A-4	10-30	45-70	20-90	20-85	20-60	15-50	20-30	NP-5
	52-70	Fragmental material										

Ecological Unit Symbol and Ecological Type Name	Depth inch	USDA Texture	Classification		Fragments		Percentage Passing Sieve #				Liquid Limit	Plasticity Index
			Unified	AASHTO	>10 inches pct	3-10 inches pct	4	10	40	200		
1575 (con.)												
ABLA/VAGL,VAGL Koffgo	0-4	Gravelly loam	SM, SC-SM	A-4, A-2	0-5	0-15	75-95	55-75	40-65	30-50	20-30	NP-10
	4-27	Very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	SM, GM, SC-SM, GC-GM	A-4, A-2	0-45	15-45	40-90	20-70	20-60	20-50	20-30	NP-10
	27-41	Extremely stony sandy loam, extremely cobbly sandy loam, extremely flaggy sandy loam	SM, GM	A-4, A-2, A-1	15-80	0-75	40-90	20-70	15-55	15-45	20-30	NP-5
	41-60	Fragmental material										
1576												
ABLA/ARCO9, ARCO9 Fitzwil	0-3	Silt loam	ML	A-4	0	0-5	90-100	80-100	75-95	60-80	20-35	NP-10
	3-10	Gravelly silt loam, gravelly loam, very gravelly loam	ML, SM	A-4	0	0-5	70-90	40-75	35-70	35-55	20-35	NP-10
	10-14	Very gravelly loam, very gravelly silt loam, gravelly loam	GM, SM	A-2, A-4	0-5	0-15	55-70	30-60	25-55	20-45	20-35	NP-10
	14-25	Very gravelly loam, extremely gravelly loam, very gravelly sandy loam	GM, SM	A-1, A-4	0-15	0-25	50-65	15-50	15-45	15-40	20-35	NP-10
	25-60	Very gravelly loam, extremely gravelly loam, very gravelly sandy clay loam	GM, SM	A-1, A-4	0-15	5-25	50-65	20-50	15-45	15-40	30-40	5-15
PIAL/ARTRP4 Fitzwil	0-5	Silt loam	ML	A-4	0	0-5	90-100	80-100	75-95	60-80	20-35	NP-10
	5-10	Gravelly silt loam, gravelly loam, very gravelly loam	ML, SM	A-4	0	0-5	70-90	40-75	35-70	35-55	20-35	NP-10
	10-17	Very gravelly loam, very gravelly silt loam, gravelly loam	GM, SM	A-2, A-4	0-5	0-15	55-70	30-60	25-55	20-45	20-35	NP-10
	17-26	Very gravelly loam, extremely gravelly loam, very gravelly sandy loam	GM, SM	A-1, A-4	0-15	0-25	50-65	15-50	15-45	15-40	20-35	NP-10
	26-60	Very gravelly loam, extremely gravelly loam, very gravelly sandy clay loam	GM, SM	A-1, A-4	0-15	5-25	50-65	20-50	15-45	15-40	30-40	5-15
1585												
ABLA/ VASC,CARU Rhylow	0-14	Gravelly loam	ML, SM	A-4, A-2	0-10	0-10	65-95	50-80	40-70	30-60	20-30	NP-5
	14-32	Gravelly loam, very gravelly loam, very gravelly sandy loam	SM, GM	A-4, A-2	0-5	0-15	50-85	35-70	25-60	15-50	20-30	NP-5
	32-50	Very cobbly sandy loam, very cobbly loam, extremely cobbly sandy loam	SM, GM	A-4, A-2	0-25	45-75	55-85	35-65	30-55	25-45	20-30	NP-5
	50-65	Extremely cobbly sandy loam, extremely flaggy sandy loam, extremely stony sandy loam	SM, GM	A-4, A-2	45-70	55-75	45-85	25-65	25-60	25-50	20-25	NP
1592												
PSME/SYAL Lagall	0-7	Very gravelly loam	SM, SC-SM	A-4, A-2	0-20	0-20	70-90	30-60	25-55	20-50	20-30	NP-10
	7-15	Very gravelly loam, extremely cobbly sandy loam, very cobbly loam	SM, SC-SM	A-4, A-2	0-20	0-65	55-75	20-65	15-55	15-50	20-30	NP-10
	15-23	Very gravelly loam, extremely cobbly loam, extremely gravelly sandy loam	GM, GC-GM	A-4, A-2	5-45	25-65	45-85	15-65	15-55	10-50	20-30	NP-10
	23-60	Extremely stony sandy loam, extremely cobbly sandy loam, extremely cobbly loam	GM, SM	A-4, A-2	15-80	5-75	75-100	50-80	35-65	25-45	20-30	NP-5
1593												
ABLA/ VAGL,PAMY Koffgo	0-7	Gravelly silt loam	SM, ML	A-4	0-5	0-10	70-100	60-90	55-85	45-80	20-40	NP-10
	7-16	Gravelly silt loam, very gravelly silt loam, gravelly loam	SM, ML	A-4	0	10-30	55-80	50-75	40-60	40-60	20-30	NP-10
	16-55	Very cobbly sandy loam, extremely cobbly sandy loam	GM, SM	A-1, A-2, A-4	10-30	45-70	20-90	20-85	20-60	15-50	20-30	NP-5
	55-60	Fragmental material										

Ecological Unit Symbol and Ecological Type Name	Depth inch	USDA Texture	Classification		Fragments		Percentage Passing Sieve #				Liquid Limit	Plasticity Index
			Unified	AASHTO	>10 inches pct	3-10 inches pct	4	10	40	200		
1594												
ABLA/VAGL,VAGL Koffgo	0-4	Gravelly loam	SM, SC-SM	A-4, A-2	0-5	0-15	75-95	55-75	40-65	30-50	20-30	NP-10
	4-27	Very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	SM, GM, SC-SM, GC-GM	A-4, A-2	0-45	15-45	40-90	20-70	20-60	20-50	20-30	NP-10
	27-41	Extremely stony sandy loam, extremely cobbly sandy loam, extremely flaggy sandy loam	SM, GM	A-4, A-2, A-1	15-80	0-75	40-90	20-70	15-55	15-45	20-30	NP-5
	41-60	Fragmental material										
1595												
ABLA/ VAGL,PAMY Koffgo	0-7	Gravelly silt loam	SM, ML	A-4	0-5	0-10	70-100	60-90	55-85	45-80	20-40	NP-10
	7-16	Gravelly silt loam, very gravelly silt loam, gravelly loam	SM, ML	A-4	0	10-30	55-80	50-75	40-60	40-60	20-30	NP-10
	16-55	Very cobbly sandy loam, extremely cobbly sandy loam	GM, SM	A-1, A-2, A-4	10-30	45-70	20-90	20-85	20-60	15-50	20-30	NP-5
	55-60	Fragmental material										
1597												
ABLA/SPBE2 Koffgo	0-8	Gravelly loam	SM, SC-SM	A-4, A-2	0-5	0-15	75-95	55-75	40-65	30-50	20-30	NP-10
	8-25	Very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	SM, GM, SC-SM, GC-GM	A-4, A-2	0-45	15-45	40-90	20-70	20-60	20-50	20-30	NP-10
	25-45	Extremely stony sandy loam, extremely cobbly sandy loam, extremely flaggy sandy loam	SM, GM	A-4, A-2, A-1	15-80	0-75	40-90	20-70	15-55	15-45	20-30	NP-5
	45-60	Fragmental material										
1600												
ABLA/ VAGL,VASC Koffgo	0-4	Gravelly loam	SM, SC-SM	A-4, A-2	0-5	0-15	75-95	55-75	40-65	30-50	20-30	NP-10
	4-29	Very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	SM, GM, SC-SM, GC-GM	A-4, A-2	0-45	15-45	40-90	20-70	20-60	20-50	20-30	NP-10
	39-45	Extremely stony sandy loam, extremely cobbly sandy loam, extremely flaggy sandy loam	SM, GM	A-4, A-2, A-1	15-80	0-75	40-90	20-70	15-55	15-45	20-30	NP-5
	45-60	Fragmental material										
1646												
ABLA/ VAGL,PAMY Huckridge	0-5	Silt loam	ML	A-4	0	0-5	95-100	95-100	95-100	90-100	20-30	NP-5
	5-27	Silt loam, silt	ML	A-4	0	0-5	95-100	95-100	95-100	90-100	20-30	NP-5
	27-48	Silt loam	CL, CL-ML	A-4, A-6	0	0-5	95-100	95-100	95-100	90-100	25-35	5-15
	48-59	Silt loam, silty clay loam	CL	A-6	0	0-5	95-100	95-100	95-100	90-100	30-40	10-20
	59-70	Silt loam	CL, CL-ML	A-4, A-6	0-5	0-5	95-100	95-100	90-100	85-100	25-35	5-15
ABLA/ VAGL,PAMY Koffgo	0-7	Gravelly silt loam	SM, ML	A-4	0-5	0-10	70-100	60-90	55-85	45-80	20-40	NP-10
	7-16	Gravelly silt loam, very gravelly silt loam, gravelly loam	SM, ML	A-4	0	10-30	55-80	50-75	40-60	40-60	20-30	NP-10
	16-55	Very cobbly sandy loam, extremely cobbly sandy loam	GM, SM	A-1, A-2, A-4	10-30	45-70	20-90	20-85	20-60	15-50	20-30	NP-5
	55-60	Fragmental material										
ABLA/ OSCH,PAMY Edgway	0-11	Silt loam	CL-ML	A-4	0	0-5	90-100	85-100	75-95	70-90	25-30	5-10
	11-19	Silt loam, gravelly silt loam, loam	CL-ML	A-4	0	0-5	75-100	70-95	60-95	55-90	25-30	5-10
	19-60	Very cobbly silt loam, very cobbly silty clay loam, very cobbly clay loam	CL, GC, SC	A-6, A-7	0-5	35-50	55-85	50-75	45-75	35-70	30-45	10-20

Ecological Unit Symbol and Ecological Type Name	Depth inch	USDA Texture	Classification		Fragments		Percentage Passing Sieve #				Liquid Limit	Plasticity Index
			Unified	AASHTO	>10 inches pct	3-10 inches pct	4	10	40	200		
1700												
ABLA/ VASC,CARU Koffgo	0-4	Silt loam	ML	A-4	0-5	0-5	90-100	85-100	75-95	55-90	20-40	NP-10
	4-18	Gravelly silt loam, very gravelly silt loam, gravelly loam	SM, ML	A-4	0	10-30	55-80	50-75	40-60	40-60	20-30	NP-10
	18-50	Very cobbly sandy loam, extremely cobbly sandy loam	GM, SM	A-1, A-2, A-4	10-30	45-70	20-90	20-85	20-60	15-50	20-30	NP-5
	50-60	Fragmental material										
1720												
ABLA/VAGL,VAGL Flatstone	0-5	Silt loam	ML	A-4, A-5	0	0	90-100	85-100	75-95	55-90	20-45	NP-10
	5-13	Gravelly silt loam	ML, CL-ML	A-4	0-10	10-25	70-90	65-85	55-70	50-70	20-30	NP-10
	13-44	Very cobbly silt loam, extremely stony silt loam, extremely cobbly loam	ML, CL-ML, GM, GC-GM	A-1, A-2, A-4	15-55	25-55	35-80	30-80	25-65	20-60	20-30	NP-10
	44-67	Cobbly loam, cobbly clay loam	CL, SC, GC	A-6, A-7	0-15	15-30	70-90	50-75	45-70	40-60	25-45	10-25
ABLA/ VASC,CARU Koffgo	0-4	Silt loam	ML	A-4	0-5	0-5	90-100	85-100	75-95	55-90	20-40	NP-10
	4-18	Gravelly silt loam, very gravelly silt loam, gravelly loam	SM, ML	A-4	0	10-30	55-80	50-75	40-60	40-60	20-30	NP-10
	18-50	Very cobbly sandy loam, extremely cobbly sandy loam	GM, SM	A-1, A-2, A-4	10-30	45-70	20-90	20-85	20-60	15-50	20-30	NP-5
	50-60	Fragmental material										
1730												
ABLA/ VASC,CARU Koffgo	0-4	Silt loam	ML	A-4	0-5	0-5	90-100	85-100	75-95	55-90	20-40	NP-10
	4-18	Gravelly silt loam, very gravelly silt loam, gravelly loam	SM, ML	A-4	0	10-30	55-80	50-75	40-60	40-60	20-30	NP-10
	18-50	Very cobbly sandy loam, extremely cobbly sandy loam	GM, SM	A-1, A-2, A-4	10-30	45-70	20-90	20-85	20-60	15-50	20-30	NP-5
	50-60	Fragmental material										
PICO Perfa	0-11	Sandy loam	SM, SC-SM	A-2, A-4	0	0	95-100	80-100	50-65	30-45	20-30	NP-10
	11-62	Gravelly loamy coarse sand, gravelly coarse sand	SP-SM, SM	A-1	0	0	75-90	50-75	15-40	5-15	0-14	NP
1760												
PSME/ARTRV Fourme	0-5	Loam	CL-ML, CL	A-4, A-6	0	0	85-95	75-90	60-75	50-65	20-30	5-15
	5-11	Gravelly loam	SC, GC	A-6	0	0	60-80	55-75	40-55	35-50	25-30	10-15
	11-30	Very gravelly sandy clay loam, very gravelly clay loam	GC	A-2	0-5	0-10	40-50	35-45	20-35	15-30	30-40	15-20
	30-60	Extremely gravelly sand, extremely gravelly coarse sand, extremely gravelly loamy sand	GP, GP-GM	A-1	0-5	15-35	20-35	15-30	10-25	0-10		NP
1970												
ABLA Cryoboralfs	0-7	Silt loam	CL	A-6	0-5	0-5	80-100	75-100	50-90	50-90	30-40	10-15
	7-20	Silty clay, clay, channery silty clay	CH, GC	A-7	0-5	0-25	50-100	45-100	35-95	35-95	50-80	25-45
	20-31	Silty clay loam, flaggy silty clay, clay	CL, CH	A-7	0-5	0-50	70-100	65-100	50-95	50-95	45-80	20-45
	31-41	Weathered bedrock										
PSME/BERE, SYOR2 Cryochrepts, fine	0-2	Channery silty clay loam	ML, MH	A-7	0-5	0-25	75-90	70-85	65-75	60-70	40-55	15-25
	2-18	Silty clay loam, channery silty clay, clay	MH, GM, SM	A-7	0-5	0-10	70-100	60-100	55-95	45-90	50-85	20-45
	18-30	Silty clay, flaggy clay, silty clay loam	MH	A-7	0-5	0-50	70-100	65-100	50-95	50-90	50-85	20-45
	30-40	Weathered bedrock										

Ecological Unit Symbol and Ecological Type Name	Depth inch	USDA Texture	Classification		Fragments		Percentage Passing Sieve #				Liquid Limit	Plasticity Index
			Unified	AASHTO	>10 inches pct	3-10 inches pct	4	10	40	200		
1999												
Valleys												
2000												
Graminoid Cryaquolls	0-16	Silt loam	ML	A-4, A-5	0	0	100	100	85-100	60-90	20-45	NP-10
	16-44	Silt loam	ML	A-4, A-5	0-10	0-10	90-100	90-100	70-100	50-90	20-45	NP-10
	44-60	Cobbly silty clay, clay loam, silty clay loam	ML, MH	A-7	0-10	0-25	90-100	85-100	65-100	65-100	40-75	15-25
2020												
Graminoid Chickreek	0-6	Mucky-peat	PT	A-8	0	0	0	0	0	0		NP
	6-31	Silt loam, silty clay loam	MH	A-5	0	0	100	100	95-100	80-100	55-65	NP-10
	31-66	Stratified extremely gravelly sand to sand	SM, SP-SM, GM, GP-GM	A-2, A-1, A-3	0	0	50-90	15-85	10-60	5-25		NP
Salix/Graminoid Tepete	0-28	Mucky peat	PT	A-8	0	0	0	0	0	0	0-14	NP
	28-40	Fine sandy loam, silt loam, silty clay loam	SM, SC, ML, CL	A-2, A-4, A-6, A-7	0	0	90-100	90-100	60-90	30-90	25-50	NP-30
	40-70	Sand and gravel	GP, SP	A-1	0	0-10	25-60	20-50	10-30	0-5	0-14	NP
2040												
PICO Perfa	0-11	Sandy loam	SM, SC-SM	A-2, A-4	0	0	95-100	80-100	50-65	30-45	20-30	NP-10
	11-62	Gravelly loamy coarse sand, gravelly coarse sand	SP-SM, SM	A-1	0	0	75-90	50-75	15-40	5-15	0-14	NP
ABLA/ CACA4,CACA4 Bootjack	0-3	Silt loam	ML	A-4	0	0	100	100	90-100	70-90	30-35	5-10
	3-15	Loam, silt loam, clay loam	CL-ML, CL	A-4, A-6	0	0	80-100	80-100	55-100	50-90	25-35	5-15
	15-60	Stratified fine sand to extremely gravelly coarse sand	SP, GM, GP, GM	A-1, A-2	0	0-15	30-100	25-100	10-100	0-30		NP
2604												
PIEN/GATR3 Cryofluvents	0-4	Loamy very fine sand	SM	A-4	0	0	90-100	85-100	80-100	40-50		NP
	4-15	Very fine sand, loam, gravelly loamy very fine sand	SC-SM, SM, CL-ML, ML	A-4, A-2-4	0	0-15	65-100	60-100	60-90	20-60	20-30	NP-10
	15-60	Stratified gravelly loamy fine sand to extremely cobbly coarse sand	SM, SP-SM	A-1, A-2-4	0-15	0-60	55-80	50-75	20-70	5-30		NP
2606												
Salix/Graminoid Cryaquolls	0-5	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	80-100	80-100	75-95	25-40	5-20
	5-24	Silt loam, silty clay loam, loam	CL-ML, CL	A-4, A-6	0	0	90-100	80-100	70-100	60-95	25-40	5-20
	24-34	Stratified silt loam to gravelly sandy loam	ML, SM	A-4	0	0-5	85-100	65-95	50-90	35-80	20-30	NP-5
	34-60	Stratified very gravelly loam to extremely gravelly sand	SM, GM	A-1	0-5	0-10	25-75	10-50	5-45	0-40		NP
Salix/Graminoid Cryaquolls, poorly drained	0-13	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	80-100	80-100	75-95	25-40	5-20
	13-20	Silt loam, silty clay loam, loam	CL-ML, CL	A-4, A-6	0	0	90-100	80-100	70-100	60-95	25-40	5-20
	20-60	Stratified silt loam to gravelly sandy loam	ML, SM	A-4	0	0-5	85-100	65-95	50-90	35-80	20-30	NP-5
	60-65	Stratified very gravelly loam to extremely gravelly sand	SM, GM	A-1	0-5	0-10	25-75	10-50	5-45	0-40	0-14	NP
2608												
ABLA/ CACA4,CACA4 Bootjack	0-3	Silt loam	ML	A-4	0	0	100	100	90-100	70-90	30-35	5-10
	3-15	Loam, silt loam, clay loam	CL-ML, CL	A-4, A-6	0	0	80-100	80-100	55-100	50-90	25-35	5-15
	15-60	Stratified fine sand to extremely gravelly coarse sand	SP, GM, GP, GM	A-1, A-2	0	0-15	30-100	25-100	10-100	0-30		NP

Ecological Unit Symbol and Ecological Type Name	Depth inch	USDA Texture	Classification		Fragments		Percentage Passing Sieve #				Liquid Limit	Plasticity Index
			Unified	AASHTO	>10 inches pct	3-10 inches pct	4	10	40	200		
2608 (con.)												
Salix/Graminoid Cryaquolls, poorly drained	0-13	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	80-100	80-100	75-95	25-40	5-20
	13-20	Silt loam, silty clay loam, loam	CL-ML, CL	A-4, A-6	0	0	90-100	80-100	70-100	60-95	25-40	5-20
	20-60	Stratified silt loam to gravelly sandy loam	ML, SM	A-4	0	0-5	85-100	65-95	50-90	35-80	20-30	NP-5
	60-65	Stratified very gravelly loam to extremely gravelly sand	SM, GM	A-1	0-5	0-10	25-75	10-50	5-45	0-40	0-14	NP
2609												
PIEN Cryaquolls	0-20	Fine sandy loam	SM, SC-SM	A-2-4, A-4	0	0-5	85-100	80-100	55-80	30-50	20-30	NP-10
	20-30	Stratified silt loam to gravelly sandy loam	CL-ML, SC-SM, GC-GM	A-4, A-2-4	0-5	0-15	55-100	50-100	30-95	15-90	20-30	NP-10
	30-60	Stratified gravelly sandy loam to extremely cobbly coarse sand	SM, SP-SM, GP-GM, GM	A-1	0-25	10-65	45-85	40-80	15-55	5-30		NP
3000												
Pits												

For properties of map units 4028 through 4302 refer to the original adjoining soil survey(s).

Physical Properties of the Soils

This table gives estimates of some physical properties that affect soil behavior. The estimates are based on field observations and on laboratory test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given in the ecological type descriptions.

Clay content listed in this table refers to the estimated percentage, by weight, of the mineral particles less than 0.002 mm in diameter in the less than 2 mm fraction. Clay particles are the most chemically and physically active part of mineral soil.

Moist Bulk Density is the oven-dried weight of the less than 2 mm fraction per unit volume. Volume is measured when the soil is at 1/3 bar moisture tension, field capacity. Weight is determined after drying the soil at 105 degrees C. In this table, the estimated moist bulk density of each major soil horizon is expressed in grams per cubic centimeter.

Permeability refers to the ability of a soil to transmit water or air. The estimates indicate the rate, in inches per hour, that water moves downward through the saturated soil. They are based on soil characteristics observed in the field, particularly structure, porosity and texture.

Available Water Capacity refers to the quantity of water that soils are capable of storing for use by plants and is commonly estimated as the amount of water held between field capacity and wilting point. The capacity for water storage is expressed in inches of water per inch of soil for each major soil layer. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Shrink-swell Potential is the potential for volume change in soils with a loss or gain of moisture. Volume change occurs because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. The potential is displayed as low, moderate or high. Low means a change of less than 3 percent; moderate means a change of 3 to 6 percent; and high means a change of greater than 6 percent. The swelling and shrinking associated with a moderate class can damage buildings, roads and other structures. The shrinking associated with a high class can damage plant roots. Shrink-swell potential classes are based on the change in length of an unconfined clod as moisture content is increased from air-dry to field capacity. Laboratory measurements on the swelling of undisturbed clods were made for several soils. For others, swelling was estimated on the basis of the kind and amount of clay minerals in the soils and on measurements of similar soils.

Organic Matter is plant and animal residue in various stages of decomposition. This table lists the estimated percent of organic matter, by weight, in the less than 2 mm fraction

Erosion Factor Kw is a relative value that quantifies the susceptibility of the soils, including rock fragments, to be detached by water. Kw factors are ranked on a scale of 0.02 to 0.64. The higher the value, the more susceptible the soils are to erosion by water.

Erosion Factor Kf is a relative value that quantifies the susceptibility of the less than 2 mm fraction to be detached by water. Rocks and rock fragments are not considered. Kf factors are ranked on a scale of 0.02 to 0.64. The higher the value, the more susceptible the soils are to erosion by water.

Erosion Factor T is a relative value that rates the ability of soils to tolerate loss through erosion while maintaining quality as a medium for plant growth. T factors are ranked on a scale of 1 to 5, with 1 representing a low tolerance and 5 representing a high tolerance.

Wind Erodibility Group indicates the susceptibility of bare mineral soil to wind erosion. Soils are ranked on a scale of 1 to 8, with 1 representing high susceptibility to wind erosion and 8 representing low susceptibility to wind erosion.

Wind Erodibility Index is a relative value that indicates the susceptibility of bare mineral soil to wind erosion. The index has a scale of 0 to 310, with 0 representing low susceptibility to wind erosion and 310 representing high susceptibility to wind erosion.

Physical Properties of the Soils

Ecological Unit Symbol and Ecological Type Name	Depth	Clay	Moist Bulk Density	Permeability	Available Water Capacity	Shrink-Swell Potential	Organic Matter	Erosion Factors			Wind Erodibility Group	Wind Erodibility Index
	inch	pct	g/cc	inch/hr	inch/inch		pct	Kw	Kf	T		
1000												
PICO/VASC Islandpark	0-6	7-12	1.10-1.40	0.60-2.00	0.20-0.24	Low	1.0-6.0	0.32	0.32	5	5	58
	6-36	7-12	1.40-1.50	0.60-2.00	0.20-0.24	Low	0.0-1.0	0.55	0.55			
	36-65	7-16	1.45-1.55	0.60-2.00	0.20-0.24	Low	0.0-0.5	0.55	0.55			
	65-75	24-35	1.45-1.55	0.20-0.60	0.15-0.21	Moderate	0.0-0.5	0.37	0.32			
	75											
PSME/SYAL Potrmound	0-30	10-18	1.00-1.10	2.00-6.00	0.04-0.09	Low	4.0-7.0	0.05	0.37	2	5	56
	30-39	10-18	1.00-1.20	2.00-6.00	0.04-0.09	Low	3.0-6.0	0.05	0.43			
	39											
PICO/ARTRP4 Spliten	0-3	8-16	1.00-1.10	0.60-2.00	0.12-0.15	Low	3.0-6.0	0.24	0.37	1	5	56
	3-12	8-16	1.00-1.20	0.60-2.00	0.12-0.16	Low	2.0-4.0	0.24	0.37			
	12											
1046												
PICO/ARTRP4 Vadnais	0-12	12-16	1.20-1.40	0.60-2.00	0.16-0.19	Low	2.0-4.0	0.43	0.43	2	5	56
	12-30	22-27	1.35-1.50	0.20-0.60	0.17-0.20	Moderate	1.0-3.0	0.49	0.49			
	30											
Rock Outcrop												
1050												
Cinder Cones												
1106												
ABLA/PHMA5 Gany	0-8	12-20	1.05-1.15	0.60-2.00	0.13-0.16	Low	7.0-11.0	0.15	0.24	3	5	56
	8-19	14-22	1.10-1.30	0.60-2.00	0.07-0.10	Low	4.0-7.0	0.05	0.28			
	19-62	10-16	1.10-1.30	0.60-6.00	0.06-0.09	Low	4.0-7.0	0.02	0.17			
PSME/BERE,SYOR2 Fritz	0-5	7-15	1.10-1.30	0.60-2.00	0.13-0.17	Low	2.0-5.0	0.20	0.37	3	6	48
	5-11	7-18	1.15-1.30	0.60-2.00	0.07-0.17	Low	2.0-4.0	0.15	0.37			
	11-39	8-18	1.30-1.50	0.60-2.00	0.04-0.12	Low	0.5-2.0	0.05	0.28			
	39-45	8-18	1.30-1.50	0.60-6.00	0.02-0.10	Low	0.5-2.0	0.05	0.32			
	45											
1110												
ARTRP4/FEID Raynoldson	0-4	8-12	1.30-1.40	0.60-2.00	0.13-0.17	Low	3.0-5.0	0.24	0.37	5	6	48
	4-16	8-12	1.30-1.40	0.60-2.00	0.13-0.17	Low	2.0-4.0	0.24	0.43			
	16-29	8-12	1.30-1.40	0.60-2.00	0.11-0.15	Low	1.0-3.0	0.17	0.43			
	29-44	2-12	1.35-1.50	2.00-6.00	0.04-0.06	Low	0.0-0.5	0.05	0.24			
	44-60	2-6	1.40-1.50	6.00-20.00	0.03-0.05	Low	0.0-0.5	0.02	0.15			
1112												
ABLA/VAGL,PAMY Huckridge	0-5	4-9	1.10-1.40	0.20-0.60	0.19-0.21	Low	1.0-6.0	0.43	0.43	5	5	56
	5-27	4-15	1.20-1.40	0.20-0.60	0.19-0.21	Low	0.0-2.0	0.64	0.64			
	27-48	15-24	1.25-1.35	0.20-0.60	0.19-0.21	Moderate	0.0-1.0	0.55	0.55			
	48-59	20-30	1.25-1.35	0.06-0.60	0.19-0.21	Moderate	0.0-1.0	0.49	0.49			
	59-70	15-27	1.15-1.25	0.20-0.60	0.18-0.20	Low	0.0-0.5	0.49	0.55			
PSME/OSCH Paleborolls	0-14	12-18	1.10-1.30	0.60-2.00	0.19-0.21	Low	2.0-6.0	0.32	0.32	5	5	56
	14-20	10-18	1.15-1.35	0.60-2.00	0.19-0.21	Low	0.5-2.0	0.49	0.49			
	20-31	12-25	1.20-1.40	0.60-2.00	0.19-0.21	Low	0.0-1.0	0.49	0.49			
	31-70	18-35	1.30-1.50	0.20-2.00	0.18-0.21	Moderate	0.0-1.0	0.49	0.49			

Ecological Unit Symbol and Ecological Type Name	Depth	Clay	Moist Bulk Density	Permeability	Available Water Capacity	Shrink-Swell Potential	Organic Matter	Erosion Factors			Wind Erodibility Group	Wind Erodibility Index
	inch	pct	g/cc	inch/hr	inch/inch		pct	Kw	Kf	T		
1123												
ABLA/CARU,CARU Hopburn	0-3	4-12	1.10-1.40	0.60-2.00	0.19-0.21	Low	1.0-6.0	0.32	0.32	5	5	56
	3-21	4-12	1.25-1.50	0.60-2.00	0.16-0.20	Low	0.0-2.0	0.55	0.55			
	21-45	15-27	1.35-1.60	0.20-0.60	0.14-0.18	Low	0.5-1.0	0.43	0.43			
	45-70	7-18	1.30-1.55	0.60-2.00	0.13-0.17	Low	0.0-0.5	0.43	0.43			
PICO/ARTRP4 Vadnais	0-12	12-16	1.20-1.40	0.60-2.00	0.16-0.19	Low	2.0-4.0	0.43	0.43	2	5	56
	12-30	22-27	1.35-1.50	0.20-0.60	0.17-0.20	Moderate	1.0-3.0	0.49	0.49			
	30											
Rock Outcrop												
1125												
ARNO4/AGSP Simeroi	0-3	7-12	1.20-1.30	0.60-2.00	0.11-0.14	Low	1.0-2.0	0.15	0.43	5	6	48
	3-10	7-18	1.20-1.30	0.60-2.00	0.05-0.14	Low	1.0-2.0	0.15	0.43			
	10-60	4-15	1.25-1.45	0.60-6.00	0.02-0.07	Low	0.5-1.0	0.10	0.37			
ARTRP4/FEID Zeale	0-15	15-20	1.20-1.40	0.60-2.00	0.14-0.19	Low	2.0-4.0	0.24	0.43	5	5	56
	15-60	15-25	1.40-1.55	0.60-2.00	0.05-0.12	Low	0.5-2.0	0.15	0.37			
1126												
ARNO4/AGSP Simeroi	0-3	7-12	1.20-1.30	0.60-2.00	0.11-0.14	Low	1.0-2.0	0.15	0.43	5	6	48
	3-10	7-18	1.20-1.30	0.60-2.00	0.05-0.14	Low	1.0-2.0	0.15	0.43			
	10-60	4-15	1.25-1.45	0.60-6.00	0.02-0.07	Low	0.5-1.0	0.10	0.37			
1127												
ARTRW8/ARARA Simeroi	0-2	7-12	1.20-1.30	0.60-2.00	0.14-0.18	Low	1.0-2.0	0.28	0.43	5	5	56
	2-8	7-18	1.20-1.30	0.60-2.00	0.05-0.14	Low	1.0-2.0	0.15	0.43			
	8-60	4-15	1.25-1.45	0.60-6.00	0.02-0.07	Low	0.5-1.0	0.10	0.37			
1128												
ARTRP4/FEID Monida	0-7	10-18	1.10-1.25	0.60-2.00	0.20-0.22	Low	3.0-5.0	0.32	0.32	5	5	56
	7-27	27-35	1.20-1.40	0.20-0.60	0.15-0.21	Moderate	1.0-4.0	0.32	0.32			
	27-38	18-27	1.20-1.40	0.60-2.00	0.14-0.21	Moderate	0.5-2.0	0.37	0.37			
	38-60	12-18	1.25-1.45	0.60-2.00	0.11-0.21	Moderate	0.5-1.0	0.37	0.37			
ARTRP4/FEID Zeale	0-15	15-20	1.20-1.40	0.60-2.00	0.14-0.19	Low	2.0-4.0	0.24	0.43	5	4L	86
	15-60	15-25	1.40-1.55	0.60-2.00	0.05-0.12	Low	0.5-2.0	0.15	0.37			
1129												
PIFL2/LEKI2 Fritz	0-4	7-15	1.10-1.30	0.60-2.00	0.07-0.11	Low	2.0-5.0	0.05	0.20	5	6	48
	4-12	7-18	1.15-1.30	0.60-2.00	0.04-0.12	Low	2.0-4.0	0.10	0.28			
	12-60	8-18	1.30-1.50	0.60-6.00	0.02-0.07	Low	0.5-2.0	0.05	0.32			
PSME/JUCO6 Gany	0-9	12-20	1.05-1.15	0.60-2.00	0.07-0.10	Low	7.0-11.0	0.05	0.24	2	7	38
	9-33	14-22	1.10-1.30	0.60-2.00	0.07-0.10	Low	4.0-7.0	0.05	0.28			
	33-60	10-16	1.10-1.30	0.60-6.00	0.06-0.09	Low	4.0-7.0	0.02	0.17			
1130												
Alpine Graminoid Fritz	0-3	7-15	1.10-1.30	0.60-2.00	0.13-0.17	Low	2.0-5.0	0.10	0.24	5	6	48
	3-12	7-18	1.15-1.30	0.60-2.00	0.04-0.12	Low	2.0-4.0	0.10	0.28			
	12-60	8-18	1.30-1.50	0.60-6.00	0.02-0.07	Low	0.5-2.0	0.05	0.32			
1131												
ARARA/FEID Mountainboy	0-6	10-15	1.35-1.45	0.60-2.00	0.14-0.16	Low	4.0-6.0	0.24	0.43	2	8	
	6-11	10-15	1.35-1.45	0.60-2.00	0.14-0.16	Low	4.0-6.0	0.24	0.43			
	11-16	12-20	1.40-1.45	0.60-2.00	0.11-0.15	Low	3.0-4.0	0.20	0.49			
	16-19	3-5	1.45-1.55	2.00-6.00	0.02-0.04	Low	1.0-2.0	0.10	0.28			
	19-20											
	20-60	5-10	1.55-1.65	> 20.00	0.02-0.04	Low	0.0-0.5	0.05	0.15			

Ecological Unit Symbol and Ecological Type Name	Depth	Clay	Moist Bulk Density	Permeability	Available Water Capacity	Shrink-Swell Potential	Organic Matter	Erosion Factors			Wind Erodibility Group	Wind Erodibility Index
	inch	pct	g/cc	inch/hr	inch/inch		pct	Kw	Kf	T		
1133												
PSME/ARTRV Meegero	0-6	12-18	1.20-1.40	0.60-2.00	0.14-0.16	Low	2.0-4.0	0.17	0.20	2	5	56
	6-18	14-22	1.25-1.40	0.60-2.00	0.11-0.14	Low	2.0-4.0	0.17	0.32			
	18-24	16-26	1.35-1.50	0.60-2.00	0.08-0.09	Low	0.5-2.0	0.10	0.37			
	24-60	12-24	1.40-1.55	0.60-6.00	0.04-0.08	Low	0.0-0.5	0.05	0.37			
ARTRP4/FEID Monida	0-7	10-18	1.10-1.25	0.60-2.00	0.20-0.22	Low	3.0-5.0	0.32	0.32	5	5	56
	7-27	27-35	1.20-1.40	0.20-0.60	0.15-0.21	Moderate	1.0-4.0	0.32	0.32			
	27-38	18-27	1.20-1.40	0.60-2.00	0.14-0.21	Moderate	0.5-2.0	0.37	0.37			
	38-60	12-18	1.25-1.45	0.60-2.00	0.11-0.21	Moderate	0.5-1.0	0.37	0.37			
1140												
ABLA/THOC Nearl	0-4	18-27	1.00-1.20	0.60-2.00	0.15-0.18	Low	4.0-10.0	0.24	0.28	5	6	48
	4-10	20-35	1.05-1.30	0.20-0.60	0.15-0.21	Moderate	2.0-6.0	0.24	0.32			
	10-21	27-40	1.30-1.45	0.20-0.60	0.12-0.18	Moderate	0.5-2.0	0.20	0.32			
	21-60	35-50	1.30-1.45	0.06-0.20	0.14-0.21	High	0.0-0.5	0.43	0.43			
1144												
ABLA/SPBE2 Koffgo	0-8	7-16	1.00-1.25	0.60-2.00	0.11-0.14	Low	1.0-4.0	0.10	0.20	4	5	56
	8-25	7-14	1.25-1.50	0.60-2.00	0.02-0.11	Low	0.5-1.0	0.10	0.28			
	25-45	5-12	1.50-1.60	2.00-6.00	0.01-0.04	Low	0.0-1.0	0.05	0.20			
	45-60											
1145												
ARTRP4/FEID Monida	0-7	10-18	1.10-1.25	0.60-2.00	0.20-0.22	Low	3.0-5.0	0.32	0.32	5	5	56
	7-27	27-35	1.20-1.40	0.20-0.60	0.15-0.21	Moderate	1.0-4.0	0.32	0.32			
	27-38	18-27	1.20-1.40	0.60-2.00	0.14-0.21	Moderate	0.5-2.0	0.37	0.37			
	38-60	12-18	1.25-1.45	0.60-2.00	0.11-0.21	Moderate	0.5-1.0	0.37	0.37			
ARTRP4/FEID Zeebar	0-3	10-16	1.40-1.55	0.60-2.00	0.12-0.14	Low	2.0-3.0	0.17	0.32	5	7	38
	3-13	18-27	1.45-1.55	0.60-2.00	0.09-0.13	Low	1.0-2.0	0.17	0.43			
	13-27	20-30	1.50-1.60	0.20-0.60	0.07-0.12	Low	0.5-1.0	0.15	0.32			
	27-49	25-30	1.50-1.65	0.20-0.60	0.02-0.03	Low	0.0-0.5	0.10	0.32			
	49-60	15-25	1.50-1.65	0.60-2.00	0.02-0.03	Low	0.0-0.5	0.10	0.32			
1146												
ARTRP4/FEID Zeebar	0-3	10-16	1.40-1.55	0.60-2.00	0.12-0.14	Low	2.0-3.0	0.17	0.32	5	7	38
	3-13	18-27	1.45-1.55	0.60-2.00	0.09-0.13	Low	1.0-2.0	0.17	0.43			
	13-27	20-30	1.50-1.60	0.20-0.60	0.07-0.12	Low	0.5-1.0	0.15	0.32			
	27-49	25-30	1.50-1.65	0.20-0.60	0.02-0.03	Low	0.0-0.5	0.10	0.32			
	49-60	15-25	1.50-1.65	0.60-2.00	0.02-0.03	Low	0.0-0.5	0.10	0.32			
1147												
ARTRP4/FEID Zeebar	0-3	10-16	1.40-1.55	0.60-2.00	0.12-0.14	Low	2.0-3.0	0.17	0.32	5	7	38
	3-13	18-27	1.45-1.55	0.60-2.00	0.09-0.13	Low	1.0-2.0	0.17	0.43			
	13-27	20-30	1.50-1.60	0.20-0.60	0.07-0.12	Low	0.5-1.0	0.15	0.32			
	27-49	25-30	1.50-1.65	0.20-0.60	0.02-0.03	Low	0.0-0.5	0.10	0.32			
	49-60	15-25	1.50-1.65	0.60-2.00	0.02-0.03	Low	0.0-0.5	0.10	0.32			
1149												
PSME/CARU,CARU Edgway	0-10	15-24	1.15-1.30	0.60-2.00	0.09-0.13	Low	6.0-11.0	0.15	0.32	5	7	38
	10-15	15-24	1.30-1.40	0.60-2.00	0.09-0.13	Low	2.0-8.0	0.15	0.32			
	15-42	24-34	1.40-1.50	0.20-0.60	0.06-0.15	Moderate	2.0-7.0	0.15	0.37			
	42-60	18-24	1.40-1.50	0.60-2.00	0.04-0.10	Low	2.0-4.0	0.10	0.32			
1150												
ABLA/CARU,CARU Rhylow	0-12	7-15	1.05-1.25	2.00-6.00	0.11-0.14	Low	3.0-7.0	0.17	0.28	5	5	56
	12-31	5-18	1.25-1.50	2.00-6.00	0.05-0.14	Low	0.5-3.0	0.15	0.37			
	31-44	5-12	1.30-1.50	2.00-6.00	0.04-0.09	Low	0.5-2.0	0.05	0.32			
	44-60	4-8	1.30-1.50	2.00-6.00	0.01-0.02	Low	0.0-0.5	0.05	0.32			

Ecological Unit Symbol and Ecological Type Name	Depth	Clay	Moist Bulk Density	Permeability	Available Water Capacity	Shrink-Swell Potential	Organic Matter	Erosion Factors			Wind Erodibility Group	Wind Erodibility Index
	inch	pct	g/cc	inch/hr	inch/inch		pct	Kw	Kf	T		
1150 (con.)												
ABLA/CARU,CARU Fitzwil	0-7	10-14	1.05-1.30	0.60-2.00	0.13-0.17	Low	2.0-6.0	0.15	0.24	4	5	56
	7-14	7-14	1.20-1.40	0.60-2.00	0.08-0.17	Low	1.0-4.0	0.17	0.43			
	14-27	7-12	1.20-1.40	0.60-2.00	0.08-0.14	Low	0.5-1.0	0.20	0.43			
	27-36	12-18	1.25-1.45	0.60-2.00	0.04-0.13	Low	0.0-0.5	0.10	0.43			
	36-60	18-27	1.30-1.50	0.60-2.00	0.03-0.11	Low	0.0-0.5	0.10	0.43			
1154												
PSME/JUCO6 Pikaden	0-5	4-12	1.20-1.30	2.00-6.00	0.04-0.07	Low	2.0-4.0	0.05	0.24	3	7	38
	5-12	2-10	1.30-1.50	2.00-6.00	0.02-0.06	Low	0.5-2.0	0.05	0.43			
	12-27	1-4	1.45-1.60	6.00-20.00	0.01-0.03	Low	0.5-1.0	0.02	0.02			
	27-60			> 20.00		Low	0.0-0.5					
PSME/FEID Pikaden	0-7	4-10	1.20-1.30	2.00-6.00	0.03-0.05	Low	2.0-4.0	0.02	0.15	3	6	48
	7-17	2-10	1.30-1.50	2.00-6.00	0.02-0.06	Low	0.5-2.0	0.05	0.43			
	17-30	1-4	1.45-1.60	6.00-20.00	0.01-0.03	Low	0.5-1.0	0.02	0.02			
	30-60			> 20.00		Low	0.0-0.5					
Rubble Land												
1170												
ABLA/Tall Forb Yodal	0-3	12-22	1.10-1.25	0.60-2.00	0.10-0.15	Low	3.0-6.0	0.15	0.28	5	5	56
	3-17	15-25	1.15-1.30	0.60-2.00	0.10-0.19	Low	2.0-5.0	0.20	0.32			
	17-38	18-27	1.25-1.40	0.60-2.00	0.10-0.17	Low	1.0-3.0	0.24	0.43			
	38-55	15-25	1.40-1.50	0.60-2.00	0.06-0.12	Low	0.0-1.0	0.17	0.49			
	55-70	40-60	1.40-1.50	0.06-0.20	0.12-0.16	High	0.0-1.0	0.20	0.20			
1172												
ABLA/ACGL Gany	0-12	12-20	1.05-1.15	0.60-2.00	0.07-0.10	Low	7.0-11.0	0.05	0.24	2	7	38
	12-48	14-22	1.10-1.30	0.60-2.00	0.07-0.10	Low	4.0-7.0	0.05	0.28			
	48-60	10-16	1.10-1.30	0.60-6.00	0.06-0.09	Low	4.0-7.0	0.02	0.17			
ABLA/THOC Katpa	0-7	10-16	1.15-1.30	0.60-2.00	0.12-0.18	Low	2.0-5.0	0.15	0.28	3	5	56
	7-16	12-18	1.15-1.30	0.60-2.00	0.08-0.18	Low	2.0-5.0	0.15	0.32			
	16-32	10-18	1.25-1.40	0.60-2.00	0.05-0.12	Low	1.0-3.0	0.10	0.37			
	32-60	4-16	1.30-1.50	0.60-6.00	0.02-0.07	Low	0.5-2.0	0.05	0.32			
PSME/BERE,SYOR2 Fritz	0-5	7-15	1.10-1.30	0.60-2.00	0.13-0.17	Low	2.0-5.0	0.20	0.37	3	6	48
	5-11	7-18	1.15-1.30	0.60-2.00	0.07-0.17	Low	2.0-4.0	0.15	0.37			
	11-39	8-18	1.30-1.50	0.60-2.00	0.04-0.12	Low	0.5-2.0	0.05	0.28			
	39-45	8-18	1.30-1.50	0.60-6.00	0.02-0.10	Low	0.5-2.0	0.05	0.32			
	45											
1175												
ABLA/Tall Forb Yodal	0-3	12-22	1.10-1.25	0.60-2.00	0.10-0.15	Low	3.0-6.0	0.15	0.28	5	5	56
	3-17	15-25	1.15-1.30	0.60-2.00	0.10-0.19	Low	2.0-5.0	0.20	0.32			
	17-38	18-27	1.25-1.40	0.60-2.00	0.10-0.17	Low	1.0-3.0	0.24	0.43			
	38-55	15-25	1.40-1.50	0.60-2.00	0.06-0.12	Low	0.0-1.0	0.17	0.49			
	55-70	40-60	1.40-1.50	0.06-0.20	0.12-0.16	High	0.0-1.0	0.20	0.20			
1204												
PSME/ARTRV Povey	0-27	8-18	1.30-1.45	0.60-2.00	0.12-0.14	Low	4.0-10.0	0.20	0.32	5	7	38
	27-39	10-20	1.30-1.45	0.60-2.00	0.06-0.11	Low	2.0-6.0	0.15	0.32			
	39-60	8-18	1.30-1.45	0.60-2.00	0.06-0.08	Low	0.5-2.0	0.15	0.32			
1209												
Tall Forb Etnass	0-15	30-40	1.15-1.25	0.20-0.60	0.18-0.21	Moderate	3.0-5.0	0.17	0.17	5	4	86
	15-28	40-60	1.25-1.50	0.06-0.20	0.14-0.17	High	0.5-3.0	0.28	0.28			
	28-43	40-60	1.30-1.50	0.06-0.20	0.10-0.17	High	0.0-2.0	0.28	0.28			
	43-60	35-50	1.40-1.50	0.06-0.60	0.08-0.14	High	0.0-1.0	0.32	0.32			

Ecological Unit Symbol and Ecological Type Name	Depth	Clay	Moist Bulk Density	Permeability	Available Water Capacity	Shrink-Swell Potential	Organic Matter	Erosion Factors			Wind Erodibility Group	Wind Erodibility Index
	inch	pct	g/cc	inch/hr	inch/inch		pct	Kw	Kf	T		
1209 (con.)												
ABLA/THOC Nearl	0-4	18-27	1.00-1.20	0.60-2.00	0.15-0.18	Low	4.0-10.0	0.24	0.28	5	6	48
	4-10	20-35	1.05-1.30	0.20-0.60	0.15-0.21	Moderate	2.0-6.0	0.24	0.32			
	10-21	27-40	1.30-1.45	0.20-0.60	0.12-0.18	Moderate	0.5-2.0	0.20	0.32			
	21-60	35-50	1.30-1.45	0.06-0.20	0.14-0.21	High	0.0-0.5	0.43	0.43			
PSME/ARTRV Tophat	0-7	20-27	1.05-1.20	0.60-2.00	0.10-0.15	Moderate	4.0-7.0	0.17	0.28	5	6	48
	7-17	27-40	1.15-1.30	0.20-0.60	0.12-0.20	High	2.0-5.0	0.24	0.37			
	17-34	35-50	1.25-1.50	0.06-0.20	0.10-0.20	High	0.5-3.0	0.24	0.37			
	34-60	27-40	1.40-1.50	0.06-0.60	0.08-0.18	High	0.0-1.0	0.17	0.43			
1216												
ABLA/ACGL Koffgo	0-9	7-16	1.00-1.25	0.60-2.00	0.11-0.14	Low	1.0-4.0	0.10	0.20	4	5	56
	9-16	7-14	1.25-1.50	0.60-2.00	0.02-0.11	Low	0.5-1.0	0.10	0.28			
	16-54	5-12	1.40-1.55	2.00-6.00	0.01-0.04	Low	0.0-1.0	0.05	0.20			
	54-60											
ABLA/ACGL Rhylow	0-14	7-15	1.05-1.25	2.00-6.00	0.07-0.11	Low	3.0-7.0	0.10	0.28	5	6	48
	14-30	5-18	1.25-1.50	2.00-6.00	0.05-0.14	Low	0.5-3.0	0.15	0.37			
	30-50	5-12	1.30-1.50	2.00-6.00	0.04-0.09	Low	0.5-2.0	0.05	0.32			
	50-60	4-8	1.30-1.50	2.00-6.00	0.01-0.02	Low	0.0-0.5	0.05	0.32			
PSME/ARTRV Povey	0-27	8-18	1.30-1.45	0.60-2.00	0.12-0.14	Low	4.0-10.0	0.20	0.32	5	7	38
	27-39	10-20	1.30-1.45	0.60-2.00	0.06-0.11	Low	2.0-6.0	0.15	0.32			
	39-60	8-18	1.30-1.45	0.60-2.00	0.06-0.08	Low	0.5-2.0	0.15	0.32			
1219												
ABLA/PHMA5 Lagall	0-10	10-16	1.05-1.25	0.60-2.00	0.12-0.16	Low	3.0-10.0	0.15	0.24	5	5	56
	10-30	7-14	1.25-1.40	2.00-6.00	0.02-0.11	Low	0.5-3.0	0.10	0.28			
	30-60	5-12	1.25-1.40	2.00-6.00	0.01-0.04	Low	0.0-1.0	0.05	0.28			
PSME/ARTRV Povey	0-27	8-18	1.30-1.45	0.60-2.00	0.12-0.14	Low	4.0-10.0	0.20	0.32	5	7	38
	27-39	10-20	1.30-1.45	0.60-2.00	0.06-0.11	Low	2.0-6.0	0.15	0.32			
	39-60	8-18	1.30-1.45	0.60-2.00	0.06-0.08	Low	0.5-2.0	0.15	0.32			
PSME/BERE,SYOR2 Fritz	0-5	7-15	1.10-1.30	0.60-2.00	0.13-0.17	Low	2.0-5.0	0.20	0.37	3	6	48
	5-11	7-18	1.15-1.30	0.60-2.00	0.07-0.17	Low	2.0-4.0	0.15	0.37			
	11-39	8-18	1.30-1.50	0.60-2.00	0.04-0.12	Low	0.5-2.0	0.05	0.28			
	39-45	8-18	1.30-1.50	0.60-6.00	0.02-0.10	Low	0.5-2.0	0.05	0.32			
	45											
1222												
ABLA/ACGL Koffgo	0-9	7-16	1.00-1.25	0.60-2.00	0.11-0.14	Low	1.0-4.0	0.10	0.20	4	5	56
	9-16	7-14	1.25-1.50	0.60-2.00	0.02-0.11	Low	0.5-1.0	0.10	0.28			
	16-54	5-12	1.40-1.55	2.00-6.00	0.01-0.04	Low	0.0-1.0	0.05	0.20			
	54-60											
PSME/SYAL Lagall	0-7	10-16	1.05-1.25	0.60-2.00	0.12-0.16	Low	3.0-10.0	0.15	0.24	5	5	56
	7-15	10-16	1.05-1.25	0.60-2.00	0.08-0.12	Low	3.0-10.0	0.10	0.24			
	15-23	7-14	1.25-1.40	2.00-6.00	0.02-0.11	Low	0.5-3.0	0.10	0.28			
	23-60	5-12	1.25-1.40	2.00-6.00	0.01-0.04	Low	0.0-1.0	0.05	0.28			
ABLA/ACGL Rhylow	0-14	7-15	1.05-1.25	2.00-6.00	0.07-0.11	Low	3.0-7.0	0.10	0.28	5	6	48
	14-30	5-18	1.25-1.50	2.00-6.00	0.05-0.14	Low	0.5-3.0	0.15	0.37			
	30-50	5-12	1.30-1.50	2.00-6.00	0.04-0.09	Low	0.5-2.0	0.05	0.32			
	50-60	4-8	1.30-1.50	2.00-6.00	0.01-0.02	Low	0.0-0.5	0.05	0.32			

Ecological Unit Symbol and Ecological Type Name	Depth	Clay	Moist Bulk Density	Permeability	Available Water Capacity	Shrink-Swell Potential	Organic Matter	Erosion Factors			Wind Erodibility Group	Wind Erodibility Index
	inch	pct	g/cc	inch/hr	inch/inch		pct	Kw	Kf	T		
1224												
ABLA/VAGL,PAMY Huckridge	0-5	4-9	1.10-1.40	0.20-0.60	0.19-0.21	Low	1.0-6.0	0.43	0.43	5	5	56
	5-27	4-15	1.20-1.40	0.20-0.60	0.19-0.21	Low	0.0-2.0	0.64	0.64			
	27-48	15-24	1.25-1.35	0.20-0.60	0.19-0.21	Moderate	0.0-1.0	0.55	0.55			
	48-59	20-30	1.25-1.35	0.06-0.60	0.19-0.21	Moderate	0.0-1.0	0.49	0.49			
	59-70	15-27	1.15-1.25	0.20-0.60	0.18-0.20	Low	0.0-0.5	0.49	0.55			
ABLA/VAGL,PAMY Koffgo	0-7	7-16	1.00-1.25	0.60-2.00	0.13-0.18	Low	1.0-4.0	0.28	0.43	4	5	56
	7-16	8-12	1.25-1.50	0.60-2.00	0.08-0.17	Low	0.5-1.0	0.28	0.55			
	16-55	4-8	1.50-1.60	2.00-6.00	0.08-0.10	Low	0.0-0.5	0.02	0.32			
	55-60											
PSME/ARTRV Povey	0-27	8-18	1.30-1.45	0.60-2.00	0.12-0.14	Low	4.0-10.0	0.20	0.32	5	7	38
	27-39	10-20	1.30-1.45	0.60-2.00	0.06-0.11	Low	2.0-6.0	0.15	0.32			
	39-60	8-18	1.30-1.45	0.60-2.00	0.06-0.08	Low	0.5-2.0	0.15	0.32			
1225												
PIAL Lasac	0-6		1.10-1.30	2.00-6.00	0.15-0.20	Low	0.5-1.0	0.24	0.37	5	2	134
	6-10		1.10-1.30	2.00-20.00	0.12-0.24	Low	0.5-1.0	0.10	0.32			
	10-17		1.40-1.60	6.00-20.00	0.04-0.06	Low	0.0-0.5	0.05	0.17			
	17-60		1.40-1.60	> 20.00	0.01-0.04	Low	0.0-0.5	0.02	0.05			
ABLA/VASC,VASC Castan	0-11		0.90-1.10	2.00-6.00	0.15-0.20	Low	2.0-6.0	0.15	0.24	3	2	134
	11-16		1.10-1.30	2.00-6.00	0.15-0.20	Low	2.0-5.0	0.17	0.32			
	16-49		1.40-1.60	2.00-20.00	0.08-0.15	Low	0.5-2.0	0.10	0.37			
	49-60		1.40-1.60	6.00-20.00	0.04-0.06	Low	0.0-0.5	0.02	0.05			
1228												
PSME/CARU,CARU Nopla	0-14	7-14	1.00-1.20	0.60-2.00	0.17-0.21	Low	4.0-7.0	0.32	0.32	5	5	56
	14-24	7-14	1.10-1.30	0.60-2.00	0.14-0.20	Low	2.0-5.0	0.32	0.32			
	24-39	16-27	1.30-1.45	0.60-2.00	0.12-0.19	Low	0.5-2.0	0.28	0.37			
	39-54	20-35	1.35-1.50	0.20-0.60	0.07-0.16	Moderate	0.5-1.0	0.15	0.37			
	54-75	18-27	1.25-1.45	0.60-2.00	0.11-0.19	Low	0.0-0.5	0.32	0.43			
1230												
PSME/SPBE2,CARU Vitricryands	0-8		1.10-1.30	2.00-6.00	0.14-0.18	Low	0.5-2.0	0.20	0.32	3	2	134
	8-19		1.10-1.30	2.00-6.00	0.12-0.20	Low	0.5-1.0	0.17	0.32			
	19-30		1.40-1.60	2.00-20.00	0.04-0.06	Low	0.0-0.5	0.10	0.24			
	30-60		1.40-1.60	> 20.00	0.01-0.04	Low	0.0-0.5	0.10	0.24			
1250												
PSME/ARTRV Povey	0-27	8-18	1.30-1.45	0.60-2.00	0.12-0.14	Low	4.0-10.0	0.20	0.32	5	7	38
	27-39	10-20	1.30-1.45	0.60-2.00	0.06-0.11	Low	2.0-6.0	0.15	0.32			
	39-60	8-18	1.30-1.45	0.60-2.00	0.06-0.08	Low	0.5-2.0	0.15	0.32			
1270												
ABLA/ARTRS2 Cryumbrepts	0-5	7-18	1.05-1.25	0.60-2.00	0.15-0.18	Low	3.0-7.0	0.17	0.20	2	5	56
	5-20	7-18	1.15-1.40	0.60-2.00	0.11-0.19	Low	1.0-4.0	0.15	0.24			
	20-31	4-15	1.25-1.50	0.60-6.00	0.02-0.10	Low	0.5-3.0	0.05	0.32			
	31-35											
	35											
Rock Outcrop												
1280												
Rubble Land												
Low Alpine Forb Cryochrepts, loamy-skeletal	0-2	4-12	1.30-1.50	2.00-6.00	0.02-0.06	Low	0.5-2.0	0.05	0.32	2	6	48
	2-8	4-15	1.30-1.50	2.00-6.00	0.05-0.10	Low	0.5-2.0	0.10	0.32			
	8-36	2-15	1.30-1.50	2.00-6.00	0.01-0.05	Low	0.0-1.0	0.02	0.24			
	36											

Ecological Unit Symbol and Ecological Type Name	Depth	Clay	Moist Bulk Density	Permeability	Available Water Capacity	Shrink-Swell Potential	Organic Matter	Erosion Factors			Wind Erodibility Group	Wind Erodibility Index
	inch	pct	g/cc	inch/hr	inch/inch		pct	Kw	Kf	T		
1280 (con.)												
Rock Outcrop												
1294												
ARTRP4/SYOR2/FEID Tetonia	0-7	13-17	1.45-1.55	0.60-2.00	0.19-0.21	Low	2.0-4.0	0.37	0.37	5	5	56
	7-22	12-18	1.50-1.60	0.60-2.00	0.19-0.21	Low	1.0-3.0	0.43	0.43			
	22-60	12-18	1.50-1.60	0.60-2.00	0.17-0.19	Low	0.0-0.5	0.49	0.49			
PSME/OSCH Rin	0-29	6-18	1.50-1.60	0.60-2.00	0.19-0.21	Low	2.0-4.0	0.43	0.43	5	5	56
	29-60	10-18	1.50-1.60	0.60-2.00	0.19-0.21	Low	0.5-1.0	0.49	0.49			
1303												
ABLA/OSCH,PAMY Edgway	0-11	15-24	1.10-1.25	0.60-2.00	0.17-0.21	Low	3.0-8.0	0.32	0.32	5	5	56
	11-19	15-24	1.20-1.40	0.60-2.00	0.15-0.20	Low	0.5-3.0	0.37	0.43			
	19-60	24-34	1.40-1.50	0.20-2.00	0.07-0.13	Moderate	0.5-1.0	0.15	0.37			
ABLA/THOC Jumpstart	0-9	12-27	1.00-1.20	0.60-2.00	0.17-0.21	Low	2.0-6.0	0.24	0.24	5	5	56
	9-15	18-27	1.30-1.45	0.60-2.00	0.16-0.21	Low	0.5-2.0	0.37	0.37			
	15-43	35-55	1.30-1.45	0.06-0.20	0.15-0.20	High	0.5-2.0	0.32	0.32			
	43-60	30-45	1.30-1.40	0.06-0.20	0.10-0.20	High	0.0-1.0	0.32	0.32			
PSME/ARTRV Tophat	0-7	20-27	1.05-1.20	0.60-2.00	0.10-0.15	Moderate	4.0-7.0	0.17	0.28	5	6	48
	7-17	27-40	1.15-1.30	0.20-0.60	0.12-0.20	High	2.0-5.0	0.24	0.37			
	17-34	35-50	1.25-1.50	0.06-0.20	0.10-0.20	High	0.5-3.0	0.24	0.37			
	34-60	27-40	1.40-1.50	0.06-0.60	0.08-0.18	High	0.0-1.0	0.17	0.43			
1307												
ABLA/VAGL,PAMY Huckridge	0-5	4-9	1.10-1.40	0.20-0.60	0.19-0.21	Low	1.0-6.0	0.43	0.43	5	5	56
	5-27	4-15	1.20-1.40	0.20-0.60	0.19-0.21	Low	0.0-2.0	0.64	0.64			
	27-48	15-24	1.25-1.35	0.20-0.60	0.19-0.21	Moderate	0.0-1.0	0.55	0.55			
	48-59	20-30	1.25-1.35	0.06-0.60	0.19-0.21	Moderate	0.0-1.0	0.49	0.49			
	59-70	15-27	1.15-1.25	0.20-0.60	0.18-0.20	Low	0.0-0.5	0.49	0.55			
1313												
ARTRP4/FEID Cryoborolls	0-15	12-16	1.05-1.25	0.60-2.00	0.12-0.18	Low	3.0-6.0	0.24	0.37	3	5	56
	15-38	15-18	1.30-1.50	0.60-2.00	0.07-0.10	Low	0.5-2.0	0.10	0.43			
	38-53	7-16	1.40-1.60	0.60-6.00	0.04-0.07	Low	0.0-0.5	0.05	0.43			
	53-60	2-10	1.45-1.65	2.00-6.00	0.03-0.05	Low	0.0-0.0	0.10	0.28			
1315												
ABLA/OSCH,PAMY Edgway	0-11	15-24	1.10-1.25	0.60-2.00	0.17-0.21	Low	3.0-8.0	0.32	0.32	5	5	56
	11-19	15-24	1.20-1.40	0.60-2.00	0.15-0.20	Low	0.5-3.0	0.37	0.43			
	19-60	24-34	1.40-1.50	0.20-2.00	0.07-0.13	Moderate	0.5-1.0	0.15	0.37			
ABLA/VAGL,PAMY Koffgo	0-7	7-16	1.00-1.25	0.60-2.00	0.13-0.18	Low	1.0-4.0	0.28	0.43	4	5	56
	7-16	8-12	1.25-1.50	0.60-2.00	0.08-0.17	Low	0.5-1.0	0.28	0.55			
	16-55	4-8	1.50-1.60	2.00-6.00	0.08-0.10	Low	0.0-0.5	0.02	0.32			
	55-60											
PSME/ARTRV Povey	0-27	8-18	1.30-1.45	0.60-2.00	0.12-0.14	Low	4.0-10.0	0.20	0.32	5	7	38
	27-39	10-20	1.30-1.45	0.60-2.00	0.06-0.11	Low	2.0-6.0	0.15	0.32			
	39-60	8-18	1.30-1.45	0.60-2.00	0.06-0.08	Low	0.5-2.0	0.15	0.32			
1316												
ABLA/VAGL,PAMY Koffgo	0-7	7-16	1.00-1.25	0.60-2.00	0.13-0.18	Low	1.0-4.0	0.28	0.43	4	5	56
	7-16	8-12	1.25-1.50	0.60-2.00	0.08-0.17	Low	0.5-1.0	0.28	0.55			
	16-55	4-8	1.50-1.60	2.00-6.00	0.08-0.10	Low	0.0-0.5	0.02	0.32			
	55-60											
ABLA/THOC Koffgo	0-2	7-16	1.00-1.25	0.60-2.00	0.11-0.14	Low	1.0-4.0	0.10	0.20	4	5	56
	2-24	7-14	1.25-1.50	0.60-2.00	0.02-0.11	Low	0.5-1.0	0.10	0.28			
	24-45	5-12	1.40-1.55	2.00-6.00	0.01-0.04	Low	0.0-1.0	0.05	0.20			
	45-60											

Ecological Unit Symbol and Ecological Type Name	Depth	Clay	Moist Bulk Density	Permeability	Available Water Capacity	Shrink-Swell Potential	Organic Matter	Erosion Factors			Wind Erodibility Group	Wind Erodibility Index
	inch	pct	g/cc	inch/hr	inch/inch		pct	Kw	Kf	T		
1316 (con.)												
Rock Outcrop												
1331												
Low Alpine Forb Oorang	0-4	7-27	1.30-1.50	0.60-2.00	0.02-0.07	Low	0.5-2.0	0.10	0.43	2	8	
	4-12	7-27	1.30-1.50	0.60-2.00	0.01-0.07	Low	0.5-2.0	0.10	0.43			
	12-41											
	41											
Rubble Land												
1332												
ARTRP4/FEID Quirt	0-7	15-27	1.15-1.30	0.60-2.00	0.19-0.21	Low	2.0-5.0	0.43	0.43	5	5	56
	7-18	35-45	1.25-1.50	0.06-0.60	0.17-0.20	High	0.5-3.0	0.28	0.28			
	18-28	35-50	1.30-1.50	0.06-0.60	0.17-0.20	High	0.5-2.0	0.28	0.28			
	28-50	30-40	1.40-1.50	0.20-0.60	0.17-0.20	Moderate	0.0-1.0	0.43	0.43			
	50-60	27-40	1.45-1.50	0.20-0.60	0.08-0.18	Moderate	0.0-0.5	0.43	0.43			
1333												
ARTRP4/FEID Quirt	0-7	15-27	1.15-1.30	0.60-2.00	0.19-0.21	Low	2.0-5.0	0.43	0.43	5	5	56
	7-18	35-45	1.25-1.50	0.06-0.60	0.17-0.20	High	0.5-3.0	0.28	0.28			
	18-28	35-50	1.30-1.50	0.06-0.60	0.17-0.20	High	0.5-2.0	0.28	0.28			
	28-50	30-40	1.40-1.50	0.20-0.60	0.17-0.20	Moderate	0.0-1.0	0.43	0.43			
	50-60	27-40	1.45-1.50	0.20-0.60	0.08-0.18	Moderate	0.0-0.5	0.43	0.43			
ARTRP4/SYOR2/FEID Tetonia	0-7	13-17	1.45-1.55	0.60-2.00	0.19-0.21	Low	2.0-4.0	0.37	0.37	5	5	56
	7-22	12-18	1.50-1.60	0.60-2.00	0.19-0.21	Low	1.0-3.0	0.43	0.43			
	22-60	12-18	1.50-1.60	0.60-2.00	0.17-0.19	Low	0.0-0.5	0.49	0.49			
1400												
ARTRP4/ARART Trude	0-8	6-14	1.25-1.40	2.00-6.00	0.07-0.11	Low	1.0-3.0	0.20	0.32	3	3	86
	8-21	6-16	1.40-1.50	2.00-6.00	0.10-0.15	Low	0.5-1.0	0.17	0.32			
	21-60	0-6	1.45-1.55	> 20.00	0.01-0.06	Low	0.0-0.5	0.02	0.05			
1401												
ARTRP4/ARART Trude	0-8	6-14	1.25-1.40	2.00-6.00	0.07-0.11	Low	1.0-3.0	0.20	0.32	3	3	86
	8-21	6-16	1.40-1.50	2.00-6.00	0.10-0.15	Low	0.5-1.0	0.17	0.32			
	21-60	0-6	1.45-1.55	> 20.00	0.01-0.06	Low	0.0-0.5	0.02	0.05			
ABLA/CACA4,CACA4 Bootjack	0-3	18-25	1.20-1.45	0.20-0.60	0.19-0.24	Low	0.5-1.0	0.49	0.49	2	6	48
	3-15	18-32	1.30-1.45	0.20-0.60	0.16-0.21	Low	0.0-0.5	0.49	0.49			
	15-60	3-8	1.60-1.70	> 20.00	0.03-0.07	Low	0.0-0.5	0.05	0.10			
1414												
ABLA/VASC,PIAL Winegar	0-4		0.90-1.10	2.00-6.00	0.20-0.24	Low	3.0-6.0	0.24	0.24	4	5	56
	4-25		1.00-1.30	2.00-6.00	0.15-0.23	Low	0.5-3.0	0.24	0.24			
	25-35		1.30-1.50	2.00-6.00	0.08-0.14	Low	0.5-1.0	0.10	0.28			
	35-60		1.80-2.10	0.20-0.60	0.00-0.00	Low	0.0-0.0	0.10	0.15			
CALE4 Oxyaquic Cryochrepts	0-5	7-16	1.20-1.40	0.60-2.00	0.20-0.24	Low	1.0-4.0	0.43	0.43	3	5	56
	5-38	7-18	1.30-1.50	0.60-2.00	0.12-0.21	Low	0.5-2.0	0.32	0.49			
	38-60	4-12	1.40-1.60	2.00-6.00	0.02-0.08	Low	0.0-1.0	0.15	0.43			
Rock Outcrop												
1430												
PSME/SYOR2 Kyway	0-18	10-14	1.20-1.35	2.00-6.00	0.15-0.24	Low	2.0-4.0	0.28	0.37	2	5	56
	18-32	10-14	1.35-1.40	2.00-6.00	0.15-0.24	Low	1.0-2.0	0.32	0.43			
	32											

Ecological Unit Symbol and Ecological Type Name	Depth	Clay	Moist Bulk Density	Permeability	Available Water Capacity	Shrink-Swell Potential	Organic Matter	Erosion Factors			Wind Erodibility Group	Wind Erodibility Index
	inch	pct	g/cc	inch/hr	inch/inch		pct	Kw	Kf	T		
1505												
ARTRP4/SYOR2/FEID Tetonia	0-7	13-17	1.45-1.55	0.60-2.00	0.19-0.21	Low	2.0-4.0	0.37	0.37	5	5	56
	7-22	12-18	1.50-1.60	0.60-2.00	0.19-0.21	Low	1.0-3.0	0.43	0.43			
	22-60	12-18	1.50-1.60	0.60-2.00	0.17-0.19	Low	0.0-0.5	0.49	0.49			
1506												
PSME/SYAL Lagall, till substratum	0-14	8-16	1.00-1.25	0.60-2.00	0.17-0.20	Low	3.0-10.0	0.17	0.24	3	5	56
	14-35	10-18	1.25-1.40	0.60-2.00	0.07-0.17	Low	0.5-3.0	0.10	0.32			
	35-48	8-12	1.30-1.40	2.00-6.00	0.05-0.11	Low	0.0-2.0	0.10	0.32			
	48-60	4-10	1.30-1.40	2.00-6.00	0.05-0.08	Low	0.0-0.5	0.10	0.28			
1507												
ARTRT/AGSP Buist	0-10	12-18	1.20-1.30	0.60-2.00	0.12-0.18	Moderate	2.0-4.0	0.24	0.37	3	6	48
	10-32	7-18	1.30-1.50	0.60-2.00	0.08-0.14	Moderate	0.5-2.0	0.15	0.37			
	32-60	7-15	1.30-1.50	2.00-6.00	0.05-0.11	Moderate	0.5-2.0	0.10	0.32			
ABLA/PHMA5 Lagall	0-10	10-16	1.05-1.25	0.60-2.00	0.12-0.16	Low	3.0-10.0	0.15	0.24	5	5	56
	10-30	7-14	1.25-1.40	2.00-6.00	0.02-0.11	Low	0.5-3.0	0.10	0.28			
	30-60	5-12	1.25-1.40	2.00-6.00	0.01-0.04	Low	0.0-1.0	0.05	0.28			
1516												
ABLA/VAGL,VAGL Winegar	0-4		0.90-1.10	2.00-6.00	0.20-0.24	Low	3.0-6.0	0.24	0.24	4	5	56
	4-26		1.00-1.30	2.00-6.00	0.15-0.23	Low	0.5-3.0	0.24	0.24			
	26-38		1.30-1.50	2.00-6.00	0.08-0.14	Low	0.5-1.0	0.10	0.28			
	38-60		1.80-2.10	0.20-0.60	0.00-0.00	Low	0.0-0.0	0.10	0.15			
ABLA/VASC,CARU Bradco	0-10		0.90-1.10	2.00-6.00	0.20-0.24	Low	3.0-6.0	0.17	0.17	4	3	86
	10-18		1.00-1.30	2.00-6.00	0.12-0.20	Low	2.0-4.0	0.24	0.28			
	18-29		1.10-1.30	2.00-6.00	0.10-0.20	Low	0.5-2.0	0.17	0.28			
	29-36		1.30-1.50	2.00-6.00	0.08-0.14	Low	0.0-1.0	0.15	0.28			
	36-60		1.80-2.10	0.20-0.60	0.00-0.00	Low	0.0-0.0	0.10	0.15			
1570												
ABLA/VASC,VASC Dashiki	0-9		0.90-1.10	2.00-6.00	0.23-0.25	Low	2.0-6.0	0.24	0.24	3	2	134
	9-31		1.10-1.30	2.00-6.00	0.16-0.24	Low	0.5-2.0	0.32	0.43			
	31-37		1.40-1.60	6.00-20.00	0.04-0.06	Low	0.0-0.5	0.05	0.17			
	37-75		1.40-1.60	> 20.00	0.01-0.04	Low	0.0-0.5	0.02	0.05			
PIAL/CARO5,PICO Lasac	0-6		1.10-1.30	2.00-6.00	0.14-0.18	Low	0.5-1.0	0.20	0.32	5	2	134
	6-12		1.10-1.30	2.00-20.00	0.12-0.24	Low	0.5-1.0	0.10	0.32			
	12-20		1.40-1.60	6.00-20.00	0.04-0.06	Low	0.0-0.5	0.05	0.17			
	20-60		1.40-1.60	> 20.00	0.01-0.04	Low	0.0-0.5	0.02	0.05			
1573												
ABLA/VASC Oleo	0-2		1.25-1.35	2.00-6.00	0.21-0.25	Low	2.0-6.0	0.24	0.24	5	2	134
	2-10		1.35-1.65	2.00-6.00	0.20-0.25	Low	2.0-5.0	0.24	0.28			
	10-28		1.50-1.70	2.00-6.00	0.17-0.22	Low	0.5-2.0	0.32	0.43			
	28-60		1.50-1.70	2.00-6.00	0.15-0.20	Low	0.5-1.0	0.24	0.43			
PIAL/CARO5,PICO Lasac	0-6		1.10-1.30	2.00-6.00	0.14-0.18	Low	0.5-1.0	0.20	0.32	5	2	134
	6-12		1.10-1.30	2.00-20.00	0.12-0.24	Low	0.5-1.0	0.10	0.32			
	12-20		1.40-1.60	6.00-20.00	0.04-0.06	Low	0.0-0.5	0.05	0.17			
	20-60		1.40-1.60	20.00	0.01-0.04	Low	0.0-0.5	0.02	0.05			
1575												
ABLA/CARU,CARU Koffgo	0-6	7-16	1.00-1.25	0.60-2.00	0.16-0.21	Low	1.0-4.0	0.28	0.32	4	5	56
	6-18	8-12	1.25-1.50	0.60-2.00	0.08-0.17	Low	0.5-1.0	0.28	0.55			
	18-52	4-8	1.50-1.60	2.00-6.00	0.08-0.10	Low	0.0-0.5	0.02	0.32			
	52-70											

Ecological Unit Symbol and Ecological Type Name	Depth	Clay	Moist Bulk Density	Permeability	Available Water Capacity	Shrink-Swell Potential	Organic Matter	Erosion Factors			Wind Erodibility Group	Wind Erodibility Index
	inch	pct	g/cc	inch/hr	inch/inch		pct	Kw	Kf	T		
1575 (con.)												
ABLA/VAGL,VAGL Koffgo	0-4	7-16	1.00-1.25	0.60-2.00	0.11-0.14	Low	1.0-4.0	0.10	0.20	4	5	56
	4-27	7-14	1.25-1.50	0.60-2.00	0.02-0.11	Low	0.5-1.0	0.10	0.28			
	27-41	5-12	1.50-1.60	2.00-6.00	0.01-0.04	Low	0.0-1.0	0.05	0.20			
	41-60											
1576												
ABLA/ARCO9,ARCO9 Fitzwil	0-3	7-18	1.05-1.30	0.60-2.00	0.16-0.21	Low	2.0-6.0	0.24	0.28	3	5	56
	3-10	7-18	1.15-1.40	0.60-2.00	0.08-0.18	Low	1.0-4.0	0.15	0.28			
	10-14	7-18	1.25-1.50	0.60-2.00	0.05-0.14	Low	0.5-1.0	0.15	0.49			
	14-25	12-18	1.25-1.50	0.60-2.00	0.03-0.12	Low	0.0-0.5	0.10	0.37			
	25-60	18-27	1.30-1.55	0.60-2.00	0.03-0.12	Low	0.0-0.5	0.10	0.28			
PIAL/ARTRP4 Fitzwil	0-5	7-18	1.05-1.30	0.60-2.00	0.16-0.21	Low	2.0-6.0	0.24	0.28	3	5	56
	5-10	7-18	1.15-1.40	0.60-2.00	0.08-0.18	Low	1.0-4.0	0.15	0.28			
	10-17	7-18	1.25-1.50	0.60-2.00	0.05-0.14	Low	0.5-1.0	0.15	0.49			
	17-26	12-18	1.25-1.50	0.60-2.00	0.03-0.12	Low	0.0-0.5	0.10	0.37			
	26-60	18-27	1.30-1.55	0.60-2.00	0.03-0.12	Low	0.0-0.5	0.10	0.28			
1585												
ABLA/VASC,CARU Rhylow	0-14	7-15	1.05-1.25	2.00-6.00	0.11-0.14	Low	3.0-7.0	0.17	0.28	5	5	56
	14-32	5-18	1.25-1.50	2.00-6.00	0.05-0.14	Low	0.5-3.0	0.15	0.37			
	32-50	5-12	1.30-1.50	2.00-6.00	0.04-0.09	Low	0.5-2.0	0.05	0.32			
	50-65	4-8	1.30-1.50	2.00-6.00	0.01-0.02	Low	0.0-0.5	0.05	0.32			
1592												
PSME/SYAL Lagall	0-7	10-16	1.05-1.25	0.60-2.00	0.12-0.16	Low	3.0-10.0	0.15	0.24	5	5	56
	7-15	10-16	1.05-1.25	0.60-2.00	0.08-0.12	Low	3.0-10.0	0.10	0.24			
	15-23	7-14	1.25-1.40	2.00-6.00	0.02-0.11	Low	0.5-3.0	0.10	0.28			
	23-60	5-12	1.25-1.40	2.00-6.00	0.01-0.04	Low	0.0-1.0	0.05	0.28			
1593												
ABLA/VAGL,PAMY Koffgo	0-7	7-16	1.00-1.25	0.60-2.00	0.13-0.18	Low	1.0-4.0	0.28	0.43	4	5	56
	7-16	8-12	1.25-1.50	0.60-2.00	0.08-0.17	Low	0.5-1.0	0.28	0.55			
	16-55	4-8	1.50-1.60	2.00-6.00	0.08-0.10	Low	0.0-0.5	0.02	0.32			
	55-60											
1594												
ABLA/VAGL,VAGL Koffgo	0-4	7-16	1.00-1.25	0.60-2.00	0.11-0.14	Low	1.0-4.0	0.10	0.20	4	5	56
	4-27	7-14	1.25-1.50	0.60-2.00	0.02-0.11	Low	0.5-1.0	0.10	0.28			
	27-41	5-12	1.50-1.60	2.00-6.00	0.01-0.04	Low	0.0-1.0	0.05	0.20			
	41-60											
1595												
ABLA/VAGL,PAMY Koffgo	0-7	7-16	1.00-1.25	0.60-2.00	0.13-0.18	Low	1.0-4.0	0.28	0.43	4	5	56
	7-16	8-12	1.25-1.50	0.60-2.00	0.08-0.17	Low	0.5-1.0	0.28	0.55			
	16-55	4-8	1.50-1.60	2.00-6.00	0.08-0.10	Low	0.0-0.5	0.02	0.32			
	55-60											
1597												
ABLA/SPBE2 Koffgo	0-8	7-16	1.00-1.25	0.60-2.00	0.11-0.14	Low	1.0-4.0	0.10	0.20	4	5	56
	8-25	7-14	1.25-1.50	0.60-2.00	0.02-0.11	Low	0.5-1.0	0.10	0.28			
	25-45	5-12	1.40-1.55	2.00-6.00	0.01-0.04	Low	0.0-1.0	0.05	0.20			
	45-60											
1600												
ABLA/VAGL,VASC Koffgo	0-4	7-16	1.00-1.25	0.60-2.00	0.11-0.14	Low	1.0-4.0	0.10	0.20	4	5	56
	4-29	7-14	1.25-1.50	0.60-2.00	0.02-0.11	Low	0.5-1.0	0.10	0.28			
	29-45	5-12	1.40-1.55	2.00-6.00	0.01-0.04	Low	0.0-1.0	0.05	0.20			
	45-60											

Ecological Unit Symbol and Ecological Type Name	Depth	Clay	Moist Bulk Density	Permeability	Available Water Capacity	Shrink-Swell Potential	Organic Matter	Erosion Factors			Wind Erodibility Group	Wind Erodibility Index
	inch	pct	g/cc	inch/hr	inch/inch		pct	Kw	Kf	T		
1646												
ABLA/VAGL,PAMY Huckridge	0-5	4-9	1.10-1.40	0.20-0.60	0.19-0.21	Low	1.0-6.0	0.43	0.43	5	5	56
	5-27	4-15	1.20-1.40	0.20-0.60	0.19-0.21	Low	0.0-2.0	0.64	0.64			
	27-48	15-24	1.25-1.35	0.20-0.60	0.19-0.21	Moderate	0.0-1.0	0.55	0.55			
	48-59	20-30	1.25-1.35	0.06-0.60	0.19-0.21	Moderate	0.0-1.0	0.49	0.49			
	59-70	15-27	1.15-1.25	0.20-0.60	0.18-0.20	Low	0.0-0.5	0.49	0.55			
ABLA/VAGL,PAMY Koffgo	0-7	7-16	1.00-1.25	0.60-2.00	0.13-0.18	Low	1.0-4.0	0.28	0.43	4	5	56
	7-16	8-12	1.25-1.50	0.60-2.00	0.08-0.17	Low	0.5-1.0	0.28	0.55			
	16-55	4-8	1.50-1.60	2.00-6.00	0.08-0.10	Low	0.0-0.5	0.02	0.32			
	55-60											
ABLA/OSCH,PAMY Edgway	0-11	15-24	1.10-1.25	0.60-2.00	0.17-0.21	Low	3.0-8.0	0.32	0.32	5	5	56
	11-19	15-24	1.20-1.40	0.60-2.00	0.15-0.20	Low	0.5-3.0	0.37	0.43			
	19-60	24-34	1.40-1.50	0.20-2.00	0.07-0.13	Moderate	0.5-1.0	0.15	0.37			
1700												
ABLA/VASC,CARU Koffgo	0-4	7-16	1.00-1.25	0.60-2.00	0.16-0.21	Low	1.0-4.0	0.28	0.32	4	5	56
	4-18	8-12	1.25-1.50	0.60-2.00	0.08-0.17	Low	0.5-1.0	0.28	0.55			
	18-50	4-8	1.50-1.60	2.00-6.00	0.08-0.10	Low	0.0-0.5	0.02	0.32			
	50-60											
1720												
ABLA/VAGL,VAGL Flatstone	0-5	10-14	1.25-1.40	0.60-2.00	0.20-0.24	Low	1.0-3.0	0.24	0.32	3	5	56
	5-13	10-14	1.40-1.50	0.60-2.00	0.14-0.16	Low	0.5-1.0	0.28	0.55			
	13-44	10-14	1.50-1.60	0.60-2.00	0.03-0.13	Low	0.0-0.5	0.05	0.55			
	44-67	14-30	1.50-1.60	0.20-0.60	0.03-0.15	Moderate	0.0-0.5	0.20	0.64			
ABLA/VASC,CARU Koffgo	0-4	7-16	1.00-1.25	0.60-2.00	0.16-0.21	Low	1.0-4.0	0.28	0.32	4	5	56
	4-18	8-12	1.25-1.50	0.60-2.00	0.08-0.17	Low	0.5-1.0	0.28	0.55			
	18-50	4-8	1.50-1.60	2.00-6.00	0.08-0.10	Low	0.0-0.5	0.02	0.32			
	50-60											
1730												
ABLA/VASC,CARU Koffgo	0-4	7-16	1.00-1.25	0.60-2.00	0.16-0.21	Low	1.0-4.0	0.28	0.32	4	5	56
	4-18	8-12	1.25-1.50	0.60-2.00	0.08-0.17	Low	0.5-1.0	0.28	0.55			
	18-50	4-8	1.50-1.60	2.00-6.00	0.08-0.10	Low	0.0-0.5	0.02	0.32			
	50-60											
PICO Perfa	0-11	7-15	1.50-1.60	2.00-6.00	0.11-0.13	Low	0.5-3.0	0.24	0.28	2	3	86
	11-62	2-6	1.55-1.65	> 20.00	0.04-0.07	Low	0.0-0.5	0.10	0.20			
1760												
PSME/ARTRV Fourme	0-5	14-24	1.50-1.60	0.60-2.00	0.16-0.18	Low	3.0-5.0	0.28	0.37	3	5	56
	5-11	15-26	1.50-1.60	0.60-2.00	0.12-0.14	Low	0.5-1.0	0.24	0.43			
	11-30	20-34	1.55-1.65	0.20-0.60	0.09-0.12	Moderate	0.0-0.5	0.28	0.37			
	30-60	2-8	1.60-1.70	> 20.00	0.02-0.04	Low	0.0-0.5	0.02	0.05			
1970												
ABLA Cryoboralfs	0-7	18-27	1.20-1.40	0.60-2.00	0.19-0.21	Moderate	1.0-4.0	0.43	0.43	3	6	48
	7-20	40-60	1.30-1.50	0.06-0.20	0.14-0.17	High	0.5-2.0	0.24	0.24			
	20-31	35-60	1.40-1.50	0.06-0.20	0.06-0.16	Moderate	0.0-1.0	0.24	0.24			
	31-41											
PSME/BERE,SYOR2 Cryochrepts, fine	0-2	27-40	1.25-1.50	0.60-2.00	0.12-0.18	Low	0.5-3.0	0.20	0.37	3	4L	86
	2-18	35-60	1.40-1.50	0.20-0.60	0.04-0.18	Low	0.0-1.0	0.49	0.49			
	18-30	35-60	1.45-1.50	0.06-0.20	0.01-0.12	Low	0.0-0.5	0.49	0.49			
	30-40											

Ecological Unit Symbol and Ecological Type Name	Depth	Clay	Moist Bulk Density	Permeability	Available Water Capacity	Shrink-Swell Potential	Organic Matter	Erosion Factors			Wind Erodibility Group	Wind Erodibility Index
	inch	pct	g/cc	inch/hr	inch/inch		pct	Kw	Kf	T		
1999												
Valleys												
2000												
Graminoid Cryaquolls	0-16	10-16	1.00-1.35	0.60-2.00	0.19-0.24	Low	2.0-6.0	0.32	0.32	5	5	56
	16-44	10-18	1.45-1.50	0.60-2.00	0.17-0.24	Low	0.5-1.0	0.49	0.49			
	44-60	27-50	1.45-1.55	0.06-0.20	0.11-0.18	High	0.0-0.5	0.20	0.37			
2020												
Graminoid Chickreek	0-6		0.40-0.80	2.00-20.00	0.20-0.30	Low	40.0-80.0			3	8	
	6-31	25-35	1.25-1.35	0.06-0.20	0.18-0.20	Low	3.0-8.0	0.43	0.43			
	31-66	4-8	1.65-1.75	> 20.00	0.04-0.11	Low	0.0-0.5	0.10	0.24			
Salix/Graminoid Tepete	0-28		0.40-0.80	2.00-6.00	0.22-0.30	Low	40.0-60.0			2	8	
	28-40	10-30	1.10-1.40	2.00-6.00	0.13-0.21	Low	1.0-6.0	0.32	0.32			
	40-70	0-5	1.55-1.65	> 20.00	0.02-0.05	Low	0.0-0.5	0.02				
2040												
PICO Perfa	0-11	7-15	1.50-1.60	2.00-6.00	0.11-0.13	Low	0.5-3.0	0.24	0.28	2	3	86
	11-62	2-6	1.55-1.65	> 20.00	0.04-0.07	Low	0.0-0.5	0.10	0.20			
ABLA/CACA4,CACA4 Bootjack	0-3	18-25	1.20-1.45	0.20-0.60	0.19-0.24	Low	0.5-1.0	0.49	0.49	2	6	48
	3-15	18-32	1.30-1.45	0.20-0.60	0.16-0.21	Low	0.0-0.5	0.49	0.49			
	15-60	3-8	1.60-1.70	> 20.00	0.03-0.07	Low	0.0-0.5	0.05	0.10			
2604												
PIEN/GATR3 Cryofluvents	0-4	1-5	1.30-1.50	2.00-6.00	0.10-0.12	Low	0.5-2.0	0.32	0.32	2	2	134
	4-15	1-14	1.35-1.55	2.00-6.00	0.08-0.14	Low	0.5-1.0	0.37	0.37			
	15-60	0-5	1.45-1.65	> 20.00	0.02-0.04	Low	0.0-1.0	0.02	0.17			
2606												
Salix/Graminoid Cryaquolls	0-5	12-27	1.05-1.20	0.60-2.00	0.17-0.21	Moderate	4.0-12.0	0.28	0.28	3	5	56
	5-24	15-30	1.10-1.30	0.60-2.00	0.14-0.21	Moderate	2.0-5.0	0.32	0.32			
	24-34	4-20	1.25-1.50	0.60-6.00	0.09-0.19	Low	0.5-1.0	0.37	0.43			
	34-60	0-12	1.30-1.60	6.00-20.00	0.01-0.10	Low	0.0-0.5	0.02	0.15			
Salix/Graminoid Cryaquolls, poorly drained	0-13	12-27	1.05-1.20	0.60-2.00	0.17-0.21	Moderate	4.0-12.0	0.28	0.28	3	5	56
	13-20	15-30	1.10-1.30	0.60-2.00	0.14-0.21	Moderate	2.0-5.0	0.32	0.32			
	20-60	4-20	1.25-1.50	0.60-6.00	0.09-0.19	Low	0.5-1.0	0.37	0.43			
	60-65	0-12	1.30-1.60	6.00-20.00	0.01-0.10	Low	0.0-0.5	0.02	0.15			
2608												
ABLA/CACA4,CACA4 Bootjack	0-3	18-25	1.20-1.45	0.20-0.60	0.19-0.24	Low	0.5-1.0	0.49	0.49	2	6	48
	3-15	18-32	1.30-1.45	0.20-0.60	0.16-0.21	Low	0.0-0.5	0.49	0.49			
	15-60	3-8	1.60-1.70	> 20.00	0.03-0.07	Low	0.0-0.5	0.05	0.10			
Salix/Graminoid Cryaquolls, poorly drained	0-13	12-27	1.05-1.20	0.60-2.00	0.17-0.21	Moderate	4.0-12.0	0.28	0.28	3	5	56
	13-20	15-30	1.10-1.30	0.60-2.00	0.14-0.21	Moderate	2.0-5.0	0.32	0.32			
	20-60	4-20	1.25-1.50	0.60-6.00	0.09-0.19	Low	0.5-1.0	0.37	0.43			
	60-65	0-12	1.30-1.60	6.00-20.00	0.01-0.10	Low	0.0-0.5	0.02	0.15			
2609												
PIEN Cryaquolls	0-9	4-12	1.30-1.50	0.60-2.00	0.11-0.15	Low	2.0-5.0	0.15	0.17	3	3	86
	9-23	4-18	1.25-1.50	0.60-6.00	0.09-0.19	Low	0.5-1.0	0.37	0.43			
	23-60	0-12	1.30-1.60	6.00-20.00	0.02-0.06	Low	0.0-0.5	0.02	0.15			
3000												
Pits												

For properties of map units 4028 through 4302 refer to the original adjoining soil survey(s).

Soil Features

This table gives estimates of several important soil features used in land use planning that involves engineering considerations. These features are described in the following paragraphs.

Bedrock is the solid rock that underlies soil, and other unconsolidated material, or that is exposed at the surface. The **Depth** range is displayed if bedrock is within 60 inches of the soil surface. The depth is based on many observations during mapping. The **Hardness** classes are soft or hard. Soft rock can be excavated with trenching machines, backhoes, or small rippers. Hard bedrock requires blasting or using special equipment for excavation.

A **Cemented Pan** is a nearly continuous layer of indurated or strongly cemented material that is hard and brittle. Calcium carbonate or silicon oxides are common cementing agents. The **Depth** range to the top of the pan is displayed if pans are within 60 inches of the soil surface.

Subsidence is the settling of organic soils or of very low density saturated mineral soils. Subsidence commonly results from desiccation and shrinkage, or oxidation of organic material, following drainage. It takes place gradually, usually over a period of several years. **Initial** subsidence is the decrease of surface elevation that occurs within the first three years following drainage. **Total** subsidence is the potential decrease of the surface elevation following drainage.

Potential Frost Action rates the susceptibility to upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil on thawing. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. The estimates are based on bare soils that are not insulated by vegetation or snow, and are not artificially drained.

The potential frost action is expressed as low, moderate or high. Low indicates the soils are rarely susceptible to the formation of ice lenses. Moderate indicates that the soils are susceptible to the formation of ice lenses, resulting in frost heave and the subsequent loss of soil strength. High indicates the soils are highly susceptible to the formation of ice lenses, resulting in frost heave and the subsequent loss of soil strength.

Risk of Corrosion pertains to potential soil-induced electrochemical or chemical action that dissolves or weakens uncoated steel or concrete. For **Uncoated Steel** and **Concrete** the risk of corrosion is expressed as low, moderate, or high. Special site examination and design may be needed for soils with a high risk of corrosion. Steel in installations that intersect soil boundaries or soil layers are more susceptible to corrosion than steel in installations that are entirely within one kind of soil or soil layer.

Soil Features

Ecological Unit Symbol and Ecological Type Name	Bedrock		Cemented Pan	Subsidence		Potential Frost Action	Risk of Corrosion	
	Depth inch	Hardness	Depth inch	Initial inch	Total inch		Uncoated Steel	Concrete
1000								
PICO/VASC Islandpark	>60					Moderate	Moderate	High
PSME/SYAL Potrmound	20-40	Hard				Moderate	Moderate	Moderate
PICO/ARTRP4 Spliten	10-20	Hard				Moderate	Moderate	Moderate
1046								
PICO/ARTRP4 Vadnais	20-40	Hard				Moderate	Moderate	Moderate
Rock Outcrop								
1050								
Cinder Cones								
1106								
ABLA/PHMA5 Gany	>60					Moderate	High	Low
PSME/BERE,SYOR2 Fritz	40-60	Hard				Moderate	High	Low
1110								
ARTRP4/FEID Raynoldson	>60					Moderate	Moderate	Low
1112								
ABLA/VAGL,PAMY Huckridge	>60					Moderate	Moderate	Moderate
PSME/OSCH Paleborolls	>60					High	Moderate	Moderate
1123								
ABLA/CARU,CARU Hopburn	>60					Moderate	Moderate	Moderate
PICO/ARTRP4 Vadnais	20-40	Hard				Moderate	Moderate	Moderate
Rock Outcrop								
1125								
ARNO4/AGSP Simeroi	>60					Low	High	Low
ARTRP4/FEID Zeale	>60					Moderate	High	Low
1126								
ARNO4/AGSP Simeroi	>60					Low	High	Low
1127								
ARTRW8/ARARA Simeroi	>60					Low	High	Low
1128								
ARTRP4/FEID Monida	>60					Moderate	High	Low
ARTRP4/FEID Zeale	>60					Moderate	High	Low
1129								
PIFL2/LEKI2 Fritz	>60					Moderate	High	Low
PSME/JUCO6 Gany	>60					Moderate	High	Low
1130								
Alpine Graminoid Fritz	>60					Moderate	High	Low
1131								
ARARA/FEID Mountainboy	>60		15-20			Moderate	High	Low
1133								
PSME/ARTRV Meegero	>60					Moderate	High	Low
ARTRP4/FEID Monida	>60					Moderate	High	Low
1140								
ABLA/THOC Nearl	>60					High	Moderate	Moderate
1144								
ABLA/SPBE2 Koffgo	>60					Moderate	Moderate	Moderate
1145								
ARTRP4/FEID Monida	>60					Moderate	High	Low
ARTRP4/FEID Zeebar	>60					Moderate	Moderate	Low

Ecological Unit Symbol and Ecological Type Name	Bedrock		Cemented Pan	Subsidence		Potential Frost Action	Risk of Corrosion	
	Depth inch	Hardness	Depth inch	Initial inch	Total inch		Uncoated Steel	Concrete
1146								
ARTRP4/FEID Zeebar	>60					Moderate	Moderate	Low
1147								
ARTRP4/FEID Zeebar	>60					Moderate	Moderate	Low
1149								
PSME/CARU,CARU Edgway	>60					Moderate	Moderate	Low
1150								
ABLA/CARU,CARU Rhylow	>60					Moderate	Moderate	Moderate
ABLA/CARU,CARU Fitzwil	>60					Moderate	Moderate	Moderate
1154								
PSME/JUCO6 Pikaden	>60					Low	Low	Low
PSME/FEID Pikaden	>60					Low	Low	Low
Rubble Land								
1170								
ABLA/Tall Forb Yodal	>60					Moderate	Moderate	Moderate
1172								
ABLA/ACGL Gany	>60					Moderate	High	Low
ABLA/THOC Katpa	>60					Moderate	High	Low
PSME/BERE,SYOR2 Fritz	40-60	Hard				Moderate	High	Low
1175								
ABLA/Tall Forb Yodal	>60					Moderate	Moderate	Moderate
1204								
PSME/ARTRV Povey	>60					Moderate	Moderate	Low
1209								
Tall Forb Etnass	>60					High	Moderate	Low
ABLA/THOC Nearl	>60					High	Moderate	Moderate
PSME/ARTRV Tophat	>60					Moderate	Moderate	Moderate
1216								
ABLA/ACGL Koffgo	>60					Moderate	Moderate	Moderate
ABLA/ACGL Rhylow	>60					Moderate	Moderate	Moderate
PSME/ARTRV Povey	>60					Moderate	Moderate	Low
1219								
ABLA/PHMA5 Lagall	>60					Moderate	Moderate	Moderate
PSME/ARTRV Povey	>60					Moderate	Moderate	Low
PSME/BERE,SYOR2 Fritz	40-60	Hard				Moderate	High	Low
1222								
ABLA/ACGL Koffgo	>60					Moderate	Moderate	Moderate
PSME/SYAL Lagall	>60					Moderate	Moderate	Moderate
ABLA/ACGL Rhylow	>60					Moderate	Moderate	Moderate
1224								
ABLA/VAGL,PAMY Huckridge	>60					Moderate	Moderate	Moderate
ABLA/VAGL,PAMY Koffgo	>60					Moderate	Moderate	Moderate
PSME/ARTRV Povey	>60					Moderate	Moderate	Low
1225								
PIAL Lasac	>60					High	Moderate	Moderate
ABLA/VASC,VASC Castan	>60					High	Moderate	Moderate
1228								
PSME/CARU,CARU Nopla	>60					Moderate	Moderate	Moderate
1230								
PSME/SPBE2,CARU Vitricryands	>60					High	Moderate	Moderate

Ecological Unit Symbol and Ecological Type Name	Bedrock		Cemented Pan	Subsidence		Potential Frost Action	Risk of Corrosion	
	Depth inch	Hardness	Depth inch	Initial inch	Total inch		Uncoated Steel	Concrete
1250								
PSME/ARTRV Povey	>60					Moderate	Moderate	Low
1270								
ABLA/ARTRS2 Cryumbrepts	20-40	Hard				Moderate	Moderate	Moderate
Rock Outcrop								
1280								
Rubble Land								
Low Alpine Forb Cryochrepts, loamy-skeletal	20-60	Hard				Moderate	High	Low
Rock Outcrop								
1294								
ARTRP4/SYOR2/FEID Tetonia	>60					High	High	Low
PSME/OSCH Rin	>60					High	Moderate	Moderate
1303								
ABLA/OSCH,PAMY Edgway	>60					Moderate	Moderate	Moderate
ABLA/THOC Jumpstart	>60					High	Moderate	Moderate
PSME/ARTRV Tophat	>60					Moderate	Moderate	Moderate
1307								
ABLA/VAGL,PAMY Huckridge	>60					Moderate	Moderate	Moderate
1313								
ARTRP4/FEID Cryoborolls	>60					Moderate	Low	Low
1315								
ABLA/OSCH,PAMY Edgway	>60					Moderate	Moderate	Moderate
ABLA/VAGL,PAMY Koffgo	>60					Moderate	Moderate	Moderate
PSME/ARTRV Povey	>60					Moderate	Moderate	Low
1316								
ABLA/VAGL,PAMY Koffgo	>60					Moderate	Moderate	Moderate
ABLA/THOC Koffgo	>60					Moderate	Moderate	Moderate
Rock Outcrop								
1331								
Low Alpine Forb Oorang	40-60	Soft				Low	Moderate	Low
Rubble Land								
1332								
ARTRP4/FEID Quirt	>60					Moderate	Moderate	Low
1333								
ARTRP4/FEID Quirt	>60					Moderate	Moderate	Low
ARTRP4/SYOR2/FEID Tetonia	>60					High	High	Low
1400								
ARTRP4/ARART Trude	>60					Low	Moderate	Moderate
1401								
ARTRP4/ARART Trude	>60					Low	Moderate	Moderate
ABLA/CACA4,CACA4 Bootjack	>60					High	High	Moderate
1414								
ABLA/VASC,PIAL Winegar	>60					Moderate	Moderate	Moderate
CALE4 Oxyaquic Cryochrepts	>60					High	Moderate	Moderate
Rock Outcrop								
1430								
PSME/SYOR2 Kyway	20-40	Hard				Moderate	Moderate	Low

Ecological Unit Symbol and Ecological Type Name	Bedrock		Cemented Pan	Subsidence		Potential Frost Action	Risk of Corrosion	
	Depth inch	Hardness	Depth inch	Initial inch	Total inch		Uncoated Steel	Concrete
1505								
ARTRP4/SYOR2/FEID Tetonia	>60					High	High	Low
1506								
PSME/SYAL Lagall, till substratum	>60					Moderate	Moderate	Moderate
1507								
ARTRT/AGSP Buist	>60					Moderate	Moderate	Low
ABLA/PHMA5 Lagall	>60					Moderate	Moderate	Moderate
1516								
ABLA/VAGL,VAGL Winegar	>60					Moderate	Moderate	Moderate
ABLA/VASC,CARU Bradco	>60					Moderate	Moderate	Moderate
1570								
ABLA/VASC,VASC Dashiki	>60					High	Moderate	Moderate
PIAL/CARO5,PICO Lasac	>60					High	Moderate	Moderate
1573								
ABLA/VASC Oleo	>60					High	Moderate	Moderate
PIAL/CARO5,PICO Lasac	>60					High	Moderate	Moderate
1575								
ABLA/CARU,CARU Koffgo	>60					Moderate	Moderate	Moderate
ABLA/VAGL,VAGL Koffgo	>60					Moderate	Moderate	Moderate
1576								
ABLA/ARCO9,ARCO9 Fitzwil	>60					Moderate	Moderate	Moderate
PIAL/ARTRP4 Fitzwil	>60					Moderate	Moderate	Moderate
1585								
ABLA/VASC,CARU Rhylow	>60					Moderate	Moderate	Moderate
1592								
PSME/SYAL Lagall	>60					Moderate	Moderate	Moderate
1593								
ABLA/VAGL,PAMY Koffgo	>60					Moderate	Moderate	Moderate
1594								
ABLA/VAGL,VAGL Koffgo	>60					Moderate	Moderate	Moderate
1595								
ABLA/VAGL,PAMY Koffgo	>60					Moderate	Moderate	Moderate
1597								
ABLA/SPBE2 Koffgo	>60					Moderate	Moderate	Moderate
1600								
ABLA/VAGL,VASC Koffgo	>60					Moderate	Moderate	Moderate
1646								
ABLA/VAGL,PAMY Huckridge	>60					Moderate	Moderate	Moderate
ABLA/VAGL,PAMY Koffgo	>60					Moderate	Moderate	Moderate
ABLA/OSCH,PAMY Edgway	>60					Moderate	Moderate	Moderate
1700								
ABLA/VASC,CARU Koffgo	>60					Moderate	Moderate	Moderate
1720								
ABLA/VAGL,VAGL Flatstone	>60					Moderate	Moderate	Moderate
ABLA/VASC,CARU Koffgo	>60					Moderate	Moderate	Moderate
1730								
ABLA/VASC,CARU Koffgo	>60					Moderate	Moderate	Moderate
PICO Perfa	>60					Moderate	Low	High
1760								
PSME/ARTRV Fourme	>60					Moderate	High	Low

Ecological Unit Symbol and Ecological Type Name	Bedrock		Cemented Pan	Subsidence		Potential Frost Action	Risk of Corrosion	
	Depth inch	Hardness	Depth inch	Initial inch	Total inch		Uncoated Steel	Concrete
1970								
ABLA Cryoboralfs	20-40	Soft				Moderate	Moderate	Low
PSME/BERE,SYOR2 Cryochrepts, fine	20-40	Soft				Moderate	High	Low
1999								
Valleys								
2000								
Graminoid Cryaquolls	>60					High	Moderate	Moderate
2020								
Graminoid Chickreek	>60					High	Moderate	Moderate
Salix/Graminoid Tepete	>60			12-16	16-34	High	High	Low
2040								
PICO Perfa	>60					Moderate	Low	High
ABLA/CACA4,CACA4 Bootjack	>60					High	High	Moderate
2604								
PIEN/GATR3 Cryofluvents	>60					Moderate	Low	Low
2606								
Salix/Graminoid Cryaquolls	>60					High	Moderate	Low
Salix/Graminoid Cryaquolls, poorly drained	>60					High	Moderate	Low
2608								
ABLA/CACA4,CACA4 Bootjack	>60					High	High	Moderate
Salix/Graminoid Cryaquolls, poorly drained	>60					High	Moderate	Low
2609								
PIEN Cryaquolls	>60					High	Moderate	Low
3000								
Pits								

For properties of map units 4028 through 4302 refer to the original adjoining soil survey(s).

Water Features

This table gives estimates of several important water features used in land use planning that involve engineering considerations. These features are described in the following paragraphs.

Hydrologic Soil Groups are groups of soils that, when saturated, have the same runoff potential under similar storm and ground cover conditions. The soil properties that affect the runoff potential are those that influence the minimum rate of infiltration in bare soils after prolonged wetting. These properties include the depth to a seasonal high water table, the intake rate, permeability after prolonged wetting, and the depth to layers with restricted permeability. The influences of ground cover and slope are treated independently and are not taken into account in hydrologic soil groups.

In the definition of the hydrologic soil groups, the infiltration rate is the rate that water enters the soils at the surface and is controlled by surface conditions. The transmission rate is the rate at that water moves through the soils and is controlled by properties of the soil layers.The four hydrologic soil groups are:

Group A. Soils have a high infiltration rate (low runoff potential) when thoroughly wet. These consist of very deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils have a moderate infiltration rate when thoroughly wet. These consist of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils have a slow infiltration rate when thoroughly wet. These consist of a layer that impedes the downward movement of water or of soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils have a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist of clays that have a high shrink-swell potential, or soils that have a permanent high water table, a claypan or clay layer at or near the surface, or are shallow to bedrock or a cemented pan. These soils have a very slow rate of water transmission.

Flooding is the temporary covering of the soil surface by flowing water and is caused by overflow from streams. Shallow water standing or flowing for short periods after rainfall or snowmelt is not considered flooding. The frequency, duration, and probable dates of occurrence are estimated.

The information on flooding is based on evidence in the soil profile. Soil features that indicate flooding include thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development. Also considered is local information about the extent and level of flooding and the relation of soils on the landscape to historic floods. Information on the extent of flooding based on soils data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Frequency is expressed as none, rare or frequent. None means no reasonable possibility of flooding (near 0 percent chance of flooding in any year); rare means that flooding is unlikely but is possible under unusual weather conditions (the chance of flooding is nearly 0 percent to 5 percent in any year); and frequent means that flooding occurs often under normal weather conditions (the chance of flooding is more than 50 percent in any year).

Duration is expressed as long (7 to 30 days).

Months (flooding) is the expression used to indicate the time of year flooding is most likely to occur. About two-thirds to three-fourths of all flooding occurs during the stated period.

High Water Table (seasonal) is a zone of saturation at the highest average depth during the wettest season. The zone is at least 6 inches thick, persists in the soil for more than a few weeks, and is within 6 feet of the surface.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration or evaporation.

Water Table Depth is expressed to the nearest half foot. The first numeral in the range indicates the highest water level. The term > 6.0" indicates that the water table is below a depth of 6 feet.

Kinds of Water Table include apparent and perched. An apparent water table is indicated by the level that water stands in a freshly dug, unlined borehole after adequate time is allowed for adjustments in the surrounding soil. A perched water table is above an unsaturated zone in the soil.

Months (high water table and ponding) is the expression used to indicate the time of year when the water table is closest to the soil surface or ponding depth is greatest.

Maximum Ponding Depth is expressed to the nearest half foot.

Water Features

Ecological Unit Symbol and Ecological Type Name	Hydrologic Group	Flooding			High Water Table and Ponding			
		Frequency	Duration	Months	Depth to Water Table feet	Kind of Water Table	Months	Maximum Ponding Depth feet
1000								
PICO/VASC Islandpark	B	None			>6.0			
PSME/SYAL Potrmound	C	None			>6.0			
PICO/ARTRP4 Spliten	D	None			>6.0			
1046								
PICO/ARTRP4 Vadnais	C	None			>6.0			
Rock Outcrop								
1050								
Cinder Cones								
1106								
ABLA/PHMA5 Gany	B	None			>6.0			
PSME/BERE,SYOR2 Fritz	B	None			>6.0			
1110								
ARTRP4/FEID Raynoldson	B	None			>6.0			
1112								
ABLA/VAGL,PAMY Huckridge	B	None			>6.0			
PSME/OSCH Paleborolls	B	None			>6.0			
1123								
ABLA/CARU,CARU Hopburn	B	None			>6.0			
PICO/ARTRP4 Vadnais	C	None			>6.0			
Rock Outcrop								
1125								
ARNO4/AGSP Simeroi	B	None			>6.0			
ARTRP4/FEID Zeale	B	None			>6.0			
1126								
ARNO4/AGSP Simeroi	B	None			>6.0			
1127								
ARTRW8/ARARA Simeroi	B	None			>6.0			
1128								
ARTRP4/FEID Monida	B	None			>6.0			
ARTRP4/FEID Zeale	B	None			>6.0			
1129								
PIFL2/LEKI2 Fritz	B	None			>6.0			
PSME/JUCO6 Gany	B	None			>6.0			
1130								
Alpine Graminoid Fritz	B	None			>6.0			
1131								
ARARA/FEID Mountainboy	D	None			>6.0			
1133								
PSME/ARTRV Meegero	B	None			>6.0			
ARTRP4/FEID Monida	B	None			>6.0			
1140								
ABLA/THOC Nearl	C	None			1.0-2.5	Perched	Jun-Jul	
1144								
ABLA/SPBE2 Koffgo	B	None			>6.0			
1145								
ARTRP4/FEID Monida	B	None			>6.0			
ARTRP4/FEID Zeebar	B	None			>6.0			

Ecological Unit Symbol and Ecological Type Name	Hydrologic Group	Flooding			High Water Table and Ponding			
		Frequency	Duration	Months	Depth to Water Table feet	Kind of Water Table	Months	Maximum Ponding Depth feet
1146								
ARTRP4/FEID Zeebar	B	None			>6.0			
1147								
ARTRP4/FEID Zeebar	B	None			>6.0			
1149								
PSME/CARU,CARU Edgway	B	None			>6.0			
1150								
ABLA/CARU,CARU Rhylow	B	None			>6.0			
ABLA/CARU,CARU Fitzwil	B	None			>6.0			
1154								
PSME/JUCO6 Pikaden	A	None			>6.0			
PSME/FEID Pikaden	A	None			>6.0			
Rubble Land								
1170								
ABLA/Tall Forb Yodal	B	None			>6.0			
1172								
ABLA/ACGL Gany	B	None			>6.0			
ABLA/THOC Katpa	B	None			>6.0			
PSME/BERE,SYOR2 Fritz	B	None			>6.0			
1175								
ABLA/Tall Forb Yodal	B	None			>6.0			
1204								
PSME/ARTRV Povey	B	None			>6.0			
1209								
Tall Forb Etnass	C	None			>6.0			
ABLA/THOC Nearl	C	None			1.0-2.5	Perched	Jun-Jul	
PSME/ARTRV Tophat	C	None			>6.0			
1216								
ABLA/ACGL Koffgo	B	None			>6.0			
ABLA/ACGL Rhylow	B	None			>6.0			
PSME/ARTRV Povey	B	None			>6.0			
1219								
ABLA/PHMA5 Lagall	B	None			>6.0			
PSME/ARTRV Povey	B	None			>6.0			
PSME/BERE,SYOR2 Fritz	B	None			>6.0			
1222								
ABLA/ACGL Koffgo	B	None			>6.0			
PSME/SYAL Lagall	B	None			>6.0			
ABLA/ACGL Rhylow	B	None			>6.0			
1224								
ABLA/VAGL,PAMY Huckridge	B	None			>6.0			
ABLA/VAGL,PAMY Koffgo	C	None			>6.0			
PSME/ARTRV Povey	B	None			>6.0			
1225								
PIAL Lasac	A	None			>6.0			
ABLA/VASC,VASC Castan	A	None			>6.0			
1228								
PSME/CARU,CARU Nopla	B	None			>6.0			
1230								
PSME/SPBE2,CARU Vitricryands	A	None			>6.0			

Ecological Unit Symbol and Ecological Type Name	Hydrologic Group	Flooding			High Water Table and Ponding			
		Frequency	Duration	Months	Depth to Water Table feet	Kind of Water Table	Months	Maximum Ponding Depth feet
1250								
PSME/ARTRV Povey	B	None			>6.0			
1270								
ABLA/ARTRS2 Cryumbrepts	C	None			>6.0			
Rock Outcrop								
1280								
Rubble Land								
Low Alpine Forb Cryochrepts, loamy-skeletal	B	None			>6.0			
Rock Outcrop								
1294								
ARTRP4/SYOR2/FEID Tetonia	B	None			>6.0			
PSME/OSCH Rin	B	None			>6.0			
1303								
ABLA/OSCH,PAMY Edgway	B	None			>6.0			
ABLA/THOC Jumpstart	C	None			>6.0			
PSME/ARTRV Tophat	C	None			>6.0			
1307								
ABLA/VAGL,PAMY Huckridge	B	None			>6.0			
1313								
ARTRP4/FEID Cryoborolls	B	None			>6.0			
1315								
ABLA/OSCH,PAMY Edgway	B	None			>6.0			
ABLA/VAGL,PAMY Koffgo	C	None			>6.0			
PSME/ARTRV Povey	B	None			>6.0			
1316								
ABLA/VAGL,PAMY Koffgo	C	None			>6.0			
ABLA/THOC Koffgo	B	None			>6.0			
Rock Outcrop								
1331								
Low Alpine Forb Oorang	A	None			>6.0			
Rubble Land								
1332								
ARTRP4/FEID Quirt	D	None			>6.0			
1333								
ARTRP4/FEID Quirt	D	None			>6.0			
ARTRP4/SYOR2/FEID Tetonia	B	None			>6.0			
1400								
ARTRP4/ARART Trude	B	None			>6.0			
1401								
ARTRP4/ARART Trude	B	None			>6.0			
ABLA/CACA4,CACA4 Bootjack	D	Frequent	Long	Apr-Jun	0.0-1.5	Apparent	Apr-Jun	
1414								
ABLA/VASC,PIAL Winegar	C	None			>6.0			
CALE4 Oxyaquic Cryochrepts	C	None			0.0-0.5	Apparent	Jul-Aug	
Rock Outcrop								
1430								
PSME/SYOR2 Kyway	C	None			>6.0			
1505								
ARTRP4/SYOR2/FEID Tetonia	B	None			>6.0			
1506								
PSME/SYAL Lagall, till substratum	B	None			>6.0			

Ecological Unit Symbol and Ecological Type Name	Hydrologic Group	Flooding			High Water Table and Ponding			
		Frequency	Duration	Months	Depth to Water Table feet	Kind of Water Table	Months	Maximum Ponding Depth feet
1507								
ARTRT/AGSP Buist	B	None			>6.0			
ABLA/PHMA5 Lagall	B	None			>6.0			
1516								
ABLA/VAGL,VAGL Winegar	C	None			>6.0			
ABLA/VASC,CARU Bradco	C	None			>6.0			
1570								
ABLA/VASC,VASC Dashiki	A	None			>6.0			
PIAL/CARO5,PICO Lasac	A	None			>6.0			
1573								
ABLA/VASC Oleo	A	None			>6.0			
PIAL/CARO5,PICO Lasac	A	None			>6.0			
1575								
ABLA/CARU,CARU Koffgo	C	None			>6.0			
ABLA/VAGL,VAGL Koffgo	B	None			>6.0			
1576								
ABLA/ARCO9,ARCO9 Fitzwil	B	None			>6.0			
PIAL/ARTRP4 Fitzwil	B	None			>6.0			
1585								
ABLA/VASC,CARU Rhylow	B	None			>6.0			
1592								
PSME/SYAL Lagall	B	None			>6.0			
1593								
ABLA/VAGL,PAMY Koffgo	C	None			>6.0			
1594								
ABLA/VAGL,VAGL Koffgo	B	None			>6.0			
1595								
ABLA/VAGL,PAMY Koffgo	C	None			>6.0			
1597								
ABLA/SPBE2 Koffgo	B	None			>6.0			
1600								
ABLA/VAGL,VASC Koffgo	B	None			>6.0			
1646								
ABLA/VAGL,PAMY Huckridge	B	None			>6.0			
ABLA/VAGL,PAMY Koffgo	C	None			>6.0			
ABLA/OSCH,PAMY Edgway	B	None			>6.0			
1700								
ABLA/VASC,CARU Koffgo	C	None			>6.0			
1720								
ABLA/VAGL,VAGL Flatstone	C	None			>6.0			
ABLA/VASC,CARU Koffgo	C	None			>6.0			
1730								
ABLA/VASC,CARU Koffgo	C	None			>6.0			
PICO Perfa	D	None			0.5-1.5	Apparent	Apr-Jun	
1760								
PSME/ARTRV Fourme	B	None			>6.0			
1970								
ABLA Cryoboralfs	D	None			>6.0			
PSME/BERE,SYOR2 Cryochrepts, fine	C	None			>6.0			
1999								
Valleys								

Ecological Unit Symbol and Ecological Type Name	Hydrologic Group	Flooding			High Water Table and Ponding			
		Frequency	Duration	Months	Depth to Water Table feet	Kind of Water Table	Months	Maximum Ponding Depth feet
2000								
Graminoid Cryaquolls	D	None				Apparent	May-Jul	0.5
2020								
Graminoid Chickreek	D	Rare				Perched	Jan-Dec	0.5
Salix/Graminoid Tepete	D	Rare				Apparent	Jan-Dec	0.5
2040								
PICO Perfa	D	None			0.5-1.5	Apparent	Apr-Jun	
ABLA/CACA4,CACA4 Bootjack	D	Frequent	Long	Apr-Jun	0.0-1.5	Apparent	Apr-Jun	
2604								
PIEN/GATR3 Cryofluvents	B	Frequent	Long	Mar-Jun	0.0-3.0	Apparent	Mar-Jun	
2606								
Salix/Graminoid Cryaquolls	D	Frequent	Long	Apr-Jul	0.0-1.5	Apparent	Apr-Aug	
Salix/Graminoid Cryaquolls, poorly drained	D	Frequent	Long	Apr-Jul		Apparent	Jan-Dec	0.5
2608								
ABLA/CACA4,CACA4 Bootjack	D	Frequent	Long	Apr-Jun	0.0-1.5	Apparent	Apr-Jun	
Salix/Graminoid Cryaquolls, poorly drained	D	Frequent	Long	Apr-Jul		Apparent	Jan-Dec	0.5
2609								
PIEN Cryaquolls	D	Frequent	Long	Apr-Jul		Apparent	Apr-Aug	0.5
3000								
Pits								

For properties of map units 4028 through 4302 refer to the original adjoining soil survey(s).

Building Site Development

This table gives the degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and unsurfaced roads. The degree of soil limitations are expressed as Slight, Moderate and Severe. These terms and the kinds of limitations are defined in the following paragraphs.

Shallow Excavations are trenches or holes dug to a maximum depth of 5 or 6 feet. The ratings are based on soil properties, site features, and observed performances of the soils. The ease of digging, filling, and compacting is affected by the depth to bedrock, a cemented pan, a very firm dense layer, rock fragment content, soil texture and slope. The time of year that excavations can be made is affected by the depth to a seasonal high water table and the susceptibility of the soils to flooding. The resistance of the excavation walls or banks to sloughing or caving is affected by soil texture and depth to water table.

Dwellings Without Basements are single family houses of three stories or less without basements. The foundation is assumed to be spreading footings of reinforced concrete built on undisturbed soils at a depth of 2 feet or the maximum depth of frost penetration, whichever is deeper. The ratings are based on soil properties and site conditions affecting the capacity of the soil to support a load without movement and on those affecting excavation.

Dwellings With Basements are single family houses of three stories or less with basements. The foundation is assumed to be spreading footings of reinforced concrete built on undisturbed soils at a depth of 7 feet or the maximum depth of frost penetration, whichever is deeper. The ratings are based on soil properties and qualities affecting the capacity to support a load without movement and on those affecting excavation.

Small Commercial Buildings are those buildings that are two stories or less without basements. The foundation is assumed to be spreading footings of reinforced concrete built on undisturbed soils at a depth of 2 feet or the maximum depth of frost penetration, whichever is deeper. The ratings are based on soil properties and site conditions affecting the capacity of the soil to support a load without movement and on those affecting excavation.

Local Roads And Streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or stabilized soil material; and a flexible or rigid surface. Cuts and fills generally are limited to less than 6 feet. The ratings are based on soil properties, site features, and observed performance of the soils.

Unsurfaced Roads includes roads and parking areas that have a road surface of compacted local soil material or gravel over subgrade of local soil material. They are intended to carry truck or automobile traffic when free of snow. The roads and parking areas may be graded to shed water and minimize erosion. The ratings are based on soil properties that affect the ease of excavation, ease of grading and the capacity to support traffic.

Degree of Limitations

Slight - This rating is given to soils that have properties favorable for the specified use. This degree of limitation is minor and can be overcome easily. Good performance and low maintenance can be expected.

Moderate - This rating is given to soils that have properties moderately favorable for the specified use. This degree of limitation can be overcome or modified by special planning, design, or maintenance. The expected performance of the structure or other planned use is somewhat less desirable than for soils rated slight.

Severe - This rating is given to soils that have one or more properties unfavorable for the specified use. This degree of limitation generally requires major soil reclamation, special design or intensive maintenance. Some of the soils can be improved by reducing or removing the soil features that limit use. In most situations it is difficult and costly to alter the soils or to design a structure to compensate for a severe degree of limitation.

Limitations

Cemented pan - Restrictive, dense, hard, somewhat impervious cemented soil material.

Cutbanks cave - The walls of excavation tend to cave in or slough.

Depth to rock - Bedrock is too near the surface for the specified use.

Droughty - Soils hold too little water for plants during dry periods.

Dusty - Soil particles detach easily and cause dust.

Excess humus - Too much organic matter.

Flooding - Soils flooded by moving water from stream overflow.

Frost action - Freezing and thawing of soil moisture. Frost action can damage roads, buildings, and other structures.

Large stones - Rock fragments 3 inches or more across adversely affect the specified use.

Low strength - The soils have a low resistance to deforming, sliding, or failure; low resistance affects suitability for the intended use. The soils are not strong enough to support loads.

Ponding - Standing water on soils in closed depressions that is removed only by percolation or evapotranspiration.

Shrink-swell - The shrinking of soils when dry and the swelling when wet. Shrinking and swelling can damage plant roots, roads, building foundations and other structures.

Slope - Slope is steep enough that special practices are required to ensure satisfactory performance for the specified use.

Small stones - Rock fragments 2 mm to 76 mm in diameter. Small stones adversely affect the specified use.

Too clayey - The soils are slippery and sticky when wet and slow to dry.

Too cobbly - The soils have excess cobbles for the specified use.

Too stony - The soils have excess stones for the specified use.

Wetness - The soils are wet during the period of specified use.

Building Site Development

Ecological Unit Symbol and Ecological Type Name	Shallow Excavations	Dwellings Without Basements	Dwellings With Basements	Small Commercial Buildings	Local Roads and Streets	Unsurfaced Roads
1000						
PICO/VASC Islandpark	Slight	Slight	Slight	Moderate: slope	Moderate: frost action	Moderate: dusty, low strength
PSME/SYAL Potrmound	Severe: depth to rock, large stones, slope	Severe: slope, large stones	Severe: depth to rock, slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: too stony
PICO/ARTRP4 Spliten	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock
1046						
PICO/ARTRP4 Vadnais	Severe: depth to rock	Moderate: shrink-swell, depth to rock	Severe: depth to rock	Moderate: shrink-swell, slope, depth to rock	Severe: low strength	Severe: low strength
Rock Outcrop						
1050						
Cinder Cones						
1106						
ABLA/PHMA5 Gany	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
PSME/BERE,SYOR2 Fritz	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope, low strength
1110						
ARTRP4/FEID Raynoldson	Severe: cutbanks cave	Moderate: slope	Moderate: slope	Severe: slope	Moderate: slope, frost action	Moderate: dusty
1112						
ABLA/VAGL,PAMY Huckridge	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Moderate: slope, shrink-swell, dusty
PSME/OSCH Paleborolls	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength, slope, frost action	Severe: low strength
1123						
ABLA/CARU,CARU Hopburn	Slight	Slight	Slight	Moderate: slope	Moderate: frost action	Severe: low strength
PICO/ARTRP4 Vadnais	Severe: depth to rock	Moderate: shrink-swell, depth to rock	Severe: depth to rock	Moderate: shrink-swell, slope, depth to rock	Severe: low strength	Severe: low strength
Rock Outcrop						
1125						
ARNO4/AGSP Simeroi	Moderate: slope	Moderate: slope	Moderate: slope	Severe: slope	Moderate: slope	Moderate: dusty
ARTRP4/FEID Zeale	Moderate: large stones, slope	Moderate: slope, large stones	Moderate: slope, large stones	Severe: slope	Moderate: slope, frost action, large stones	Moderate: too cobbly, dusty
1126						
ARNO4/AGSP Simeroi	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
1127						
ARTRW8/ARARA Simeroi	Moderate: slope	Moderate: slope	Moderate: slope	Severe: slope	Moderate: slope	Moderate: dusty
1128						
ARTRP4/FEID Monida	Moderate: slope	Moderate: shrink-swell, slope	Moderate: slope, shrink-swell	Severe: slope	Severe: low strength	Severe: low strength
ARTRP4/FEID Zeale	Moderate: large stones, slope	Moderate: slope, large stones	Moderate: slope, large stones	Severe: slope	Moderate: slope, frost action, large stones	Moderate: too cobbly, dusty
1129						
PIFL2/LEKI2 Fritz	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
PSME/JUCO6 Gany	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
1130						
Alpine Graminoid Fritz	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Moderate: slope, dusty

Ecological Unit Symbol and Ecological Type Name	Shallow Excavations	Dwellings Without Basements	Dwellings With Basements	Small Commercial Buildings	Local Roads and Streets	Unsurfaced Roads
1131						
ARARA/FEID Mountainboy	Severe: cemented pan, cutbanks cave	Moderate: cemented pan	Severe: cemented pan	Moderate: slope, cemented pan	Moderate: cemented pan, frost action	Severe: depth to rock
1133						
PSME/ARTRV Meegero	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
ARTRP4/FEID Monida	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength, slope	Severe: slope, low strength
1140						
ABLA/THOC Nearl	Severe: wetness	Severe: wetness, shrink-swell	Severe: wetness, shrink-swell	Severe: wetness, shrink-swell, slope	Severe: shrink-swell, low strength, frost action	Severe: wetness, shrink-swell, low strength
1144						
ABLA/SPBE2 Koffgo	Severe: large stones, slope	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, too stony
1145						
ARTRP4/FEID Monida	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength, slope	Severe: low strength
ARTRP4/FEID Zeebar	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength
1146						
ARTRP4/FEID Zeebar	Moderate: slope	Moderate: slope	Moderate: slope	Severe: slope	Moderate: slope, frost action	Severe: low strength
1147						
ARTRP4/FEID Zeebar	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope, low strength
1149						
PSME/CARU,CARU Edgway	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
1150						
ABLA/CARU,CARU Rhylow	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
ABLA/CARU,CARU Fitzwil	Moderate: slope	Moderate: slope	Moderate: slope	Severe: slope	Moderate: slope, frost action	Moderate: dusty, low strength
1154						
PSME/JUCO6 Pikaden	Severe: cutbanks cave, slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
PSME/FEID Pikaden	Severe: cutbanks cave, slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
Rubble Land						
1170						
ABLA/Tall Forb Yodal	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength
1172						
ABLA/ACGL Gany	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
ABLA/THOC Katpa	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
PSME/BERE,SYOR2 Fritz	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope, low strength
1175						
ABLA/Tall Forb Yodal	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope, low strength
1204						
PSME/ARTRV Povey	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
1209						
Tall Forb Etnass	Moderate: too clayey, slope	Severe: shrink-swell	Severe: shrink-swell	Severe: shrink-swell, slope	Severe: shrink-swell, low strength, frost action	Severe: shrink-swell, low strength
ABLA/THOC Nearl	Severe: wetness	Severe: wetness, shrink-swell	Severe: wetness, shrink-swell	Severe: wetness, shrink-swell, slope	Severe: shrink-swell, low strength, frost action	Severe: wetness, shrink-swell, low strength
PSME/ARTRV Tophat	Severe: slope	Severe: shrink-swell, slope	Severe: slope, shrink-swell	Severe: shrink-swell, slope	Severe: shrink-swell, low strength, slope	Severe: shrink-swell, low strength

Ecological Unit Symbol and Ecological Type Name	Shallow Excavations	Dwellings Without Basements	Dwellings With Basements	Small Commercial Buildings	Local Roads and Streets	Unsurfaced Roads
1216						
ABLA/ACGL Koffgo	Severe: large stones, slope	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, too stony
ABLA/ACGL Rhylow	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
PSME/ARTRV Povey	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
1219						
ABLA/PHMA5 Lagall	Severe: large stones, slope	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, too stony
PSME/ARTRV Povey	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
PSME/BERE,SYOR2 Fritz	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope, low strength
1222						
ABLA/ACGL Koffgo	Severe: large stones, slope	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, too stony
PSME/SYAL Lagall	Severe: large stones, slope	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, too stony
ABLA/ACGL Rhylow	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
1224						
ABLA/VAGL,PAMY Huckridge	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Moderate: slope, shrink-swell, dusty
ABLA/VAGL,PAMY Koffgo	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
PSME/ARTRV Povey	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
1225						
PIAL Lasac	Severe: cutbanks cave, slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope, frost action	Severe: slope, too stony
ABLA/VASC,VASC Castan	Severe: cutbanks cave, slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope, frost action	Severe: slope
1228						
PSME/CARU,CARU Nopla	Moderate: slope	Moderate: slope	Moderate: slope	Severe: slope	Moderate: slope, frost action	Severe: low strength
1230						
PSME/SPBE2,CARU Vitricryands	Severe: cutbanks cave, slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope, frost action	Severe: slope
1250						
PSME/ARTRV Povey	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Moderate: slope, dusty
1270						
ABLA/ARTRS2 Cryumbrepts	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
Rock Outcrop						
1280						
Rubble Land						
Low Alpine Forb Cryochrepts, loamy-skeletal	Severe: depth to rock, large stones, slope	Severe: slope, large stones	Severe: depth to rock, slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope
Rock Outcrop						
1294						
ARTRP4/SYOR2/FEID Tetonia	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope, frost action	Moderate: slope, dusty, low strength
PSME/OSCH Rin	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope, frost action	Moderate: slope, dusty, low strength
1303						
ABLA/OSCH,PAMY Edgway	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope, low strength
ABLA/THOC Jumpstart	Severe: slope	Severe: shrink-swell, slope	Severe: slope, shrink-swell	Severe: shrink-swell, slope	Severe: shrink-swell, low strength, slope	Severe: slope, shrink-swell, low strength
PSME/ARTRV Tophat	Severe: slope	Severe: shrink-swell, slope	Severe: slope, shrink-swell	Severe: shrink-swell, slope	Severe: shrink-swell, low strength, slope	Severe: slope, shrink-swell, low strength

Ecological Unit Symbol and Ecological Type Name	Shallow Excavations	Dwellings Without Basements	Dwellings With Basements	Small Commercial Buildings	Local Roads and Streets	Unsurfaced Roads
1307						
ABLA/VAGL,PAMY Huckridge	Moderate: cutbanks cave, slope	Moderate: slope	Moderate: slope, shrink-swell	Severe: slope	Moderate: slope, frost action	Moderate: shrink-swell, dusty, low strength
1313						
ARTRP4/FEID Cryoborolls	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Moderate: slope, too cobbly, dusty
1315						
ABLA/OSCH,PAMY Edgway	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope, low strength
ABLA/VAGL,PAMY Koffgo	Severe: large stones, slope	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope
PSME/ARTRV Povey	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
1316						
ABLA/VAGL,PAMY Koffgo	Severe: large stones, slope	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope
ABLA/THOC Koffgo	Severe: large stones, slope	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, too stony
Rock Outcrop						
1331						
Low Alpine Forb Oorang	Severe: large stones, slope	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: too cobbly, too stony, low strength
Rubble Land						
1332						
ARTRP4/FEID Quirt	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength, slope	Severe: shrink-swell, low strength
1333						
ARTRP4/FEID Quirt	Moderate: too clayey, slope	Moderate: shrink-swell, slope	Moderate: slope, shrink-swell	Severe: slope	Severe: low strength	Severe: shrink-swell, low strength
ARTRP4/SYOR2/FEID Tetonia	Moderate: slope	Moderate: slope	Moderate: slope	Severe: slope	Severe: frost action	Moderate: dusty, low strength
1400						
ARTRP4/ARART Trude	Severe: cutbanks cave	Slight	Slight	Slight	Slight	Slight
1401						
ARTRP4/ARART Trude	Severe: cutbanks cave	Slight	Slight	Slight	Slight	Slight
ABLA/CACA4,CACA4 Bootjack	Severe: cutbanks cave, wetness	Severe: flooding, wetness	Severe: flooding, wetness	Severe: flooding, wetness	Severe: wetness, flooding, frost action	Severe: wetness, flooding
1414						
ABLA/VASC,PIAL Winegar	Severe: cutbanks cave	Moderate: slope	Moderate: slope	Severe: slope	Moderate: slope, frost action	Moderate: depth to rock, dusty, low strength
CALE4 Oxyaquic Cryochrepts	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness, slope	Severe: wetness, frost action	Severe: wetness
Rock Outcrop						
1430						
PSME/SYOR2 Kyway	Severe: depth to rock, slope	Severe: slope	Severe: depth to rock, slope	Severe: slope	Severe: slope	Moderate: depth to rock, slope, low strength
1505						
ARTRP4/SYOR2/FEID Tetonia	Moderate: slope	Moderate: slope	Moderate: slope	Severe: slope	Severe: frost action	Moderate: dusty, low strength
1506						
PSME/SYAL Lagall, till substratum	Moderate: slope	Moderate: slope	Moderate: slope	Severe: slope	Moderate: slope, frost action	Moderate: slope, dusty, low strength
1507						
ARTRT/AGSP Buist	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope, too stony
ABLA/PHMA5 Lagall	Severe: large stones, slope	Severe: large stones, slope	Severe: large stones, slope	Severe: large stones, slope	Severe: large stones, slope	Severe: slope, too stony

Ecological Unit Symbol and Ecological Type Name	Shallow Excavations	Dwellings Without Basements	Dwellings With Basements	Small Commercial Buildings	Local Roads and Streets	Unsurfaced Roads
1516						
ABLA/VAGL,VAGL Winegar	Severe: cutbanks cave	Moderate: slope	Moderate: slope	Severe: slope	Moderate: slope, frost action	Moderate: depth to rock, dusty, low strength
ABLA/VASC,CARU Bradco	Severe: cutbanks cave	Moderate: slope	Moderate: slope	Severe: slope	Moderate: slope, frost action	Moderate: depth to rock, low strength
1570						
ABLA/VASC,VASC Dashiki	Severe: cutbanks cave	Slight	Slight	Moderate: slope	Severe: frost action	Moderate: dusty, low strength
PIAL/CARO5,PICO Lasac	Severe: cutbanks cave, slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope, frost action	Severe: too stony
1573						
ABLA/VASC Oleo	Moderate: slope	Moderate: slope	Moderate: slope	Severe: slope	Severe: frost action	Moderate: too stony, dusty, low strength
PIAL/CARO5,PICO Lasac	Severe: cutbanks cave	Moderate: slope, large stones	Moderate: slope, large stones	Severe: slope	Severe: frost action	Severe: too stony
1575						
ABLA/CARU,CARU Koffgo	Moderate: large stones, slope	Moderate: slope, large stones	Moderate: slope, large stones	Severe: slope	Moderate: slope, frost action, large stones	Moderate: too cobbly, too stony, dusty
ABLA/VAGL,VAGL Koffgo	Severe: large stones	Severe: large stones	Severe: large stones	Severe: slope, large stones	Severe: large stones	Severe: too stony
1576						
ABLA/ARCO9,ARCO9 Fitzwil	Moderate: slope	Moderate: slope	Moderate: slope	Severe: slope	Moderate: slope, frost action	Moderate: slope, dusty, low strength
PIAL/ARTRP4 Fitzwil	Moderate: slope	Moderate: slope	Moderate: slope	Severe: slope	Moderate: slope, frost action	Moderate: slope, dusty, low strength
1585						
ABLA/VASC,CARU Rhylow	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Moderate: slope, dusty, low strength
1592						
PSME/SYAL Lagall	Severe: large stones, slope	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, too stony
1593						
ABLA/VAGL,PAMY Koffgo	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
1594						
ABLA/VAGL,VAGL Koffgo	Severe: large stones, slope	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, too stony
1595						
ABLA/VAGL,PAMY Koffgo	Severe: large stones, slope	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Moderate: slope, too cobbly, too stony
1597						
ABLA/SPBE2 Koffgo	Severe: large stones, slope	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, too stony
1600						
ABLA/VAGL,VASC Koffgo	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: too stony
1646						
ABLA/VAGL,PAMY Huckridge	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
ABLA/VAGL,PAMY Koffgo	Severe: large stones, slope	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope, large stones	Severe: slope
ABLA/OSCH,PAMY Edgway	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope, low strength
1700						
ABLA/VASC,CARU Koffgo	Moderate: large stones, slope	Moderate: slope, large stones	Moderate: slope, large stones	Severe: slope	Moderate: slope, frost action, large stones	Severe: too cobbly, too stony, dusty
1720						
ABLA/VAGL,VAGL Flatstone	Moderate: large stones, slope	Moderate: slope, large stones	Moderate: slope, large stones	Severe: slope	Moderate: slope, frost action, large stones	Severe: too stony

Ecological Unit Symbol and Ecological Type Name	Shallow Excavations	Dwellings Without Basements	Dwellings With Basements	Small Commercial Buildings	Local Roads and Streets	Unsurfaced Roads
1720 (con.)						
ABLA/VASC,CARU Koffgo	Moderate: large stones	Moderate: large stones	Moderate: large stones	Moderate: slope, large stones	Moderate: frost action, large stones	Moderate: too cobbly, too stony, dusty
1730						
ABLA/VASC,CARU Koffgo	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Moderate: slope, too cobbly, too stony
PICO Perfa	Severe: cutbanks cave, wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness
1760						
PSME/ARTRV Fourme	Severe: cutbanks cave	Moderate: shrink-swell	Slight	Moderate: shrink-swell	Moderate: shrink-swell, frost action	Moderate: shrink-swell, dusty
1970						
ABLA Cryoboralfs	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength, slope	Severe: slope, shrink-swell, low strength
PSME/BERE,SYOR2 Cryochrepts, fine	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength, slope	Severe: slope, low strength
1999						
Valleys						
2000						
Graminoid Cryaquolls	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness, frost action	Severe: wetness
2020						
Graminoid Chickreek	Severe: cutbanks cave, ponding	Severe: flooding, ponding	Severe: flooding, ponding	Severe: flooding, ponding	Severe: low strength, ponding, frost action	Severe: wetness
Salix/Graminoid Tepete	Severe: cutbanks cave, excess humus, ponding	Severe: subsides, flooding, ponding	Severe: subsides, flooding, ponding	Severe: subsides, flooding, ponding	Severe: subsides, ponding, frost action	Severe: wetness, low strength
2040						
PICO Perfa	Severe: cutbanks cave, wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness
ABLA/CACA4,CACA4 Bootjack	Severe: cutbanks cave, wetness	Severe: flooding, wetness	Severe: flooding, wetness	Severe: flooding, wetness	Severe: wetness, flooding, frost action	Severe: wetness, flooding
2604						
PIEN/GATR3 Cryofluvents	Severe: cutbanks cave, wetness	Severe: flooding, wetness	Severe: flooding, wetness	Severe: flooding, wetness	Severe: wetness, flooding	Severe: wetness, flooding
2606						
Salix/Graminoid Cryaquolls	Severe: cutbanks cave, wetness	Severe: flooding, wetness	Severe: flooding, wetness	Severe: flooding, wetness	Severe: low strength, wetness, flooding	Severe: wetness, flooding, low strength
Salix/Graminoid Cryaquolls, poorly drained	Severe: cutbanks cave, ponding	Severe: flooding, ponding	Severe: flooding, ponding	Severe: flooding, ponding	Severe: low strength, ponding, flooding	Severe: wetness, flooding, low strength
2608						
ABLA/CACA4,CACA4 Bootjack	Severe: cutbanks cave, wetness	Severe: flooding, wetness	Severe: flooding, wetness	Severe: flooding, wetness	Severe: wetness, flooding, frost action	Severe: wetness, flooding
Salix/Graminoid Cryaquolls, poorly drained	Severe: cutbanks cave, ponding	Severe: flooding, ponding	Severe: flooding, ponding	Severe: flooding, ponding	Severe: low strength, ponding, flooding	Severe: wetness, flooding, low strength
2609						
PIEN Cryaquolls	Severe: cutbanks cave, ponding	Severe: flooding, ponding	Severe: flooding, ponding	Severe: flooding, ponding	Severe: ponding, flooding, frost action	Severe: wetness, flooding
3000						
Pits						

For interpretations of map units 4028 through 4302 refer to the original adjoining soil survey(s).

Construction Materials

This table gives information about the soils as a source of roadfill, sand, gravel and topsoil. The soils are rated Good, Fair, or Poor as a source of roadfill and topsoil. They are rated as Probable or Improbable as a source of sand and gravel. The following paragraphs define the limitations and terms for this table.

Roadfill is soil material that is excavated from its original position and used in road embankments elsewhere. The soils are rated as a source of roadfill for embankments less than 6 feet high. The ratings are given to the soils, from the surface to a depth of 5 feet. It is assumed that soil layers will be mixed during excavating and spreading. The ratings for roadfill are based on soil properties, site features, and observed performance.

Sand consists of natural aggregates suitable for commercial use with a minimum of processing. Sand as a construction material is defined as particles ranging in size from 0.074 mm (USA Standard Series sieve #200) to 4.75 mm (USA Standard Series sieve #4). In this table, only the probability of finding material in suitable quantity is evaluated. The properties used to evaluate soil as a probable source of sand are the grain size as indicated by the Unified soil class, the thickness of the sand layer, and the amount of rock fragments in the soil. If the lower layer of the soil contains sand, the soil is rated as a probable source regardless of thickness. The assumption is that the sand layer below the depth of observation exceeds the minimum thickness.

Gravel are natural aggregates suitable for commercial use with a minimum of processing. Gravel as a construction material is defined as particles ranging in size from 4.76 mm (sieve #4) to 76 mm (3 inches) in diameter. In this table only the probability of finding material in suitable quantity is evaluated. The properties used to evaluate soil as a probable source of gravel are the grain size as indicated by the Unified soil class, the thickness of the gravel layer, and the amount of rock fragments in the soil. If the lower layer of the soil contains gravel, the soil is rated as a probable source regardless of thickness. The assumption is that the gravel layer below the depth of observation exceeds the minimum thickness. Coarse fragments of soft bedrock, such as shale and siltstone, are not considered to be gravel.

Topsoil is used to cover an area to improve soil conditions for the establishment and maintenance of adapted vegetation. The upper 40 inches of soils are evaluated for use as topsoil. Properties that are used to rate the soils are those affecting plant growth, the ease of handling, and the reclamation of the borrow area.

Suitability

Good - The soils have properties favorable for the specified use. There are no soil limitations. Good performance and low maintenance can be expected. Vegetation or other attributes can easily be maintained, improved, or established.

Fair - The soils are moderately favorable for the specified use. One or more soil properties makes these soils less desirable than those rated good or well suited. Vegetation or other attributes can be maintained, improved, or established. A more intensive management effort is needed to maintain the resource base.

Poor - The soils have one or more properties unfavorable for the specified use. Overcoming the unfavorable property requires special design, extra maintenance, or costly alteration. Vegetation or other attributes are difficult to establish or maintain.

Probable - The source material is likely to be in or below the soil.

Improbable - The source material is unlikely to be in or below the soil.

Limitations

Area reclaim - An area difficult to reclaim after the removal of soils for construction and other uses.

Cemented pan - Restrictive, dense, hard, somewhat impervious cemented soil material.

Depth to rock - Bedrock is too near the surface for the specified use.

Excess fines - Excess silt and clay. The soils do not provide an economic source of gravel or sand for construction purposes.

Large stones - Rock fragments 3 inches or more across adversely affect the specified use.

Low strength - The soils have a low resistance to deforming, sliding or failure. Low resistance affects

the specified use. The soils are not strong enough to support loads.

Shrink-swell - The shrinking of soils when dry and the swelling when wet. Shrinking and swelling can damage plant roots, roads, building foundations and other structures.

Slope - Slope is steep enough that special practices are required to ensure satisfactory performance for the specified use.

Small stones - Rock fragments 2 mm to 76 mm in diameter. Small stones adversely affect the specified use.

Thin layer - Suitable soil material is too thin for the specified use.

Too clayey - The soils are slippery and sticky when wet and slow to dry.

Too sandy - The soils are soft and loose, droughty, and low in fertility, or are too fine to use as gravel.

Wetness - The soils are wet during the period of specified use.

Construction Materials

Ecological Unit Symbol and Ecological Type Name	Roadfill	Sand	Gravel	Topsoil
1000				
PICO/VASC Islandpark	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones
PSME/SYAL Potrmound	Poor: depth to rock, large stones	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: large stones, slope
PICO/ARTP4 Spliten	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, large stones
1046				
PICO/ARTRP4 Vadnais	Poor: depth to rock, low strength	Improbable: excess fines	Improbable: excess fines	Fair: depth to rock, small stones, thin layer
Rock Outcrop				
1050				
Cinder Cones				
1106				
ABLA/PHMA5 Gany	Poor: slope	Improbable: small stones	Probable	Poor: small stones, area reclaim, slope
PSME/BERE,SYOR2 Fritz	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
1110				
ARTRP4/FEID Raynoldson	Good	Improbable: small stones	Probable	Poor: small stones, area reclaim
1112				
ABLA/VAGL,PAMY Huckridge	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: slope
PSME/OSCH Paleborolls	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: slope
1123				
ABLA/CARU,CARU Hopburn	Good	Improbable: excess fines	Improbable: excess fines	Fair: too clayey, large stones
PICO/ARTRP4 Vadnais	Poor: depth to rock, low strength	Improbable: excess fines	Improbable: excess fines	Fair: depth to rock, small stones, thin layer
Rock Outcrop				
1125				
ARNO4/AGSP Simeroi	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim
ARTRP4/FEID Zeale	Fair: large stones	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, area reclaim
1126				
ARNO4/AGSP Simeroi	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
1127				
ARTRW8/ARARA Simeroi	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim
1128				
ARTRP4/FEID Monida	Fair: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: small stones
ARTRP4/FEID Zeale	Fair: large stones	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, area reclaim
1129				
PIFL2/LEKI2 Fritz	Poor: slope	Probable	Probable	Poor: small stones, area reclaim, slope
PSME/JUCO6 Gany	Poor: slope	Improbable: small stones	Probable	Poor: small stones, area reclaim, slope
1130				
Alpine Graminoid Fritz	Fair: large stones, slope	Probable	Probable	Poor: small stones, area reclaim, slope
1131				
ARARA/FEID Mountainboy	Good	Improbable: small stones	Probable	Poor: cemented pan, small stones, area reclaim
1133				
PSME/ARTRV Meegero	Poor: slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, area reclaim, slope

Ecological Unit Symbol and Ecological Type Name	Roadfill	Sand	Gravel	Topsoil
1133 (con.)				
ARTRP4/FEID Monida	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
1140				
ABLA/THOC Nearl	Poor: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
1144				
ABLA/SPBE2 Koffgo	Poor: large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, area reclaim, slope
1145				
ARTRP4/FEID Monida	Fair: shrink-swell, low strength, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
ARTRP4/FEID Zeebar	Fair: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
1146				
ARTRP4/FEID Zeebar	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim
1147				
ARTRP4/FEID Zeebar	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
1149				
PSME/CARU,CARU Edgway	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
1150				
ABLA/CARU,CARU Rhylow	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, small stones, slope
ABLA/CARU,CARU Fitzwil	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim
1154				
PSME/UCO6 Pikaden	Poor: slope	Improbable: small stones, large stones	Improbable: large stones	Poor: too sandy, small stones, area reclaim
PSME/FEID Pikaden	Poor: slope	Improbable: small stones, large stones	Improbable: large stones	Poor: too sandy, small stones, area reclaim
Rubble Land				
1170				
ABLA/Tall Forb Yodal	Fair: thin layer, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
1172				
ABLA/ACGL Gany	Poor: slope	Improbable: small stones	Probable	Poor: small stones, area reclaim, slope
ABLA/THOC Katpa	Poor: slope	Improbable: small stones, large stones	Improbable: large stones	Poor: small stones, area reclaim, slope
PSME/BERE,SYOR2 Fritz	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
1175				
ABLA/Tall Forb Yodal	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
1204				
PSME/ARTRV Povey	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
1209				
Tall Forb Etnass	Poor: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: thin layer
ABLA/THOC Nearl	Poor: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
PSME/ARTRV Tophat	Poor: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, area reclaim, small stones
1216				
ABLA/ACGL Koffgo	Poor: large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, area reclaim, slope
ABLA/ACGL Rhylow	Poor: slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: area reclaim, small stones, slope
PSME/ARTRV Povey	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope

Ecological Unit Symbol and Ecological Type Name	Roadfill	Sand	Gravel	Topsoil
1219				
ABLA/PHMA5 Lagall	Poor: large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: area reclaim, small stones, slope
PSME/ARTRV Povey	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
PSME/BERE,SYOR2 Fritz	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
1222				
ABLA/ACGL Koffgo	Poor: large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, area reclaim, slope
PSME/SYAL Lagall	Poor: large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: area reclaim, small stones, slope
ABLA/ACGL Rhylow	Poor: slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: area reclaim, small stones, slope
1224				
ABLA/VAGL,PAMY Huckridge	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: slope
ABLA/VAGL,PAMY Koffgo	Poor: slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, area reclaim, slope
PSME/ARTRV Povey	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
1225				
PIAL Lasac	Poor: slope	Probable	Probable	Poor: too sandy, small stones, area reclaim
ABLA/VASC,VASC Castan	Poor: slope	Probable	Probable	Poor: small stones, area reclaim, slope
1228				
PSME/CARU,CARU Nopla	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim
1230				
PSME/SPBE2,CARU Vitricryands	Poor: slope	Improbable: large stones	Improbable: large stones	Poor: small stones, area reclaim, slope
1250				
PSME/ARTRV Povey	Fair: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
1270				
ABLA/ARTRS2 Cryumbrepts	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Severe: small stones, large stones, slope
Rock Outcrop				
1280				
Rubble Land				
Low Alpine Forb Cryochrepts, loamy-skeletal	Poor: depth to rock, large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, slope
Rock Outcrop				
1294				
ARTRP4/SYOR2/FEID Tetonia	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: slope
PSME/OSCH Rin	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: slope
1303				
ABLA/OSCH,PAMY Edgway	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, small stones, slope
ABLA/THOC Jumpstart	Poor: shrink-swell, low strength, slope	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope
PSME/ARTRV Tophat	Poor: shrink-swell, low strength, slope	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, area reclaim, small stones
1307				
ABLA/VAGL,PAMY Huckridge	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: large stones, slope
1313				
ARTRP4/FEID Cryoborolls	Fair: large stones, slope	Improbable: large stones	Improbable: large stones	Poor: small stones, area reclaim, slope
1315				
ABLA/OSCH,PAMY Edgway	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, small stones, slope
ABLA/VAGL,PAMY Koffgo	Poor: large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, area reclaim, slope

Ecological Unit Symbol and Ecological Type Name	Roadfill	Sand	Gravel	Topsoil
1315 (con.)				
PSME/ARTRV Povey	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
1316				
ABLA/VAGL,PAMY Koffgo	Poor: large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, area reclaim, slope
ABLA/THOC Koffgo	Poor: large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, area reclaim, slope
Rock Outcrop				
1331				
Low Alpine Forb Oorang	Poor: large stones	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, slope
Rubble Land				
1332				
ARTRP4/FEID Quirt	Poor: low strength, slope	Improbable: excess fines	Improbable: excess fines	Poor: thin layer, slope
1333				
ARTRP4/FEID Quirt	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: thin layer
ARTRP4/SYOR2/FEID Tetonia	Good	Improbable: excess fines	Improbable: excess fines	Fair: slope
1400				
ARTRP4/ARART Trude	Good	Probable	Probable	Poor: too sandy, small stones, area reclaim
1401				
ARTRP4/ARART Trude	Good	Probable	Probable	Poor: too sandy, small stones, area reclaim
ABLA/CACA4,CACA4 Bootjack	Poor: wetness	Probable	Probable	Poor: too sandy, small stones, area reclaim
1414				
ABLA/VASC,PIAL Winegar	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim
CALE4 Oxyaquic Cryochrepts	Poor: wetness	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, small stones, wetness
Rock Outcrop				
1430				
PSME/SYOR2 Kyway	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
1505				
ARTRP4/SYOR2/FEID Tetonia	Good	Improbable: excess fines	Improbable: excess fines	Fair: slope
1506				
PSME/SYAL Lagall, till substratum	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim
1507				
ARTRT/AGSP Buist	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: large stones, area reclaim, slope
ABLA/PHMA5 Lagall	Poor: large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: area reclaim, small stones, slope
1516				
ABLA/VAGL,VAGL Winegar	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim
ABLA/VASC,CARU Bradco	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim
1570				
ABLA/VASC,VASC Dashiki	Good	Probable	Probable	Poor: small stones, area reclaim
PIAL/CARO5,PICO Lasac	Fair: large stones, slope	Probable	Probable	Poor: too sandy, small stones, area reclaim
1573				
ABLA/VASC Oleo	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim
PIAL/CARO5,PICO Lasac	Fair: large stones	Probable	Probable	Poor: too sandy, small stones, area reclaim

Ecological Unit Symbol and Ecological Type Name	Roadfill	Sand	Gravel	Topsoil
1575				
ABLA/CARU,CARU Koffgo	Fair: thin layer, large stones	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, area reclaim
ABLA/VAGL,VAGL Koffgo	Poor: large stones	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, area reclaim
1576				
ABLA/ARCO9,ARCO9 Fitzwil	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim
PIAL/ARTRP4 Fitzwil	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim
1585				
ABLA/VASC,CARU Rhylow	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, small stones, slope
1592				
PSME/SYAL Lagall	Poor: large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: area reclaim, small stones, slope
1593				
ABLA/VAGL,PAMY Koffgo	Poor: slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, area reclaim, slope
1594				
ABLA/VAGL,VAGL Koffgo	Poor: large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, area reclaim, slope
1595				
ABLA/VAGL,PAMY Koffgo	Poor: large stones	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, area reclaim, slope
1597				
ABLA/SPBE2 Koffgo	Poor: large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, area reclaim, slope
1600				
ABLA/VAGL,VASC Koffgo	Fair: thin layer, large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, area reclaim, slope
1646				
ABLA/VAGL,PAMY Huckridge	Poor: low strength, slope	Improbable: excess fines	Improbable: excess fines	Poor: slope
ABLA/VAGL,PAMY Koffgo	Poor: large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, area reclaim, slope
ABLA/OSCH,PAMY Edgway	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, small stones, slope
1700				
ABLA/VASC,CARU Koffgo	Fair: thin layer, large stones	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, area reclaim
1720				
ABLA/VAGL,VAGL Flatstone	Fair: large stones	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim
ABLA/VASC,CARU Koffgo	Fair: thin layer, large stones	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, area reclaim
1730				
ABLA/VASC,CARU Koffgo	Fair: thin layer, large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: small stones, area reclaim, slope
PICO Perfa	Poor: wetness	Probable	Improbable: too sandy	Poor: too sandy, small stones, wetness
1760				
PSME/ARTRV Fourme	Good	Improbable: small stones	Probable	Poor: small stones, area reclaim
1970				
ABLA Cryoboralfs	Poor: depth to rock, low strength, slope	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope
PSME/BERE,SYOR2 Cryochrepts, fine	Poor: depth to rock, low strength, slope	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope
1999				
Valleys				

Ecological Unit Symbol and Ecological Type Name	Roadfill	Sand	Gravel	Topsoil
2000				
Graminoid Cryaquolls	Poor: wetness	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, wetness
2020				
Graminoid Chickreek	Poor: wetness	Probable	Probable	Poor: area reclaim, wetness
Salix/Graminoid Tepete	Poor: wetness	Probable	Probable	Poor: excess humus, area reclaim, wetness
2040				
PICO Perfa	Poor: wetness	Probable	Improbable: too sandy	Poor: too sandy, small stones, wetness
ABLA/CACA4,CACA4 Bootjack	Poor: wetness	Probable	Probable	Poor: too sandy, small stones, area reclaim
2604				
PIEN/GATR3 Cryofluvents	Poor: wetness	Improbable: large stones	Improbable: large stones	Poor: too sandy, area reclaim, small stones
2606				
Salix/Graminoid Cryaquolls	Poor: wetness	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, wetness
Salix/Graminoid Cryaquolls, poorly drained	Poor: wetness	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, wetness
2608				
ABLA/CACA4,CACA4 Bootjack	Poor: wetness	Probable	Probable	Poor: too sandy, small stones, area reclaim
Salix/Graminoid Cryaquolls, poorly drained	Poor: wetness	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, wetness
2609				
PIEN Cryaquolls	Poor: wetness	Improbable: large stones	Improbable: large stones	Poor: too sandy, area reclaim, small stones
3000				
Pits				

For interpretations of map units 4028 through 4302 refer to the original adjoining soil survey(s).

Recreational Development

This table shows the degree and kind of soil limitations that affect camp areas, picnic areas, playgrounds, foot and saddlestock trails, motorcycle trails and off-road vehicle use. The degree of soil limitations are expressed as Slight, Moderate and Severe. These terms and the kinds of limitations are defined in the following paragraphs.

Camp Areas are tracts of land used intensively as sites for tents, trailers, campers and the accompanying activities common to developed recreation sites. Camp areas may require site preparation, such as leveling tent and parking areas, stabilizing roads and installing sanitary facilities or utility lines. Soil properties and site features considered for the ratings are those affecting the ease of developing camping areas and the performance of the camping area following development.

Picnic Areas are natural or landscaped tracts of land used primarily for preparing meals and eating outdoors. These areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. Soil properties and site features considered for the ratings are those affecting the ease in developing picnic areas and the performance of the site following development.

Playgrounds are areas used intensively for games. Playgrounds require nearly level soil surfaces that can withstand intensive foot traffic, maintain adequate vegetation and are free of stones. The soils are rated on the basis of properties that influence the cost of grading, trafficability and the growth of vegetation.

Foot and Saddlestock Trails are used for walking, horseback riding or similar uses. Soil properties and site features considered for the ratings are those affecting the ease of constructing and maintaining these trails.

Motorcycle Trails are unsurfaced trails with little or no grading used for motorcycle riding. The soils are rated on properties and qualities that influence erodibility, trafficability, dustiness and revegetation. Trails for other off-road vehicles may have similar criteria.

Off-road Vehicles include the use of 2-wheeled and 4-wheeled vehicles crossing the terrain in a random manner when the soils are not saturated. This rating is not applicable for the planning and design of intensive off-road vehicle use areas. The soils are rated on properties and qualities that influence long-term site productivity.

Degree Of Limitations

Slight - This rating is given to soils that have properties favorable for the specified use. This degree of limitation is minor and can be overcome easily. Good performance and low maintenance can be expected.

Moderate - This rating is given to soils that have properties moderately favorable for the specified use. This degree of limitation can be overcome or modified by special planning, design, or maintenance. The expected performance of the structure or other planned use is somewhat less desirable than for soils rated slight.

Severe - This rating is given to soils that have one or more properties unfavorable for the specified use. This degree of limitation generally requires major soil reclamation, special design or intensive maintenance. Some of the soils can be improved by reducing or removing the soil features that limit use. In most situations it is difficult and costly to alter the soils or to design a structure to compensate for a severe degree of limitation.

Limitations

Cemented pan - Restrictive, dense, hard, somewhat impervious cemented soil material.

Depth to rock - Bedrock is too near the surface for the specified use.

Dusty- Soil particles detach easily and cause dust.

Excess humus - Too much organic matter.

Flooding - Soils flooded by moving water from stream overflow.

Large stones - Rock fragments 3 inches or more across adversely affect the specified use.

Percs slowly - The slow movement of water through the soils adversely affects the specified use.

Ponding - Standing water on soils in closed depressions that is removed only by percolation or evapotranspiration.

Slope - Slope is steep enough that special practices are required to ensure satisfactory performance for the specified use.

Small stones - Rock fragments 2 mm to 76 mm in diameter. Small stones adversely affect the specified use.

Too clayey - The soils are slippery and sticky when wet and slow to dry.

Too gravelly - The soils have excess gravel for the specified use.

Too rocky - The soils have excess rock fragments for the specified use.

Too sandy - The soils are soft and loose, droughty and low in fertility or are too fine to use as gravel.

Wetness - The soils are wet during the period of specified use.

Recreational Development

Ecological Unit Symbol and Ecological Type Name	Camp Areas	Picnic Areas	Playgrounds	Foot and Saddlestock Trails	Off-Road Vehicles	Motorcycle Trails
1000						
PICO/VASC Islandpark	Slight	Slight	Moderate: slope	Slight	Severe: compacts easily	Moderate: erodes easily, dusty
PSME/SYAL Potrmound	Severe: slope, large stones, small stones	Severe: slope, large stones, small stones	Severe: large stones, slope, small stones	Severe: large stones	Severe: too stony, erodes easily, compacts easily	Severe: too rocky, erodes easily
PICO/ARTRP4 Spliten	Severe: depth to rock	Severe: depth to rock	Severe: large stones, depth to rock	Moderate: large stones	Severe: compacts easily, depth to rock	Severe: too rocky
1046						
PICO/ARTRP4 Vadnais	Slight	Slight	Severe: slope	Slight	Severe: erodes easily, compacts easily	Severe: erodes easily
Rock Outcrop						
1050						
Cinder Cones						
1106						
ABLA/PHMA5 Gany	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, slope	Severe: erodes easily, slope
PSME/BERE,SYOR2 Fritz	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
1110						
ARTRP4/FEID Raynoldson	Moderate: slope, small stones	Moderate: slope, small stones	Severe: slope, small stones	Slight	Severe: erodes easily	Severe: erodes easily
1112						
ABLA/VAGL,PAMY Huckridge	Severe: slope	Severe: slope	Severe: slope	Severe: erodes easily	Severe: erodes easily, compacts easily, slope	Severe: erodes easily
PSME/OSCH Paleborolls	Severe: slope	Severe: slope	Severe: slope	Moderate: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily
1123						
ABLA/CARU,CARU Hopburn	Slight	Slight	Severe: slope	Slight	Severe: compacts easily	Moderate: too rocky, erodes easily, dusty
PICO/ARTRP4 Vadnais	Slight	Slight	Severe: slope	Slight	Severe: erodes easily, compacts easily	Severe: erodes easily
Rock Outcrop						
1125						
ARNO4/AGSP Simeroi	Severe: small stones	Severe: small stones	Severe: slope, small stones	Moderate: dusty	Severe: erodes easily	Severe: erodes easily
ARTRP4/FEID Zeale	Moderate: slope, small stones	Moderate: slope, small stones	Severe: slope, small stones	Slight	Severe: erodes easily, compacts easily	Severe: erodes easily
1126						
ARNO4/AGSP Simeroi	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: slope	Severe: erodes easily, slope	Severe: erodes easily, slope
1127						
ARTRW8/ARARA Simeroi	Moderate: slope, small stones, dusty	Moderate: slope, small stones, dusty	Severe: slope, small stones	Moderate: dusty	Severe: erodes easily, compacts easily	Severe: erodes easily
1128						
ARTRP4/FEID Monida	Moderate: slope	Moderate: slope	Severe: slope	Slight	Severe: erodes easily	Severe: erodes easily
ARTRP4/FEID Zeale	Moderate: slope, small stones	Moderate: slope, small stones	Severe: slope, small stones	Slight	Severe: erodes easily, compacts easily	Severe: erodes easily
1129						
PIFL2/LEKI2 Fritz	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: erodes easily, slope	Severe: too gravelly, erodes easily, slope
PSME/JUCO6 Gany	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: erodes easily, slope	Severe: too gravelly, erodes easily, slope

Ecological Unit Symbol and Ecological Type Name	Camp Areas	Picnic Areas	Playgrounds	Foot and Saddlestock Trails	Off-Road Vehicles	Motorcycle Trails
1130						
Alpine Graminoid Fritz	Severe: slope	Severe: slope	Severe: slope, small stones	Moderate: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily
1131						
ARARA/FEID Mountainboy	Severe: cemented pan	Severe: cemented pan	Severe: small stones, cemented pan	Slight	Severe: compacts easily, depth to rock	Moderate: too gravelly, erodes easily, dusty
1133						
PSME/ARTRV Meegero	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
ARTRP4/FEID Monida	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily
1140						
ABLA/THOC Nearl	Severe: wetness	Moderate: slope, wetness	Severe: slope, wetness	Moderate: wetness	Severe: wetness, erodes easily	Severe: erodes easily
1144						
ABLA/SPBE2 Koffgo	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, slope	Severe: erodes easily, slope
1145						
ARTRP4/FEID Monida	Severe: slope	Severe: slope	Severe: slope	Moderate: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily
ARTRP4/FEID Zeebar	Severe: slope	Severe: slope	Severe: slope, small stones	Moderate: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily
1146						
ARTRP4/FEID Zeebar	Moderate: slope, small stones	Moderate: slope, small stones	Severe: slope, small stones	Slight	Severe: erodes easily, compacts easily	Severe: erodes easily
1147						
ARTRP4/FEID Zeebar	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
1149						
PSME/CARU,CARU Edgway	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: slope	Severe: erodes easily, slope	Severe: erodes easily
1150						
ABLA/CARU,CARU Rhylow	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily
ABLA/CARU,CARU Fitzwil	Moderate: slope, small stones	Moderate: slope, small stones	Severe: slope, small stones	Slight	Severe: erodes easily, compacts easily	Severe: erodes easily
1154						
PSME/JUCO6 Pikaden	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: erodes easily, slope	Severe: too gravelly, erodes easily, slope
PSME/FEID Pikaden	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: erodes easily, slope	Severe: too gravelly, erodes easily, slope
Rubble Land						
1170						
ABLA/Tall Forb Yodal	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Moderate: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily
1172						
ABLA/ACGL Gany	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: erodes easily, slope	Severe: too gravelly, erodes easily, slope
ABLA/THOC Katpa	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
PSME/BERE,SYOR2 Fritz	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope

Ecological Unit Symbol and Ecological Type Name	Camp Areas	Picnic Areas	Playgrounds	Foot and Saddlestock Trails	Off-Road Vehicles	Motorcycle Trails
1175						
ABLA/Tall Forb Yodal	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
1204						
PSME/ARTRV Povey	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
1209						
Tall Forb Etnass	Moderate: slope	Moderate: slope	Severe: slope	Slight	Moderate: too clayey, erodes easily, compacts easily	Moderate: erodes easily
ABLA/THOC Nearl	Severe: wetness	Moderate: slope, wetness	Severe: slope, wetness	Moderate: wetness	Severe: wetness, erodes easily	Severe: erodes easily
PSME/ARTRV Tophat	Severe: slope	Severe: slope	Severe: large stones, slope, small stones	Moderate: large stones, slope	Severe: erodes easily, slope	Severe: erodes easily
1216						
ABLA/ACGL Koffgo	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, slope	Severe: erodes easily, slope
ABLA/ACGL Rhylow	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: erodes easily, slope	Severe: too gravelly, erodes easily, slope
PSME/ARTRV Povey	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
1219						
ABLA/PHMA5 Lagall	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: erodes easily, slope	Severe: too gravelly, erodes easily, slope
PSME/ARTRV Povey	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
PSME/BERE,SYOR2 Fritz	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
1222						
ABLA/ACGL Koffgo	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, slope	Severe: erodes easily, slope
PSME/SYAL Lagall	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: erodes easily, slope	Severe: too rocky, too gravelly, erodes easily
ABLA/ACGL Rhylow	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: erodes easily, slope	Severe: too gravelly, erodes easily, slope
1224						
ABLA/VAGL,PAMY Huckridge	Severe: slope	Severe: slope	Severe: slope	Severe: erodes easily	Severe: erodes easily, compacts easily, slope	Severe: erodes easily
ABLA/VAGL,PAMY Koffgo	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
PSME/ARTRV Povey	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
1225						
PIAL Lasac	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
ABLA/VASC,VASC Castan	Severe: slope	Severe: slope	Severe: large stones, slope, small stones	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
1228						
PSME/CARU,CARU Nopla	Moderate: slope	Moderate: slope	Severe: slope	Slight	Severe: erodes easily, compacts easily	Severe: erodes easily
1230						
PSME/SPBE2,CARU Vitricryands	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, slope	Severe: erodes easily, slope

Ecological Unit Symbol and Ecological Type Name	Camp Areas	Picnic Areas	Playgrounds	Foot and Saddlestock Trails	Off-Road Vehicles	Motorcycle Trails
1250						
PSME/ARTRV Povey	Severe: slope	Severe: slope	Severe: slope, small stones	Moderate: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily
1270						
ABLA/ARTRS2 Cryumbrepts	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
Rock Outcrop						
1280						
Rubble Land						
Low Alpine Forb Cryochrepts, loamy-skeletal	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: erodes easily, slope	Severe: too gravelly, erodes easily, slope
Rock Outcrop						
1294						
ARTRP4/SYOR2/FEID Tetonia	Severe: slope	Severe: slope	Severe: slope	Severe: slope, erodes easily	Severe: erodes easily, compacts easily, slope	Severe: erodes easily
PSME/OSCH Rin	Severe: slope	Severe: slope	Severe: slope	Severe: slope, erodes easily	Severe: erodes easily, compacts easily, slope	Severe: erodes easily
1303						
ABLA/OSCH,PAMY Edgway	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
ABLA/THOC Jumpstart	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
PSME/ARTRV Tophat	Severe: slope	Severe: slope	Severe: large stones, slope, small stones	Severe: slope	Severe: erodes easily, slope	Severe: erodes easily, slope
1307						
ABLA/VAGL,PAMY Huckridge	Moderate: slope	Moderate: slope	Severe: slope	Severe: erodes easily	Severe: erodes easily, compacts easily	Severe: erodes easily
1313						
ARTRP4/FEID Cryoborolls	Severe: slope	Severe: slope	Severe: slope, small stones	Moderate: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily
1315						
ABLA/OSCH,PAMY Edgway	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily
ABLA/VAGL,PAMY Koffgo	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
PSME/ARTRV Povey	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
1316						
ABLA/VAGL,PAMY Koffgo	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
ABLA/THOC Koffgo	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, slope	Severe: erodes easily, slope
Rock Outcrop						
1331						
Low Alpine Forb Oorang	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: large stones, small stones	Severe: erodes easily, slope	Severe: too rocky, too gravelly, erodes easily
Rubble land						
1332						
ARTRP4/FEID Quirt	Severe: slope	Severe: slope	Severe: slope	Severe: slope, erodes easily	Severe: erodes easily, compacts easily, slope	Severe: erodes easily

Ecological Unit Symbol and Ecological Type Name	Camp Areas	Picnic Areas	Playgrounds	Foot and Saddlestock Trails	Off-Road Vehicles	Motorcycle Trails
1333						
ARTRP4/FEID Quirt	Moderate: slope	Moderate: slope	Severe: slope	Severe: erodes easily	Severe: erodes easily, compacts easily	Severe: erodes easily
ARTRP4/SYOR2/FEID Tetonia	Moderate: slope	Moderate: slope	Severe: slope	Severe: erodes easily	Severe: erodes easily, compacts easily	Severe: erodes easily
1400						
ARTRP4/ARART Trude	Moderate: small stones	Moderate: small stones	Severe: small stones	Slight	Moderate: compacts easily	Moderate: too gravelly
1401						
ARTRP4/ARART Trude	Moderate: small stones	Moderate: small stones	Severe: small stones	Slight	Moderate: compacts easily	Moderate: too gravelly
ABLA/CACA4,CACA4 Bootjack	Severe: flooding, wetness	Severe: wetness	Severe: wetness, flooding	Severe: wetness	Severe: wetness, compacts easily	Severe: wetness
1414						
ABLA/VASC,PIAL Winegar	Moderate: slope, small stones, percs slowly	Moderate: slope, small stones, percs slowly	Severe: slope, small stones	Slight	Severe: compacts easily	Moderate: too rocky, erodes easily, dusty
CALE4 Oxyaquic Cryochrepts	Severe: wetness	Severe: wetness	Severe: slope, wetness	Severe: wetness, erodes easily	Severe: wetness, erodes easily, compacts easily	Severe: wetness, erodes easily
Rock Outcrop						
1430						
PSME/SYOR2 Kyway	Severe: slope	Severe: slope	Severe: slope	Moderate: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily
1505						
ARTRP4/SYOR2/FEID Tetonia	Moderate: slope	Moderate: slope	Severe: slope	Severe: erodes easily	Severe: erodes easily, compacts easily	Severe: erodes easily
1506						
PSME/SYAL Lagall, till substratum	Moderate: slope	Moderate: slope	Severe: slope	Slight	Severe: erodes easily, compacts easily	Severe: erodes easily
1507						
ARTRT/AGSP Buist	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
ABLA/PHMA5 Lagall	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: erodes easily, slope	Severe: too gravelly, erodes easily, slope
1516						
ABLA/VAGL,VAGL Winegar	Moderate: slope, small stones, percs slowly	Moderate: slope, small stones, percs slowly	Severe: slope, small stones	Slight	Severe: compacts easily	Moderate: too rocky, erodes easily, dusty
ABLA/VASC,CARU Bradco	Moderate: slope, percs slowly	Moderate: slope, percs slowly	Severe: slope	Slight	Moderate: erodes easily, compacts easily, depth to rock	Moderate: erodes easily
1570						
ABLA/VASC,VASC Dashiki	Slight	Slight	Severe: slope	Slight	Severe: compacts easily	Moderate: too rocky, erodes easily, dusty
PIAL/CARO5,PICO Lasac	Severe: slope	Severe: slope	Severe: slope, small stones	Moderate: slope	Severe: erodes easily, compacts easily	Severe: erodes easily
1573						
ABLA/VASC Oleo	Moderate: slope	Moderate: slope	Severe: slope	Slight	Severe: compacts easily	Moderate: too rocky, erodes easily, dusty
PIAL/CARO5,PICO Lasac	Moderate: slope, small stones	Moderate: slope, small stones	Severe: slope, small stones	Slight	Severe: erodes easily, compacts easily	Severe: erodes easily
1575						
ABLA/CARU,CARU Koffgo	Moderate: slope	Moderate: slope	Severe: slope	Slight	Severe: erodes easily, compacts easily	Severe: erodes easily
ABLA/VAGL,VAGL Koffgo	Moderate: slope, small stones	Moderate: slope, small stones	Severe: slope, small stones	Slight	Moderate: erodes easily, compacts easily, slope	Moderate: too rocky, too gravelly, erodes easily

Ecological Unit Symbol and Ecological Type Name	Camp Areas	Picnic Areas	Playgrounds	Foot and Saddlestock Trails	Off-Road Vehicles	Motorcycle Trails
1576						
ABLA/ARCO9,ARCO9 Fitzwil	Moderate: slope	Moderate: slope	Severe: slope	Slight	Severe: erodes easily, compacts easily	Severe: erodes easily
PIAL/ARTRP4 Fitzwil	Moderate: slope	Moderate: slope	Severe: slope	Slight	Severe: erodes easily, compacts easily	Severe: erodes easily
1585						
ABLA/VASC,CARU Rhylow	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily
1592						
PSME/SYAL Lagall	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Severe: erodes easily, slope	Severe: too rocky, too gravelly, erodes easily
1593						
ABLA/VAGL,PAMY Koffgo	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
1594						
ABLA/VAGL,VAGL Koffgo	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, slope	Severe: erodes easily, slope
1595						
ABLA/VAGL,PAMY Koffgo	Severe: slope	Severe: slope	Severe: slope, small stones	Moderate: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily
1597						
ABLA/SPBE2 Koffgo	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, slope	Severe: erodes easily, slope
1600						
ABLA/VAGL,VASC Koffgo	Severe: slope	Severe: slope	Severe: slope, small stones	Moderate: slope	Severe: erodes easily	Severe: erodes easily
1646						
ABLA/VAGL,PAMY Huckridge	Severe: slope	Severe: slope	Severe: slope	Severe: erodes easily	Severe: erodes easily, compacts easily, slope	Severe: erodes easily
ABLA/VAGL,PAMY Koffgo	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
ABLA/OSCH,PAMY Edgway	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope
1700						
ABLA/VASC,CARU Koffgo	Moderate: slope	Moderate: slope	Severe: slope	Slight	Severe: erodes easily, compacts easily	Severe: erodes easily
1720						
ABLA/VAGL,VAGL Flatstone	Moderate: slope	Moderate: slope	Severe: slope	Slight	Severe: erodes easily, compacts easily	Severe: erodes easily
ABLA/VASC,CARU Koffgo	Slight	Slight	Moderate: slope, small stones	Slight	Severe: compacts easily	Moderate: too rocky, erodes easily, dusty
1730						
ABLA/VASC,CARU Koffgo	Severe: slope	Severe: slope	Severe: slope	Moderate: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily
PICO Perfa	Severe: wetness	Severe: wetness	Severe: small stones, wetness	Severe: wetness	Severe: wetness	Severe: wetness
1760						
PSME/ARTRV Fourme	Slight	Slight	Moderate: slope, small stones	Slight	Severe: erodes easily	Moderate: dusty
1970						
ABLA Cryoboralfs	Severe: slope	Severe: slope	Severe: slope	Severe: slope, erodes easily	Severe: erodes easily, slope	Severe: erodes easily, slope
PSME/BERE,SYOR2 Cryochrepts, fine	Severe: slope	Severe: slope	Severe: slope, small stones	Severe: slope	Severe: erodes easily, compacts easily, slope	Severe: erodes easily, slope

Ecological Unit Symbol and Ecological Type Name	Camp Areas	Picnic Areas	Playgrounds	Foot and Saddlestock Trails	Off-Road Vehicles	Motorcycle Trails
1999						
Valleys						
2000						
Graminoid Cryaquolls	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness, compacts easily	Severe: wetness
2020						
Graminoid Chickreek	Severe: flooding, ponding, excess humus	Severe: ponding, excess humus	Severe: excess humus, ponding	Severe: ponding, excess humus	Severe: wetness, excess humus	Severe: wetness, excess humus
Salix/Graminoid Tepete	Severe: flooding, ponding, excess humus	Severe: ponding, excess humus	Severe: excess humus, ponding	Severe: ponding, excess humus	Severe: wetness, excess humus	Severe: wetness, excess humus
2040						
PICO Perfa	Severe: wetness	Severe: wetness	Severe: small stones, wetness	Severe: wetness	Severe: wetness	Severe: wetness
ABLA/CACA4,CACA4 Bootjack	Severe: flooding, wetness	Severe: wetness	Severe: wetness, flooding	Severe: wetness	Severe: wetness, compacts easily	Severe: wetness
2604						
PIEN/GATR3 Cryofluvents	Severe: flooding, wetness	Severe: wetness	Severe: wetness, flooding	Severe: wetness	Severe: wetness	Severe: wetness
2606						
Salix/Graminoid Cryaquolls	Severe: flooding, wetness	Severe: wetness	Severe: wetness, flooding	Severe: wetness	Severe: wetness, compacts easily	Severe: wetness
Salix/Graminoid Cryaquolls, poorly drained	Severe: flooding, ponding	Severe: ponding	Severe: ponding, flooding	Severe: ponding	Severe: wetness, compacts easily	Severe: wetness
2608						
ABLA/CACA4,CACA4 Bootjack	Severe: flooding, wetness	Severe: wetness	Severe: wetness, flooding	Severe: wetness	Severe: wetness, compacts easily	Severe: wetness
Salix/Graminoid Cryaquolls, poorly drained	Severe: flooding, ponding	Severe: ponding	Severe: ponding, flooding	Severe: ponding	Severe: wetness, compacts easily	Severe: wetness
2609						
PIEN Cryaquolls	Severe: flooding, ponding	Severe: ponding	Severe: ponding, flooding	Severe: ponding	Severe: wetness	Severe: wetness
3000						
Pits						

For interpretations of map units 4028 through 4302 refer to the original adjoining soil survey(s).

Sanitary Facilities

This table shows the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons and sanitary landfills. It also shows the suitability of the soils for use as a daily cover for landfills. The degree of soil limitations are expressed as Slight, Moderate and Severe and suitability is expressed as Poor, Fair or Good. These terms and the kinds of limitations are defined in the following paragraphs.

Septic Tank Absorption Fields distribute effluent from a septic tank into the natural soils through subsurface systems of tile or perforated pipe. The centerline of the tile is assumed to be at a depth of 24 inches. The ratings only consider a soil depth between 24 to 60 inches. Soil properties and site features considered for the ratings are those affecting the absorption of the effluent, the construction and maintenance of the system, and public health. Permeability, a high water table, depth to bedrock, and flooding affect absorption of the effluent. Large stones, bedrock or a cemented pan interfere with installation. Excessive slope may cause lateral seepage and surfacing of the effluent downslope.

Sewage Lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons have a nearly level floor surrounded by cut slopes or embankments of compacted soil material. The upper 1 to 3 feet of soil is commonly excavated to provide material for embankments. The table gives ratings for the natural soils that make up the lagoon floor. Considered in the ratings are slope, permeability, water table, depth to bedrock, flooding, large stones and organic matter content.

Trench Sanitary Landfill is an area where solid waste is disposed of by placing refuse in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil that is excavated from the trench. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. Soil properties that influence the risk of pollution, the ease of excavation, trafficability, and revegetation are the major considerations in rating the soils. The ratings apply only to that part of the soils within a depth of about 6 feet.

Area Sanitary Landfill is an area where solid wastes are disposed of by placing refuse in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil that is imported from an offsite source. A final cover of soil material at least 2 feet thick is placed over the completed landfill. Soil properties that influence trafficability and the risk of pollution are the major considerations in rating the soils. The ratings apply only to that part of the soils within a depth of about 6 feet.

Daily Cover For Landfill is soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The suitability of soil for use as cover is based on properties that affect the ease of digging, moving and spreading the material over the refuse during wet and dry periods, and the ease of reclaiming the borrow area.

Degree Of Limitations

Slight - This rating is given to soils that have properties favorable for the specified use. This degree of limitation is minor and can be overcome easily. Good performance and low maintenance can be expected.

Moderate - This rating is given to soils that have properties moderately favorable for the specified use. This degree of limitation can be overcome or modified by special planning, design, or maintenance. The expected performance of the structure or other planned use is somewhat less desirable than for soils rated slight.

Severe - This rating is given to soils that have one or more properties unfavorable for the specified use. This degree of limitation generally requires major soil reclamation, special design or intensive maintenance. Some of the soils can be improved by reducing or removing the soil features that limit use. In most situations it is difficult and costly to alter the soils or to design a structure to compensate for a severe degree of limitation.

Suitability

Good - The soils have properties favorable for use. There are no soil limitations. Good performance and low maintenance can be expected. Vegetation or other attributes can easily be maintained, improved, or established.

Fair - The soils are moderately favorable for the use. One or more soil properties makes these soils less desirable than those rated good or well suited. Vegetation or other attributes can be maintained, improved, or established. A more intensive management effort is needed to maintain the resource base.

Poor - The soils have one or more properties unfavorable for the use. Overcoming the unfavorable property requires special design, extra maintenance, or costly alteration. Vegetation or other attributes are difficult to establish or maintain.

Limitations

Cemented pan - Restrictive, dense, hard, somewhat impervious cemented soil material.

Depth to rock - Bedrock is too near the surface for the specified use.

Excess humus - Too much organic matter.

Flooding - Soils flooded by moving water from stream overflow.

Hard to pack - Difficult to compact using regular earthwork construction equipment.

Large stones - Rock fragments 3 inches or more across adversely affect the specified use.

Percs slowly - The slow movement of water through the soils adversely affects the specified use.

Ponding - Standing water on soils in closed depressions that is removed only by percolation or evapotranspiration.

Poor filter - Effluent moves through the soils too rapidly for adequate filtration or treatment.

Seepage - The movement of water through the soils. Seepage adversely affects the specified use.

Slope - Slope is steep enough that special practices are required to ensure satisfactory performance for the specified use.

Small stones - Rock fragments 2 mm to 76 mm in diameter. Small stones adversely affect the specified use.

Too clayey - The soils are slippery and sticky when wet and slow to dry.

Too sandy - The soils are soft and loose, droughty and low in fertility or are too fine to use as gravel.

Wetness - The soils are wet during the period of specified use.

Sanitary Facilities

Ecological Unit Symbol and Ecological Type Name	Septic Tank Absorption Fields	Sewage Lagoon Areas	Trench Sanitary Landfill	Area Sanitary Landfill	Daily Cover for Landfill
1000					
PICO/VASC Islandpark	Moderate: percs slowly	Moderate: seepage, slope	Slight	Slight	Fair: small stones
PSME/SYAL Potrmound	Severe: depth to rock, slope, large stones	Severe: seepage, depth to rock, slope	Severe: depth to rock, seepage, slope	Severe: depth to rock, seepage, slope	Poor: depth to rock, large stones, slope
PICO/ARTRP4 Spliten	Severe: depth to rock	Severe: depth to rock, large stones	Severe: depth to rock, large stones	Severe: depth to rock	Poor: depth to rock
1046					
PICO/ARTRP4 Vadnais	Severe: depth to rock, percs slowly	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Poor: depth to rock
Rock Outcrop					
1050					
Cinder Cones					
1106					
ABLA/PHMA5 Gany	Severe: slope	Severe: seepage, slope	Severe: seepage, slope	Severe: seepage, slope	Poor: seepage, small stones, slope
PSME/BERE,SYOR2 Fritz	Severe: slope	Severe: seepage, slope	Severe: depth to rock, seepage, slope	Severe: seepage, slope	Poor: small stones, slope
1110					
ARTRP4/FEID Raynoldson	Moderate: percs slowly, slope	Severe: seepage, slope	Severe: seepage	Severe: seepage	Poor: seepage, small stones
1112					
ABLA/VAGL,PAMY Huckridge	Severe: percs slowly, slope	Severe: slope	Severe: slope	Severe: slope	Poor: slope
PSME/OSCH Paleborolls	Severe: percs slowly, slope	Severe: slope	Severe: slope	Severe: slope	Poor: slope
1123					
ABLA/CARU,CARU Hopburn	Severe: percs slowly	Moderate: seepage, slope	Slight	Slight	Good
PICO/ARTRP4 Vadnais	Severe: depth to rock, percs slowly	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Poor: depth to rock
Rock Outcrop					
1125					
ARNO4/AGSP Simeroi	Moderate: percs slowly, slope	Severe: seepage, slope	Moderate: slope, large stones	Moderate: slope	Poor: small stones
ARTRP4/FEID Zeale	Moderate: percs slowly, slope, large stones	Severe: slope	Severe: large stones	Moderate: slope	Poor: small stones
1126					
ARNO4/AGSP Simeroi	Severe: slope	Severe: seepage, slope	Severe: slope	Severe: slope	Poor: small stones, slope
1127					
ARTRW8/ARARA Simeroi	Moderate: percs slowly, slope	Severe: seepage, slope	Moderate: slope, large stones	Moderate: slope	Poor: small stones
1128					
ARTRP4/FEID Monida	Severe: percs slowly	Severe: slope	Moderate: slope	Moderate: slope	Fair: small stones, slope
ARTRP4/FEID Zeale	Moderate: percs slowly, slope, large stones	Severe: slope	Severe: large stones	Moderate: slope	Poor: small stones
1129					
PIFL2/LEKI2 Fritz	Severe: slope	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: seepage, small stones, slope
PSME/JUCO6 Gany	Severe: slope	Severe: seepage, slope	Severe: seepage, slope	Severe: seepage, slope	Poor: seepage, small stones, slope
1130					
Alpine Graminoid Fritz	Severe: slope	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: seepage, small stones, slope

Ecological Unit Symbol and Ecological Type Name	Septic Tank Absorption Fields	Sewage Lagoon Areas	Trench Sanitary Landfill	Area Sanitary Landfill	Daily Cover for Landfill
1131					
ARARA/FEID Mountainboy	Severe: cemented pan, poor filter	Severe: seepage, cemented pan	Severe: seepage	Severe: cemented pan, seepage	Poor: cemented pan, seepage, small stones
1133					
PSME/ARTRV Meegero	Severe: slope	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: small stones, slope
ARTRP4/FEID Monida	Severe: percs slowly, slope	Severe: slope	Severe: slope	Severe: slope	Poor: slope
1140					
ABLA/THOC Nearl	Severe: wetness, percs slowly	Severe: slope	Severe: wetness, too clayey	Severe: wetness	Poor: too clayey, hard to pack, wetness
1144					
ABLA/SPBE2 Koffgo	Severe: slope, large stones	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: small stones, slope
1145					
ARTRP4/FEID Monida	Severe: percs slowly, slope	Severe: slope	Severe: slope	Severe: slope	Poor: slope
ARTRP4/FEID Zeebar	Severe: percs slowly, slope	Severe: slope	Severe: slope	Severe: slope	Poor: small stones, slope
1146					
ARTRP4/FEID Zeebar	Severe: percs slowly	Severe: slope	Moderate: slope, too clayey, large stones	Moderate: slope	Poor: small stones
1147					
ARTRP4/FEID Zeebar	Severe: percs slowly, slope	Severe: slope	Severe: slope	Severe: slope	Poor: small stones, slope
1149					
PSME/CARU,CARU Edgway	Severe: percs slowly, slope	Severe: slope	Severe: slope	Severe: slope	Poor: small stones, slope
1150					
ABLA/CARU,CARU Rhylow	Severe: slope	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: small stones, slope
ABLA/CARU,CARU Fitzwil	Moderate: percs slowly, slope	Severe: slope	Moderate: slope, large stones	Moderate: slope	Poor: small stones
1154					
PSME/JUCO6 Pikaden	Severe: poor filter, slope	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: seepage, small stones, slope
PSME/FEID Pikaden	Severe: poor filter, slope	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: seepage, small stones, slope
Rubble Land					
1170					
ABLA/Tall Forb Yodal	Severe: percs slowly, slope	Severe: slope	Severe: slope	Severe: slope	Poor: small stones, slope
1172					
ABLA/ACGL Gany	Severe: slope	Severe: seepage, slope	Severe: seepage, slope	Severe: seepage, slope	Poor: seepage, small stones, slope
ABLA/THOC Katpa	Severe: slope	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: seepage, small stones, slope
PSME/BERE,SYOR2 Fritz	Severe: slope	Severe: seepage, slope	Severe: depth to rock, seepage, slope	Severe: seepage, slope	Poor: small stones, slope
1175					
ABLA/Tall Forb Yodal	Severe: percs slowly, slope	Severe: slope	Severe: slope	Severe: slope	Poor: small stones, slope
1204					
PSME/ARTRV Povey	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Poor: small stones, slope
1209					
Tall Forb Etnass	Severe: percs slowly	Severe: slope	Severe: too clayey	Moderate: slope	Poor: too clayey, hard to pack
ABLA/THOC Nearl	Severe: wetness, percs slowly	Severe: slope	Severe: wetness, too clayey	Severe: wetness	Poor: too clayey, hard to pack, wetness
PSME/ARTRV Tophat	Severe: percs slowly, slope	Severe: slope	Severe: slope, large stones	Severe: slope	Poor: large stones, slope

Ecological Unit Symbol and Ecological Type Name	Septic Tank Absorption Fields	Sewage Lagoon Areas	Trench Sanitary Landfill	Area Sanitary Landfill	Daily Cover for Landfill
1216					
ABLA/ACGL Koffgo	Severe: slope, large stones	Severe: seepage, slope, large stones	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: small stones, slope
ABLA/ACGL Rhylow	Severe: slope	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: large stones, slope
PSME/ARTRV Povey	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Poor: small stones, slope
1219					
ABLA/PHMA5 Lagall	Severe: slope, large stones	Severe: seepage, slope, large stones	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: large stones, slope
PSME/ARTRV Povey	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Poor: small stones, slope
PSME/BERE,SYOR2 Fritz	Severe: slope	Severe: seepage, slope	Severe: depth to rock, seepage, slope	Severe: seepage, slope	Poor: small stones, slope
1222					
ABLA/ACGL Koffgo	Severe: slope, large stones	Severe: seepage, slope, large stones	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: small stones, slope
PSME/SYAL Lagall	Severe: slope, large stones	Severe: seepage, slope, large stones	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: large stones, slope
ABLA/ACGL Rhylow	Severe: slope	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: large stones, slope
1224					
ABLA/VAGL,PAMY Huckridge	Severe: percs slowly, slope	Severe: slope	Severe: slope	Severe: slope	Poor: slope
ABLA/VAGL,PAMY Koffgo	Severe: slope	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: small stones, slope
PSME/ARTRV Povey	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Poor: small stones, slope
1225					
PIAL Lasac	Severe: poor filter, slope	Severe: seepage, slope	Severe: seepage, slope, too sandy	Severe: seepage, slope	Poor: seepage, too sandy, small stones
ABLA/VASC,VASC Castan	Severe: poor filter, slope	Severe: seepage, slope	Severe: seepage, slope	Severe: seepage, slope	Poor: small stones, slope
1228					
PSME/CARU,CARU Nopla	Severe: percs slowly	Severe: slope	Moderate: slope, large stones	Moderate: slope	Poor: small stones
1230					
PSME/SPBE2,CARU Vitricryands	Severe: poor filter, slope	Severe: seepage, slope	Severe: seepage, slope, too sandy	Severe: seepage, slope	Poor: seepage, too sandy, small stones
1250					
PSME/ARTRV Povey	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Poor: small stones, slope
1270					
ABLA/ARTRS2 Cryumbrepts	Severe: depth to rock, slope	Severe: seepage, depth to rock, slope	Severe: depth to rock, seepage, slope	Severe: depth to rock, seepage, slope	Poor: depth to rock, slope
Rock Outcrop					
1280					
Rubble Land					
Low Alpine Forb Cryochrepts, loamy-skeletal	Severe: depth to rock, slope, large stones	Severe: seepage, depth to rock, slope	Severe: depth to rock, seepage, slope	Severe: depth to rock, seepage, slope	Poor: depth to rock, small stones, slope
Rock Outcrop					
1294					
ARTRP4/SYOR2/FEID Tetonia	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Poor: slope
PSME/OSCH Rin	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Poor: slope
1303					
ABLA/OSCH,PAMY Edgway	Severe: percs slowly, slope	Severe: slope	Severe: slope, large stones	Severe: slope	Poor: large stones, slope
ABLA/THOC Jumpstart	Severe: percs slowly, slope	Severe: slope	Severe: slope, too clayey	Severe: slope	Poor: too clayey, hard to pack, slope
PSME/ARTRV Tophat	Severe: percs slowly, slope	Severe: slope	Severe: slope, large stones	Severe: slope	Poor: large stones, slope

Ecological Unit Symbol and Ecological Type Name	Septic Tank Absorption Fields	Sewage Lagoon Areas	Trench Sanitary Landfill	Area Sanitary Landfill	Daily Cover for Landfill
1307					
ABLA/VAGL,PAMY Huckridge	Severe: percs slowly	Severe: slope	Moderate: slope	Moderate: slope	Fair: slope
1313					
ARTRP4/FEID Cryoborolls	Severe: slope	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: large stones, slope
1315					
ABLA/OSCH,PAMY Edgway	Severe: percs slowly, slope	Severe: slope	Severe: slope, large stones	Severe: slope	Poor: large stones, slope
ABLA/VAGL,PAMY Koffgo	Severe: slope, large stones	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: small stones, slope
PSME/ARTRV Povey	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Poor: small stones, slope
1316					
ABLA/VAGL,PAMY Koffgo	Severe: slope, large stones	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: small stones, slope
ABLA/THOC Koffgo	Severe: slope, large stones	Severe: seepage, slope, large stones	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: small stones, slope
Rock Outcrop					
1331					
Low Alpine Forb Oorang	Severe: slope, large stones	Severe: slope, large stones	Severe: depth to rock, slope, large stones	Severe: slope	Poor: small stones, slope
Rubble Land					
1332					
ARTRP4/FEID Quirt	Severe: percs slowly, slope	Severe: slope	Severe: slope	Severe: slope	Poor: hard to pack, slope
1333					
ARTRP4/FEID Quirt	Severe: percs slowly	Severe: slope	Moderate: slope, too clayey	Moderate: slope	Poor: hard to pack
ARTRP4/SYOR2/FEID Tetonia	Moderate: percs slowly, slope	Severe: slope	Moderate: slope	Moderate: slope	Fair: slope
1400					
ARTRP4/ARART Trude	Severe: poor filter	Severe: seepage	Severe: seepage, too sandy	Severe: seepage	Poor: seepage, too sandy, small stones
1401					
ARTRP4/ARART Trude	Severe: poor filter	Severe: seepage	Severe: seepage, too sandy	Severe: seepage	Poor: seepage, too sandy, small stones
ABLA/CACA4,CACA4 Bootjack	Severe: flooding, wetness, poor filter	Severe: seepage, flooding, wetness	Severe: flooding, seepage, wetness	Severe: flooding, seepage, wetness	Poor: seepage, too sandy, small stones
1414					
ABLA/VASC,PIAL Winegar	Severe: percs slowly	Severe: seepage, slope	Moderate: slope, too sandy	Severe: seepage	Poor: small stones
CALE4 Oxyaquic Cryochrepts	Severe: wetness	Severe: seepage, slope, wetness	Severe: seepage, wetness	Severe: seepage, wetness	Poor: small stones, wetness
Rock Outcrop					
1430					
PSME/SYOR2 Kyway	Severe: depth to rock, slope	Severe: seepage, depth to rock, slope	Severe: depth to rock, seepage, slope	Severe: depth to rock, seepage, slope	Poor: depth to rock, slope
1505					
ARTRP4/SYOR2/FEID Tetonia	Moderate: percs slowly, slope	Severe: slope	Moderate: slope	Moderate: slope	Fair: slope
1506					
PSME/SYAL Lagall, till substratum	Moderate: percs slowly, slope	Severe: seepage, slope	Severe: seepage	Severe: seepage	Poor: small stones
1507					
ARTRT/AGSP Buist	Severe: slope	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: large stones, slope
ABLA/PHMA5 Lagall	Severe: slope, large stones	Severe: seepage, slope, large stones	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: seepage, large stones, slope
1516					
ABLA/VAGL,VAGL Winegar	Severe: percs slowly	Severe: seepage, slope	Moderate: slope, too sandy	Severe: seepage	Poor: small stones
ABLA/VASC,CARU Bradco	Severe: percs slowly	Severe: seepage, slope	Moderate: slope, too sandy	Severe: seepage	Poor: small stones

Ecological Unit Symbol and Ecological Type Name	Septic Tank Absorption Fields	Sewage Lagoon Areas	Trench Sanitary Landfill	Area Sanitary Landfill	Daily Cover for Landfill
1570					
ABLA/VASC,VASC Dashiki	Severe: poor filter	Severe: seepage, slope	Severe: seepage, too sandy	Severe: seepage	Poor: seepage, too sandy, small stones
PIAL/CARO5,PICO Lasac	Severe: poor filter, slope	Severe: seepage, slope	Severe: seepage, slope, too sandy	Severe: seepage, slope	Poor: seepage, too sandy, small stones
1573					
ABLA/VASC Oleo	Moderate: slope	Severe: seepage, slope	Severe: seepage	Severe: seepage	Poor: hard to pack, small stones
PIAL/CARO5,PICO Lasac	Severe: poor filter	Severe: seepage, slope	Severe: seepage, too sandy	Severe: seepage	Poor: seepage, too sandy, small stones
1575					
ABLA/CARU,CARU Koffgo	Moderate: slope, large stones	Severe: seepage, slope	Severe: seepage, large stones	Severe: seepage	Poor: small stones
ABLA/VAGL,VAGL Koffgo	Severe: large stones	Severe: seepage, slope, large stones	Severe: seepage, large stones	Severe: seepage	Poor: small stones
1576					
ABLA/ARCO9,ARCO9 Fitzwil	Moderate: percs slowly, slope	Severe: slope	Moderate: slope	Moderate: slope	Poor: small stones
PIAL/ARTRP4 Fitzwil	Moderate: percs slowly, slope	Severe: slope	Moderate: slope	Moderate: slope	Poor: small stones
1585					
ABLA/VASC,CARU Rhylow	Severe: slope	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: small stones, slope
1592					
PSME/SYAL Lagall	Severe: slope, large stones	Severe: seepage, slope, large stones	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: large stones, slope
1593					
ABLA/VAGL,PAMY Koffgo	Severe: slope	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: small stones, slope
1594					
ABLA/VAGL,VAGL Koffgo	Severe: slope, large stones	Severe: seepage, slope, large stones	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: small stones, slope
1595					
ABLA/VAGL,PAMY Koffgo	Severe: slope, large stones	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: small stones, slope
1597					
ABLA/SPBE2 Koffgo	Severe: slope, large stones	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: small stones, slope
1600					
ABLA/VAGL,VASC Koffgo	Severe: slope	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: small stones, slope
1646					
ABLA/VAGL,PAMY Huckridge	Severe: percs slowly, slope	Severe: slope	Severe: slope	Severe: slope	Poor: slope
ABLA/VAGL,PAMY Koffgo	Severe: slope, large stones	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: small stones, slope
ABLA/OSCH,PAMY Edgway	Severe: percs slowly, slope	Severe: slope	Severe: slope, large stones	Severe: slope	Poor: large stones, slope
1700					
ABLA/VASC,CARU Koffgo	Moderate: slope, large stones	Severe: seepage, slope	Severe: seepage, large stones	Severe: seepage	Poor: small stones
1720					
ABLA/VAGL,VAGL Flatstone	Severe: percs slowly	Severe: slope	Severe: large stones	Moderate: slope	Poor: small stones
ABLA/VASC,CARU Koffgo	Moderate: large stones	Severe: seepage	Severe: seepage, large stones	Severe: seepage	Poor: small stones
1730					
ABLA/VASC,CARU Koffgo	Severe: slope	Severe: seepage, slope	Severe: seepage, slope, large stones	Severe: seepage, slope	Poor: small stones, slope
PICO Perfa	Severe: wetness, poor filter	Severe: seepage, wetness	Severe: seepage, wetness, too sandy	Severe: seepage, wetness	Poor: seepage, too sandy, wetness
1760					
PSME/ARTRV Fourme	Severe: percs slowly, poor filter	Severe: seepage	Severe: seepage, too sandy	Severe: seepage	Poor: seepage, too sandy, small stones

Ecological Unit Symbol and Ecological Type Name	Septic Tank Absorption Fields	Sewage Lagoon Areas	Trench Sanitary Landfill	Area Sanitary Landfill	Daily Cover for Landfill
1970					
ABLA Cryoboralfs	Severe: depth to rock, percs slowly, slope	Severe: depth to rock, slope	Severe: depth to rock, slope, too clayey	Severe: depth to rock, slope	Poor: depth to rock, too clayey, hard to pack
PSME/BERE,SYOR2 Cryochrepts, fine	Severe: depth to rock, percs slowly, slope	Severe: depth to rock, slope	Severe: depth to rock, slope, too clayey	Severe: depth to rock, slope	Poor: depth to rock, too clayey, hard to pack
1999					
Valleys					
2000					
Graminoid Cryaquolls	Severe: wetness, percs slowly	Severe: wetness	Severe: wetness	Severe: wetness	Poor: wetness
2020					
Graminoid Chickreek	Severe: ponding, percs slowly, poor filter	Severe: seepage, excess humus, ponding	Severe: seepage, ponding, too sandy	Severe: seepage, ponding	Poor: seepage, too sandy, small stones
Salix/Graminoid Tepete	Severe: ponding	Severe: seepage, excess humus, ponding	Severe: seepage, ponding, too sandy	Severe: seepage, ponding	Poor: seepage, too sandy, small stones
2040					
PICO Perfa	Severe: wetness, poor filter	Severe: seepage, wetness	Severe: seepage, wetness, too sandy	Severe: seepage, wetness	Poor: seepage, too sandy, wetness
ABLA/CACA4,CACA4 Bootjack	Severe: flooding, wetness, poor filter	Severe: seepage, flooding, wetness	Severe: flooding, seepage, wetness	Severe: flooding, seepage, wetness	Poor: seepage, too sandy, small stones
2604					
PIEN/GATR3 Cryofluvents	Severe: flooding, wetness, poor filter	Severe: seepage, flooding, wetness	Severe: flooding, seepage, wetness	Severe: flooding, seepage, wetness	Poor: seepage, too sandy, large stones
2606					
Salix/Graminoid Cryaquolls	Severe: flooding, wetness, poor filter	Severe: seepage, flooding, wetness	Severe: flooding, seepage, wetness	Severe: flooding, seepage, wetness	Poor: too sandy, small stones, wetness
Salix/Graminoid Cryaquolls, poorly drained	Severe: flooding, ponding, poor filter	Severe: seepage, flooding, ponding	Severe: flooding, seepage, ponding	Severe: flooding, seepage, ponding	Poor: too sandy, small stones, ponding
2608					
ABLA/CACA4,CACA4 Bootjack	Severe: flooding, wetness, poor filter	Severe: seepage, flooding, wetness	Severe: flooding, seepage, wetness	Severe: flooding, seepage, wetness	Poor: seepage, too sandy, small stones
Salix/Graminoid Cryaquolls, poorly drained	Severe: flooding, ponding, poor filter	Severe: seepage, flooding, ponding	Severe: flooding, seepage, ponding	Severe: flooding, seepage, ponding	Poor: too sandy, small stones, ponding
2609					
PIEN Cryaquolls	Severe: flooding, ponding, poor filter	Severe: seepage, flooding, ponding	Severe: flooding, seepage, ponding	Severe: flooding, seepage, ponding	Poor: seepage, too sandy, large stones
3000					
Pits					

For interpretations of map units 4028 through 4302 refer to the original adjoining soil survey(s).

Vegetation Management

This table shows the degree and kind of limitations that affect fencing; the use of heavy equipment for rangeland or woodland management; revegetation of cut and fill slopes; and susceptibility to windthrow. The table also displays the suitability of the soils for rangeland revegetation. The degree of soil limitations are expressed as Slight, Moderate and Severe and suitability is expressed as Poor, Fair or Good. These terms and the kinds of limitations are defined in the following paragraphs.

Fencing applies to the construction and maintenance of wire barriers that restrict movement of livestock. The barriers are constructed of metal or wooden posts buried at least 2 feet in the soil with wires suspended between the posts. The ratings are based on the soil properties that influence ease of setting posts to the desired depth, maintaining the desired wire tension, and keeping replacement and maintenance costs to a minimum over the projected life of the fence.

Rangeland Revegetation rates the ease in establishing grass and shrubs on bare mineral soil. The ratings assume the soils have minimal compaction and a mulch is not applied following seeding. These ratings are relative; they suggest the number of successful seedlings that might be expected during a given period of years. The ratings are based on soil properties which affect the establishment and growth of grasses and shrubs. These properties include surface texture, rock fragments, available water capacity, slope, depth to bedrock or cemented pan, shrink-swell potential, reaction and moisture regime. Not considered here are such factors as effective moisture, aspect, or temperature.

Rangeland Equipment rates the ease of using disc plows to prepare a seedbed or drills to plant seed. The ratings are based on soil depth, rock fragment content, slope and presence of rock outcrops.

Woodland Mechanical Site Preparation rates the use of heavy equipment for site preparation, planting or row seeding. The ratings assume that operating techniques are used which do not displace or remove topsoil from the site, nor create channels to concentrate storm runoff. The ratings are based on soil properties and site features that affect or are affected by equipment operation.

Equipment Use For Woodland Harvest rates the use of heavy equipment for timber harvest and slash disposal. The ratings are based on soil properties and site features that affect or are affected by equipment operation.

Revegetation of Cut and Fill Slopes refers to the ease of establishing vegetation on cut and fill slopes. The ratings assume seeding during the first growing season following construction and uniform slopes with a one to one grade. The ratings are based on soil and site properties that influence the cost of grading and the growth of vegetation.

Windthrow Hazard is the likelihood of trees being blown over and uprooted by wind as a result of insufficient anchorage. The rating is based on soil properties, without considering climate, topographic features or land use. Restricted rooting depth and low anchoring ability are the principal soil factors affecting windthrow hazard. Soil depth and drainage characteristics affect the rooting depth. Coarse textured sands and sandy loams have the least stabilizing effect. A high cobble, stone, or boulder content in the soils may greatly increase the susceptibility to windthrow.

Degree Of Limitations

Slight - This rating is given to soils that have properties favorable for the specified use. This degree of limitation is minor and can be overcome easily. Good performance and low maintenance can be expected.

Moderate - This rating is given to soils that have properties moderately favorable for the specified use. This degree of limitation can be overcome or modified by special planning, design, or maintenance. The expected performance of the structure or other planned use is somewhat less desirable than for soils rated slight.

Severe - This rating is given to soils that have one or more properties unfavorable for the specified use. This degree of limitation generally requires major soil reclamation, special design or intensive maintenance. Some of the soils can be improved by reducing or removing soil features that limit use. In most situations it is difficult and costly to alter the soils or to design a structure to compensate for a severe degree of limitation.

Suitability

Good - The soils have properties favorable for use. There are no soil limitations. Good performance and low maintenance can be expected. Vegetation or other attributes can easily be maintained, improved, or established.

Fair - The soils are moderately favorable for the use. One or more soil properties makes these soils less desirable than those rated good or well suited. Vegetation or other attributes can be maintained, improved, or established. A more intensive management effort is needed to maintain the resource base.

Poor - The soils have one or more properties unfavorable for the use. Overcoming the unfavorable property requires special design, extra maintenance, or costly alteration. Vegetation or other attributes are difficult to establish or maintain.

Limitations

Aspect - Aspect leads to high solar radiation and high moisture evaporation rates.

Cemented pan - Restrictive, dense, hard, somewhat impervious cemented soil material too close to the surface.

Contrasting layer - Soils have contrasting textural layers that affect plant root growth.

Depth to bedrock - Bedrock is too near the surface for the specified use.

Depth to rock - Bedrock is too near the surface for the specified use.

Droughty - Soils hold too little water for plants during dry periods.

Erodes easily - Soils are easily eroded by water.

Flooding - Soils flooded by moving water from stream overflow.

Frost action - Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures.

Low strength - The soils have a low resistance to deforming, sliding, or failure; low resistance affects the specified use. The soils are not strong enough to support loads.

Restrictive layer - A soil or rock layer that inhibits the movement of water and/or roots through the soil.

Rock outcrop - Rock outcrops adversely affect the specified use or equipment.

Shrink-swell - The shrinking of soils when dry and the swelling when wet. Shrinking and swelling can damage plant roots, roads, building foundations, and other structures.

Slope - Slope is great enough that special practices are required to ensure satisfactory performance for the specified use.

Soil depth - Depth to a restrictive feature is too shallow for the specified use.

Stability - Soils are subject to deformation and failure under load.

Too acid - The soils are so acid that plant growth is restricted.

Too alkaline -The soils are so alkaline that plant growth is restricted.

Too arid - The soils are dry most of the time. Vegetation is difficult to establish.

Too bouldery - The soils have boulders that interfere with the specified use.

Too clayey - Soils are slippery and sticky when wet and slow to dry.

Too coarse - Soils are soft and loose and do not stabilize plant roots.

Too cobbly - The soils have excess cobbles for the specified use.

Too gravelly - The soils have has excess gravel for the specified use.

Too rocky - The soil have excess rock fragments for the specified use.

Too sandy - Soils are soft and loose, droughty and low in fertility.

Too stony - The soils have excess stones for the specified use.

Wetness - Soils are wet during period of specified use.

Vegetation Management Table

Ecological Unit Symbol and Ecological Type Name	Fencing	Rangeland Revegetation	Rangeland Equipment	Woodland Mechanical Site Preparation	Equipment Use for Woodland Harvest	Revegetation of Cut and Fill Slopes	Windthrow Hazard
1000							
PICO/VASC Islandpark	Slight			Slight	Moderate: erodes easily	Severe: too acid	Moderate: too coarse
PSME/SYAL Potrmound	Severe: too rocky			Severe: too bouldery, too stony	Severe: too rocky, slope	Severe: too cobbly, too stony, depth to rock	Severe: too rocky
PICO/ARTRP4 Spliten	Severe: depth to rock	Poor: depth to bedrock	Severe: soil depth	Moderate: too bouldery, too stony, too cobbly	Moderate: too rocky, depth to rock, erodes easily	Severe: depth to rock	Severe: restrictive layer
1046							
PICO/ARTRP4 Vadnais	Moderate: depth to rock	Fair: depth to bedrock, shrink-swell, too acid	Severe: rock outcrop	Moderate: rock outcrop	Moderate: erodes easily	Severe: depth to rock	Moderate: too coarse, restrictive layer
Rock Outcrop							
1050							
Cinder Cones							
1106							
ABLA/PHMA5 Gany	Severe: too rocky			Severe: slope	Severe: too rocky, slope	Severe: slope	Moderate: too coarse
PSME/BERE,SYOR2 Fritz	Severe: too rocky			Severe: slope	Severe: slope	Severe: too stony, slope	Moderate: too coarse, too rocky
1110							
ARTRP4/FEID Raynoldson	Moderate: too rocky	Fair: too alkaline	Moderate: too stony, slope			Moderate: too stony, droughty, too alkaline	
1112							
ABLA/VAGL,PAMY Huckridge	Moderate: frost action			Moderate: slope	Severe: erodes easily, slope	Moderate: slope, too acid	Moderate: too coarse
PSME/OSCH Paleborolls	Moderate: frost action			Moderate: slope	Severe: slope	Moderate: slope, too acid	Moderate: too coarse
1123							
ABLA/CARU,CARU Hopburn	Slight			Moderate: rock outcrop, too bouldery, too stony	Moderate: erodes easily	Moderate: too stony, too acid	Moderate: too coarse
PICO/ARTRP4 Vadnais	Moderate: depth to rock	Fair: depth to bedrock, shrink-swell, too acid	Severe: rock outcrop	Moderate: rock outcrop	Moderate: erodes easily	Severe: depth to rock	Moderate: too coarse, restrictive layer
Rock Outcrop							
1125							
ARNO4/AGSP Simeroi	Severe: too rocky	Poor: too rocky, too arid	Severe: slope			Severe: droughty	
ARTRP4/FEID Zeale	Severe: too rocky	Fair: slope, too alkaline	Severe: slope			Moderate: droughty, too alkaline	
1126							
ARNO4/AGSP Simeroi	Severe: too rocky	Poor: too rocky, slope, too arid	Severe: slope			Severe: slope, droughty	
1127							
ARTRW8/ARARA Simeroi	Severe: too rocky	Poor: too rocky, too arid	Severe: slope			Severe: droughty	
1128							
ARTRP4/FEID Monida	Slight	Fair: slope, shrink-swell	Severe: slope			Slight	
ARTRP4/FEID Zeale	Severe: too rocky	Fair: slope, too alkaline	Severe: slope			Moderate: droughty, too alkaline	
1129							
PIFL2/LEKI2 Fritz	Severe: too rocky			Severe: slope	Severe: too rocky, slope	Severe: slope, droughty	Moderate: too coarse

Ecological Unit Symbol and Ecological Type Name	Fencing	Rangeland Revegetation	Rangeland Equipment	Woodland Mechanical Site Preparation	Equipment Use for Woodland Harvest	Revegetation of Cut and Fill Slopes	Windthrow Hazard
1129 (con.)							
PSME/JUCO6 Gany	Severe: too rocky			Severe: slope	Severe: too rocky, slope	Severe: slope, droughty	Moderate: too coarse
1130							
Alpine Graminoid Fritz	Severe: too rocky						
1131							
ARARA/FEID Mountainboy	Moderate: cemented pan	Poor: depth to bedrock	Severe: soil depth			Severe: depth to rock, cemented pan	
1133							
PSME/ARTRV Meegero	Severe: too rocky	Poor: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Moderate: too coarse
ARTRP4/FEID Monida	Slight	Poor: slope	Severe: slope			Moderate: slope	
1140							
ABLA/THOC Nearl	Severe: shrink-swell			Moderate: wet-ness, too boul-dery, too stony	Moderate: wet-ness, erodes easily	Severe: too clayey	Moderate: restrictive layer, wetness
1144							
ABLA/SPBE2 Koffgo	Severe: too rocky			Severe: slope	Severe: slope	Severe: too stony, slope, droughty	Moderate: too coarse, too rocky
1145							
ARTRP4/FEID Monida	Slight	Poor: slope	Severe: slope			Moderate: slope	
ARTRP4/FEID Zeebar	Severe: too rocky	Poor: too rocky, slope	Severe: slope			Severe: droughty	
1146							
ARTRP4/FEID Zeebar	Severe: too rocky	Poor: too rocky	Severe: slope			Severe: droughty	
1147							
ARTRP4/FEID Zeebar	Severe: too rocky	Poor: too rocky, slope	Severe: slope			Severe: slope, droughty	
1149							
PSME/CARU,CARU Edgway	Moderate: too rocky			Severe: slope	Severe: too rocky, slope	Moderate: too clayey, too stony, slope	Moderate: too coarse
1150							
ABLA/CARU,CARU Rhylow	Moderate: too rocky			Severe: too boul-dery, slope	Severe: slope	Moderate: too stony, slope, droughty	Moderate: too coarse
ABLA/CARU,CARU Fitzwil	Severe: too rocky			Moderate: slope	Moderate: too rocky, erodes easily, slope	Moderate: too stony, droughty, too acid	Moderate: too coarse
1154							
PSME/JUCO6 Pikaden	Severe: too rocky			Severe: slope	Severe: too rocky, slope	Severe: too sandy, slope, droughty	Moderate: too coarse
PSME/FEID Pikaden	Severe: too rocky			Severe: slope	Severe: too rocky, slope	Severe: slope, droughty	Moderate: too coarse
Rubble Land							
1170							
ABLA/Tall Forb Yodal	Slight			Severe: too boul-dery	Severe: slope	Moderate: too stony, slope, too acid	Moderate: too coarse
1172							
ABLA/ACGL Gany	Severe: too rocky			Severe: slope	Severe: too rocky, slope	Severe: slope, droughty	Moderate: too coarse
ABLA/THOC Katpa	Severe: too rocky			Severe: too boul-dery, slope	Severe: too rocky, slope	Severe: slope	Moderate: too coarse
PSME/BERE,SYOR2 Fritz	Severe: too rocky			Severe: too boul-dery, slope	Severe: slope	Severe: slope	Moderate: too coarse, too rocky
1175							
ABLA/Tall Forb Yodal	Slight			Severe: too boul-dery, slope	Severe: slope	Severe: slope	Moderate: too coarse

Ecological Unit Symbol and Ecological Type Name	Fencing	Rangeland Revegetation	Rangeland Equipment	Woodland Mechanical Site Preparation	Equipment Use for Woodland Harvest	Revegetation of Cut and Fill Slopes	Windthrow Hazard
1204							
PSME/ARTRV Povey	Moderate: too rocky	Poor: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Moderate: too coarse
1209							
Tall Forb Etnass	Severe: shrink-swell	Poor: shrink-swell	Severe: slope			Severe: too clayey	
ABLA/THOC Nearl	Severe: shrink-swell			Moderate: wetness, too bouldery, too stony	Moderate: wetness, erodes easily	Severe: too clayey	Moderate: restrictive layer, wetness
PSME/ARTRV Tophat	Severe: shrink-swell	Poor: slope, shrink-swell	Severe: slope	Severe: too bouldery	Moderate: too rocky, erodes easily, slope	Moderate: too clayey, too stony, slope	Slight
1216							
ABLA/ACGL Koffgo	Severe: too rocky			Severe: slope	Severe: slope	Severe: too stony, slope, droughty	Moderate: too coarse, too rocky
ABLA/ACGL Rhylow	Severe: too rocky			Severe: too bouldery, slope	Severe: too rocky, slope	Severe: slope, droughty	Moderate: too coarse
PSME/ARTRV Povey	Moderate: too rocky	Poor: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Moderate: too coarse
1219							
ABLA/PHMA5 Lagall	Severe: too rocky			Severe: too bouldery, slope	Severe: too rocky, slope	Severe: too stony, slope, droughty	Moderate: too coarse, too rocky
PSME/ARTRV Povey	Moderate: too rocky	Poor: slope	Severe: slope	Severe: slope	Severe: slope	Moderate: droughty, too acid	Moderate: too coarse
PSME/BERE,SYOR2 Fritz	Severe: too rocky			Severe: too bouldery, slope	Severe: slope	Severe: slope	Moderate: too coarse, too rocky
1222							
ABLA/ACGL Koffgo	Severe: too rocky			Severe: slope	Severe: slope	Severe: too stony, slope, droughty	Moderate: too coarse, too rocky
PSME/SYAL Lagall	Severe: too rocky			Severe: too bouldery, slope	Severe: too rocky, slope	Severe: too stony, slope, droughty	Severe: too rocky
ABLA/ACGL Rhylow	Moderate: too rocky			Severe: too bouldery, slope	Severe: too rocky, slope	Severe: slope, droughty	Moderate: too coarse
1224							
ABLA/VAGL,PAMY Huckridge	Moderate: frost action			Moderate: slope	Severe: erodes easily	Moderate: slope, too acid	Moderate: too coarse
ABLA/VAGL,PAMY Koffgo	Severe: too rocky			Severe: slope	Severe: erodes easily, slope	Severe: slope	Moderate: too coarse, too rocky
PSME/ARTRV Povey	Moderate: too rocky	Poor: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Moderate: too coarse
1225							
PIAL Lasac	Severe: too rocky, too sandy			Severe: too bouldery, slope	Severe: slope	Severe: too sandy, too stony, slope	Moderate: too coarse
ABLA/VASC,VASC Castan	Severe: too rocky			Severe: slope	Severe: slope	Severe: too stony, slope	Moderate: too coarse
1228							
PSME/CARU,CARU Nopla	Slight			Severe: too bouldery	Moderate: erodes easily	Moderate: too stony, too acid	Moderate: too coarse
1230							
PSME/SPBE2,CARU Vitricryands	Severe: too rocky			Severe: slope	Severe: slope	Severe: too sandy, slope, too acid	Severe: too coarse
1250							
PSME/ARTRV Povey	Moderate: too rocky	Poor: slope	Severe: slope	Moderate: slope	Moderate: too rocky, erodes easily, slope	Moderate: slope, droughty, too acid	Moderate: too coarse
1270							
ABLA/ARTRS2 Cryumbrepts	Moderate: depth to bedrock, too rocky			Severe: slope	Severe: slope	Severe: depth to rock	Moderate: too coarse, restrictive layer
Rock Outcrop							

Ecological Unit Symbol and Ecological Type Name	Fencing	Rangeland Revegetation	Rangeland Equipment	Woodland Mechanical Site Preparation	Equipment Use for Woodland Harvest	Revegetation of Cut and Fill Slopes	Windthrow Hazard
1280							
Rubble Land							
Low Alpine Forb Cryochrepts, loamy-skeletal	Severe: too rocky						
Rock Outcrop							
1294							
ARTRP4/SYOR2/FEID Tetonia	Moderate: frost action	Poor: slope	Severe: slope			Moderate: slope	
PSME/OSCH Rin	Moderate: frost action			Moderate: slope	Severe: erodes easily, slope	Moderate: slope, too acid	Moderate: too coarse
1303							
ABLA/OSCH,PAMY Edgway	Moderate: too rocky			Severe: slope	Severe: slope	Severe: slope	Moderate: too coarse
ABLA/THOC Jumpstart	Severe: shrink-swell			Severe: slope	Severe: slope	Severe: slope	Moderate: too coarse, wetness
PSME/ARTRV Tophat	Severe: shrink-swell	Poor: slope, shrink-swell	Severe: slope	Severe: too bouldery, slope	Severe: slope	Severe: slope	Slight
1307							
ABLA/VAGL,PAMY Huckridge	Moderate: frost action			Moderate: slope	Moderate: erodes easily	Moderate: too acid	Moderate: too coarse
1313							
ARTRP4/FEID Cryoborolls	Severe: too rocky	Poor: slope	Severe: slope			Moderate: slope, droughty	
1315							
ABLA/OSCH,PAMY Edgway	Moderate: too rocky			Severe: slope	Severe: slope	Moderate: slope, too acid	Moderate: too coarse
ABLA/VAGL,PAMY Koffgo	Severe: too rocky			Severe: slope	Severe: erodes easily, slope	Severe: slope	Moderate: too coarse, too rocky
PSME/ARTRPV Povey	Moderate: too rocky	Poor: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Moderate: too coarse
1316							
ABLA/VAGL,PAMY Koffgo	Severe: too rocky			Severe: slope	Severe: erodes easily, slope	Severe: slope	Moderate: too coarse, too rocky
ABLA/THOC Koffgo	Severe: too rocky			Severe: slope	Severe: slope	Severe: too stony, slope, droughty	Moderate: too coarse, too rocky
Rock Outcrop							
1331							
Low Alpine Forb Oorang	Severe: too rocky						
Rubble Land							
1332							
ARTRP4/FEID Quirt	Severe: shrink-swell	Poor: slope, shrink-swell	Severe: slope			Moderate: too clayey, slope	
1333							
ARTRP4/FEID Quirt	Severe: shrink-swell	Poor: shrink-swell	Moderate: slope			Moderate: too clayey	
ARTRP4/SYOR2/FEID Tetonia	Moderate: frost action	Good	Moderate: slope			Slight	
1400							
ARTRP4/ARART Trude	Severe: too sandy	Poor: droughty	Moderate: too gravelly			Severe: droughty	
1401							
ARTRP4/ARART Trude	Severe: too sandy	Poor: droughty	Moderate: too gravelly			Severe: droughty	
ABLA/CACA4,CACA4 Bootjack	Severe: wetness			Moderate: wetness, flooding	Severe: wetness	Severe: too sandy, wetness	Severe: restrictive layer, wetness
1414							
ABLA/VASC,PIAL Winegar	Moderate: frost action			Severe: too bouldery	Moderate: too rocky, wetness, erodes easily	Severe: depth to rock	Moderate: too coarse, restrictive layer, wetness

Ecological Unit Symbol and Ecological Type Name	Fencing	Rangeland Revegetation	Rangeland Equipment	Woodland Mechanical Site Preparation	Equipment Use for Woodland Harvest	Revegetation of Cut and Fill Slopes	Windthrow Hazard
1414 (con.)							
CALE4 Oxyaquic Cryochrepts	Severe: wetness					Severe: wetness	
Rock Outcrop							
1430							
PSME/SYOR2 Kyway	Moderate: depth to rock			Moderate: too bouldery, too stony, slope	Moderate: erodes easily, slope	Severe: depth to rock	Severe: too coarse
1505							
ARTRP4/SYOR2/FEID Tetonia	Moderate: frost action	Good	Moderate: slope			Slight	
1506							
PSME/SYAL Lagall, till substratum	Severe: too rocky			Moderate: slope	Moderate: erodes easily, slope	Moderate: too acid	Moderate: too coarse
1507							
ARTRT/AGSP Buist	Moderate: too rocky	Poor: slope	Severe: slope			Severe: too stony, slope	
ABLA/PHMA5 Lagall	Severe: too rocky			Severe: too bouldery, slope	Severe: too rocky, slope	Severe: too stony, slope, droughty	Moderate: too coarse, too rocky
1516							
ABLA/VAGL,VAGL Winegar	Moderate: frost action			Severe: too bouldery	Moderate: too rocky, wetness, erodes easily	Severe: depth to rock	Moderate: too coarse, restrictive layer, wetness
ABLA/VASC,CARU Bradco	Moderate: frost action			Moderate: too bouldery	Slight	Severe: depth to rock	Moderate: too coarse, restrictive layer
1570							
ABLA/VASC,VASC Dashiki	Moderate: frost action			Moderate: too bouldery, too stony	Moderate: erodes easily	Moderate: too stony, too acid	Moderate: too coarse
PIAL/CARO5,PICO Lasac	Severe: too rocky, too sandy			Severe: too bouldery	Moderate: too rocky, erodes easily, slope	Severe: too sandy, too stony, droughty	Moderate: too coarse
1573							
ABLA/VASC Oleo	Moderate: frost action			Moderate: too bouldery, too stony	Moderate: erodes easily	Severe: too stony	Moderate: too coarse, restrictive layer
PIAL/CARO5,PICO Lasac	Severe: too rocky, too sandy			Severe: too bouldery	Moderate: too rocky, erodes easily, slope	Severe: too sandy, too stony, droughty	Moderate: too coarse
1575							
ABLA/CARU,CARU Koffgo	Severe: too rocky			Moderate: too bouldery, too stony, slope	Moderate: erodes easily	Moderate: too sandy, too cobbly, too stony	Moderate: too coarse, too rocky
ABLA/VAGL,VAGL Koffgo	Severe: too rocky			Moderate: too bouldery, too stony, slope	Moderate: too rocky, erodes easily	Severe: too stony, droughty	Moderate: too coarse, too rocky
1576							
ABLA/ARCO9,ARCO9 Fitzwil	Severe: too rocky			Moderate: slope	Moderate: erodes easily, slope	Moderate: too stony, droughty, too acid	Moderate: too coarse
PIAL/ARTRP4 Fitzwil	Severe: too rocky			Moderate: slope	Moderate: erodes easily, slope	Moderate: too stony, droughty, too acid	Moderate: too coarse
1585							
ABLA/VASC,CARU Rhylow	Moderate: too rocky			Severe: too bouldery	Severe: slope	Moderate: too stony, slope, droughty	Moderate: too coarse
1592							
PSME/SYAL Lagall	Severe: too rocky			Severe: too bouldery, slope	Severe: too rocky, slope	Severe: too stony, slope, droughty	Severe: too rocky
1593							
ABLA/VAGL,PAMY Koffgo	Severe: too rocky			Severe: slope	Severe: erodes easily, slope	Severe: slope	Moderate: too coarse, too rocky

Ecological Unit Symbol and Ecological Type Name	Fencing	Rangeland Revegetation	Rangeland Equipment	Woodland Mechanical Site Preparation	Equipment Use for Woodland Harvest	Revegetation of Cut and Fill Slopes	Windthrow Hazard
1594							
ABLA/VAGL,VAGL Koffgo	Severe: too rocky			Severe: slope	Severe: slope	Severe: too stony, slope, droughty	Moderate: too coarse, too rocky
1595							
ABLA/VAGL,PAMY Koffgo	Severe: too rocky			Moderate: too bouldery, too stony, slope	Severe: erodes easily	Moderate: too sandy, too cobbly, too stony	Moderate: too coarse, too rocky
1597							
ABLA/SPBE2 Koffgo	Severe: too rocky			Severe: slope	Severe: slope	Severe: too cobbly, slope, droughty	Moderate: too coarse, too rocky
1600							
ABLA/VAGL,VASC Koffgo	Severe: too rocky			Moderate: too bouldery, too stony, slope	Moderate: too rocky, erodes easily, slope	Severe: too stony, droughty	Moderate: too coarse
1646							
ABLA/VAGL,PAMY Huckridge	Moderate: frost action			Moderate: slope	Severe: erodes easily, slope	Moderate: slope, too acid	Moderate: too coarse
ABLA/VAGL,PAMY Koffgo	Severe: too rocky			Severe: slope	Severe: erodes easily, slope	Severe: slope	Moderate: too coarse, too rocky
ABLA/OSCH,PAMY Edgway	Moderate: too rocky			Severe: slope	Severe: slope	Severe: slope	Moderate: too coarse
1700							
ABLA/VASC,CARU Koffgo	Severe: too rocky			Moderate: too bouldery, too stony	Moderate: erodes easily	Moderate: too sandy, too cobbly, too stony	Moderate: too coarse, too rocky
1720							
ABLA/VAGL,VAGL Flatstone	Severe: too rocky			Slight	Moderate: erodes easily	Severe: too stony	Moderate: too coarse, too rocky
ABLA/VASC,CARU Koffgo	Severe: too rocky			Moderate: too bouldery, too stony	Moderate: erodes easily	Moderate: too sandy, too cobbly, too stony	Moderate: too coarse, too rocky
1730							
ABLA/VASC,CARU Koffgo	Severe: too rocky			Moderate: too bouldery, too stony	Moderate: erodes easily, slope	Moderate: too sandy, too cobbly, too stony	Moderate: too coarse, too rocky
PICO Perfa	Severe: wetness, too sandy			Moderate: wetness	Moderate: wetness, erodes easily	Severe: too sandy, droughty	Severe: too coarse
1760							
PSME/ARTRV Fourme	Severe: too rocky	Fair: shrink-swell, too acid	Slight	Slight	Moderate: erodes easily	Moderate: droughty, too acid	Moderate: too coarse
1970							
ABLA Cryoboralfs	Severe: shrink-swell			Severe: slope	Severe: erodes easily, slope	Severe: too clayey, depth to rock, slope	Moderate: restrictive layer
PSME/BERE,SYOR2 Cryochrepts, fine	Slight			Severe: slope	Severe: slope	Severe: depth to rock, slope, droughty	Severe: contrasting layer
1999							
Valleys							
2000							
Graminoid Cryaquolls	Severe: wetness					Severe: wetness	
2020							
Graminoid Chickreek	Severe: wetness					Severe: wetness	
Salix/Graminoid Tepete	Severe: wetness					Severe: wetness	
2040							
PICO Perfa	Severe: wetness, too sandy			Moderate: wetness	Moderate: wetness, erodes easily	Severe: too sandy, droughty	Severe: too coarse
ABLA/CACA4,CACA4 Bootjack	Severe: wetness			Moderate: wetness, flooding	Severe: wetness	Severe: too sandy, wetness	Severe: restrictive layer, wetness

Ecological Unit Symbol and Ecological Type Name	Fencing	Rangeland Revegetation	Rangeland Equipment	Woodland Mechanical Site Preparation	Equipment Use for Woodland Harvest	Revegetation of Cut and Fill Slopes	Windthrow Hazard
2604							
PIEN/GATR3 Cryofluvents	Severe: wetness, too sandy			Severe: wetness	Severe: wetness	Severe: too sandy, wetness, droughty	Severe: restrictive layer, wetness
2606							
Salix/Graminoid Cryaquolls	Severe: wetness					Severe: wetness	
Salix/Graminoid Cryaquolls, poorly drained	Severe: wetness					Severe: wetness	
2608							
ABLA/CACA4,CACA4 Bootjack	Severe: wetness			Moderate: wetness, flooding	Severe: wetness	Severe: too sandy, wetness	Severe: restrictive layer, wetness
Salix/Graminoid Cryaquolls, poorly drained	Severe: wetness					Severe: wetness	
2609							
PIEN Cryaquolls	Severe: wetness			Severe: wetness	Severe: wetness	Severe: wetness	Severe: restrictive layer, wetness
3000							
Pits							

For interpretations of map units 4028 through 4302 refer to the original adjoining soil survey(s).

Water Management

This table gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes and levees; and aquifer-fed excavated ponds. This report also gives the restrictive features that affect drainage, irrigation, terraces and diversions, and grassed waterways. The degree of soil limitations are expressed as Slight, Moderate and Severe. These terms and the kinds of limitations are defined in the following paragraphs.

Pond Reservoir Areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soils and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, Dikes, and Levees are raised structures of soil material, commonly less than 20 feet high, constructed to impound water or to protect land against overflow. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction. The ratings do not indicate the ability of the natural soils to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties. Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of organic matter, stones or boulders. A high water table affects the amount of usable material and trafficability.

Aquifer-fed Excavated Ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the amount of cobbles and stones affect the ease of excavation.

Drainage is the removal of excess surface and subsurface water from the soils. How easily and effectively the soils are drained depends on the depth to bedrock, permeability, depth to a high water table or depth of standing water, slope, susceptibility to flooding, subsidence of organic layers, and potential frost action. Excavating, grading and the stability of cutbanks are affected by depth to bedrock, large stones, slope, and the hazard of cutbanks caving. The productivity of the soils after drainage is adversely affected by extreme acidity. Availability of drainage outlets is not considered in the ratings.

Irrigation is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to the water table, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock.

Terraces and Diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock or to a cemented pan affect the construction of terraces and diversions. Maintenance is adversely affected by a restricted rooting depth, a severe hazard of wind or water erosion, an excessively coarse texture and restricted permeability.

Grassed Waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock or to a cemented pan affect the construction of grassed waterways. Growth and maintenance of grass after construction is adversely affected by a hazard of wind erosion, low available water capacity, restricted rooting depth and restricted permeability.

Degree of Limitations

Slight - This rating is given to soils that have properties favorable for the specified use. This degree of limitation is minor and can be overcome

easily. Good performance and low maintenance can be expected.

Moderate - This rating is given to soils that have properties moderately favorable for the specified use. This degree of limitation can be overcome or modified by special planning, design, or maintenance. The expected performance of the structure or other planned use is somewhat less desirable than for soils rated slight.

Severe - This rating is given to soils that have one or more properties unfavorable for the specified use. This degree of limitation generally requires major soil reclamation, special design or intensive maintenance. Some of the soils can be improved by reducing or removing soil features that limit use. In most situations it is difficult and costly to alter the soils or design a structure to compensate for a severe degree of limitation.

Limitations

Cemented pan - Restrictive, dense, hard, somewhat impervious cemented soil material.

Cutbanks cave - The walls of excavation tend to cave in or slough.

Deep to water - Deep to permanent water table during dry season.

Depth to rock - Bedrock is too near the surface for the specified use.

Droughty - Soils hold too little water for plants during dry periods.

Erodes easily - Soils are easily eroded by water.

Flooding - Soils flooded by moving water from stream overflow.

Frost action - Freezing and thawing of soil moisture. Frost action can damage roads, buildings, and other structures.

Hard to pack - Difficult to compact using regular earthwork construction equipment.

Large stones - Rock fragments 3 inches or more across adversely affect the specified use.

No water - Too deep to ground water.

Percs slowly - The slow movement of water through the soils adversely affects the specified use.

Piping - The formation of subsurface tunnels or pipe like cavities by water.

Ponding - Standing water on soils in closed depressions that is removed only by percolation or evapotranspiration.

Rooting depth - Shallow root zone. The soils are shallow over a layer that greatly restricts roots.

Seepage - The movement of water through the soils. Seepage adversely affects the specified use.

Slope - Slope is steep enough that special practices are required to ensure satisfactory performance for the specified use.

Slow refill - The slow filling of aquifer-fed ponds, resulting from restricted soil permeability.

Soil blowing - Soils easily moved by wind.

Thin layer - Suitable soil material is too thin for the specified use.

Too arid - The soils are dry most of the time. Vegetation is difficult to establish.

Too sandy - The soils are soft and loose, droughty and low in fertility or are too fine to use as gravel.

Wetness - The soils are wet during the period of specified use.

Water Management

Ecological Unit Symbol and Ecological Type Name	Limitations for			Features Affecting			
	Pond Reservoir Areas	Embankments, Dikes, and Levees	Aquifer-fed Excavated Ponds	Drainage	Irrigation	Terraces and Diversions	Grassed Waterways
1000							
PICO/VASC Islandpark	Moderate: seepage, slope	Severe: piping	Severe: no water	Deep to water	Slope	Erodes easily	Erodes easily
PSME/SYAL Potrmound	Severe: seepage, slope	Severe: piping, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones, depth to rock	Large stones, slope, droughty
PICO/ARTRP4 Spliten	Severe: depth to rock	Severe: piping, large stones	Severe: no water	Deep to water	Large stones, depth to rock	Large stones, depth to rock	Large stones, depth to rock
1046							
PICO/ARTRP4 Vadnais	Moderate: depth to rock, slope	Severe: thin layer	Severe: no water	Deep to water	Slope, depth to rock, erodes easily	Depth to rock, erodes easily	Erodes easily, depth to rock
Rock Outcrop							
1050							
Cinder Cones							
1106							
ABLA/PHMA5 Gany	Severe: seepage, slope	Severe: seepage	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
PSME/BERE,SYOR 2 Fritz	Severe: seepage, slope	Severe: seepage	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
1110							
ARTRP4/FEID Raynoldson	Severe: seepage, slope	Severe: seepage	Severe: no water	Deep to water	Slope, droughty	Slope, too sandy	Slope,droughty
1112							
ABLA/VAGL,PAMY Huckridge	Severe: slope	Severe: piping	Severe: no water	Deep to water	Slope, percs slowly, erodes easily	Slope, erodes easily	Slope, erodes easily
PSME/OSCH Paleborolls	Severe: slope	Moderate: piping	Severe: no water	Deep to water	Slope	Slope, erodes easily	Slope, erodes easily
1123							
ABLA/CARU,CARU Hopburn	Moderate: seepage, slope	Severe: piping	Severe: no water	Deep to water	Slope	Erodes easily	Erodes easily
PICO/ARTRP4 Vadnais	Moderate: depth to rock, slope	Severe: thin layer	Severe: no water	Deep to water	Slope, depth to rock, erodes easily	Depth to rock, erodes easily	Erodes easily, depth to rock
Rock Outcrop							
1125							
ARNO4/AGSP Simeroi	Severe: seepage, slope	Severe: seepage	Severe: no water	Deep to water	Slope, droughty	Slope, large stones	Too arid, large stones, slope
ARTRP4/FEID Zeale	Severe: slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
1126							
ARNO4/AGSP Simeroi	Severe: seepage, slope	Severe: seepage	Severe: no water	Deep to water	Slope, droughty	Slope, large stones	Too arid, large stones, slope
1127							
ARTRW8/ARARA Simeroi	Severe: seepage, slope	Severe: seepage	Severe: no water	Deep to water	Slope, droughty	Slope, large stones	Too arid, large stones, slope
1128							
ARTRP4/FEID Monida	Severe: slope	Moderate: piping	Severe: no water	Deep to water	Slope	Slope, erodes easily	Slope, erodes easily
ARTRP4/FEID Zeale	Severe: slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
1129							
PIFL2/LEKI2 Fritz	Severe: seepage, slope	Severe: seepage	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
PSME/JUCO6 Gany	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty

Ecological Unit Symbol and Ecological Type Name	Limitations for			Features Affecting			
	Pond Reservoir Areas	Embankments, Dikes, and Levees	Aquifer-fed Excavated Ponds	Drainage	Irrigation	Terraces and Diversions	Grassed Waterways
1130							
Alpine Graminoid Fritz	Severe: seepage, slope	Severe: seepage	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
1131							
ARARA/FEID Mountainboy	Severe: seepage, cemented pan	Severe: seepage	Severe: no water	Deep to water	Slope, droughty, cemented pan	Cemented pan, too sandy	Droughty, cemented pan
1133							
PSME/ARTRV Meegero	Severe: seepage, slope	Moderate: large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
ARTRP4/FEID Monida	Severe: slope	Moderate: piping	Severe: no water	Deep to water	Slope	Slope, erodes easily	Slope, erodes easily
1140							
ABLA/THOC Nearl	Severe: slope	Severe: hard to pack	Severe: no water	Percs slowly, frost action, slope	Slope, wetness, percs slowly	Slope, large stones, erodes easily	Large stones, wetness, slope
1144							
ABLA/SPBE2 Koffgo	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
1145							
ARTRP4/FEID Monida	Severe: slope	Moderate: piping	Severe: no water	Deep to water	Slope	Slope, erodes easily	Slope, erodes easily
ARTRP4/FEID Zeebar	Severe: slope	Moderate: large stones	Severe: no water	Deep to water	Slope, droughty	Slope, large stones	Large stones, slope, droughty
1146							
ARTRP4/FEID Zeebar	Severe: slope	Moderate: large stones	Severe: no water	Deep to water	Slope, droughty	Slope, large stones	Large stones, slope, droughty
1147							
ARTRP4/FEID Zeebar	Severe: slope	Moderate: large stones	Severe: no water	Deep to water	Slope, droughty	Slope, large stones	Large stones, slope, droughty
1149							
PSME/CARU,CARU Edgway	Severe: slope	Moderate: large stones	Severe: no water	Deep to water	Slope, droughty	Slope, large stones	Large stones, slope, droughty
1150							
ABLA/CARU,CARU Rhylow	Severe: seepage, slope	Severe: seepage	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
ABLA/CARU,CARU Fitzwil	Severe: slope	Moderate: piping, large stones	Severe: no water	Deep to water	Slope, droughty	Slope, large stones	Large stones, slope, droughty
1154							
PSME/JUCO6 Pikaden	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
PSME/FEID Pikaden	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
Rubble Land							
1170							
ABLA/Tall Forb Yodal	Severe: slope	Moderate: thin layer, piping, large stones	Severe: no water	Deep to water	Slope, droughty, percs slowly	Slope, large stones	Large stones, slope, droughty
1172							
ABLA/ACGL Gany	Severe: seepage, slope	Severe: seepage	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
ABLA/THOC Katpa	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
PSME/BERE, SYOR2 Fritz	Severe: seepage, slope	Severe: seepage	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
1175							
ABLA/Tall Forb Yodal	Severe: slope	Moderate: thin layer, piping, large stones	Severe: no water	Deep to water	Slope, droughty, percs slowly	Slope, large stones	Large stones, slope, droughty
1204							
PSME/ARTRV Povey	Severe: slope	Severe: seepage	Severe: no water	Deep to water	Slope	Slope, large stones	Large stones, slope

Ecological Unit Symbol and Ecological Type Name	Limitations for			Features Affecting			
	Pond Reservoir Areas	Embankments, Dikes, and Levees	Aquifer-fed Excavated Ponds	Drainage	Irrigation	Terraces and Diversions	Grassed Waterways
1209							
Tall Forb Etnass	Severe: slope	Moderate: hard to pack	Severe: no water	Deep to water	Slope, percs slowly	Slope, percs slowly	Slope, percs slowly
ABLA/THOC Nearl	Severe: slope	Severe: hard to pack	Severe: no water	Percs slowly, frost action, slope	Slope, wetness, percs slowly	Slope, large stones, erodes easily	Large stones, wetness, slope
PSME/ARTRV Tophat	Severe: slope	Moderate: large stones	Severe: no water	Deep to water	Slope, large stones, percs slowly	Slope, large stones, percs slowly	Large stones, slope, percs slowly
1216							
ABLA/ACGL Koffgo	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
ABLA/ACGL Rhylow	Severe: seepage, slope	Moderate: seepage, piping, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
PSME/ARTRV Povey	Severe: slope	Severe: seepage	Severe: no water	Deep to water	Slope	Slope, large stones	Large stones, slope
1219							
ABLA/PHMA5 Lagall	Severe: seepage, slope	Severe: large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
PSME/ARTRV Povey	Severe: slope	Severe: seepage	Severe: no water	Deep to water	Slope	Slope, large stones	Large stones, slope
PSME/BERE, SYOR2 Fritz	Severe: seepage, slope	Severe: seepage	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
1222							
ABLA/ACGL Koffgo	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
PSME/SYAL Lagall	Severe: seepage, slope	Severe: large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
ABLA/ACGL Rhylow	Severe: seepage, slope	Moderate: seepage, piping, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
1224							
ABLA/VAGL,PAMY Huckridge	Severe: slope	Severe: piping	Severe: no water	Deep to water	Slope, percs slowly, erodes easily	Slope, erodes easily	Slope, erodes easily
ABLA/VAGL,PAMY Koffgo	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
PSME/ARTRV Povey	Severe: slope	Severe: seepage	Severe: no water	Deep to water	Slope	Slope, large stones	Large stones, slope
1225							
PIAL Lasac	Severe: seepage, slope	Severe: seepage	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones, too sandy	Large stones, slope, droughty
ABLA/VASC,VASC Castan	Severe: seepage, slope	Moderate: thin layer, seepage, piping	Severe: no water	Deep to water	Slope, large stones, soil blowing	Slope, large stones, soil blowing	Large stones, slope
1228							
PSME/CARU,CARU Nopla	Severe: slope	Severe: piping	Severe: no water	Deep to water	Slope	Slope	Slope
1230							
PSME/SPBE2, CARU Vitricryands	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones, too sandy	Large stones, slope, droughty
1250							
PSME/ARTRV Povey	Severe: slope	Severe: seepage	Severe: no water	Deep to water	Slope	Slope, large stones	Large stones, slope
1270							
ABLA/ARTRS2 Cryumbrepts	Severe: seepage, slope	Severe: seepage	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones, depth to rock	Large stones, slope, droughty
Rock Outcrop							
1280							
Rubble Land							

Ecological Unit Symbol and Ecological Type Name	Limitations for			Features Affecting			
	Pond Reservoir Areas	Embankments, Dikes, and Levees	Aquifer-fed Excavated Ponds	Drainage	Irrigation	Terraces and Diversions	Grassed Waterways
1280 (con.)							
Low Alpine Forb Cryochrepts, loamy-skeletal	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones, depth to rock	Large stones, slope, droughty
Rock Outcrop							
1294							
ARTRP4/SYOR2/ FEID Tetonia	Severe: slope	Severe: piping	Severe: no water	Deep to water	Slope, erodes easily	Slope, erodes easily	Slope, erodes easily
PSME/OSCH Rin	Severe: slope	Severe: piping	Severe: no water	Deep to water	Slope, erodes easily	Slope, erodes easily	Slope, erodes easily
1303							
ABLA/OSCH,PAMY Edgway	Severe: slope	Moderate: piping, large stones	Severe: no water	Deep to water	Slope, large stones	Slope, large stones, erodes easily	Large stones, slope, erodes easily
ABLA/THOC Jumpstart	Severe: slope	Severe: hard to pack	Severe: no water	Deep to water	Slope, percs slowly	Slope, erodes easily, percs slowly	Slope, erodes easily, percs slowly
PSME/ARTRV Tophat	Severe: slope	Moderate: large stones	Severe: no water	Deep to water	Slope, large stones, percs slowly	Slope, large stones, percs slowly	Large stones, slope, percs slowly
1307							
ABLA/VAGL,PAMY Huckridge	Severe: slope	Severe: piping	Severe: no water	Deep to water	Slope, percs slowly, erodes easily	Slope, erodes easily	Slope, erodes easily
1313							
ARTRP4/FEID Cryoborolls	Severe: seepage, slope	Severe: large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
1315							
ABLA/OSCH,PAMY Edgway	Severe: slope	Moderate: piping, large stones	Severe: no water	Deep to water	Slope, large stones	Slope, large stones, erodes easily	Large stones, slope, erodes easily
ABLA/VAGL,PAMY Koffgo	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
PSME/ARTRV Povey	Severe: slope	Severe: seepage	Severe: no water	Deep to water	Slope	Slope, large stones	Large stones, slope
1316							
ABLA/VAGL,PAMY Koffgo	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones,droughty	Slope, large stones	Large stones, slope, droughty
ABLA/THOC Koffgo	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
Rock Outcrop							
1331							
Low Alpine Forb Oorang	Severe: slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
Rubble Land							
1332							
ARTRP4/FEID Quirt	Severe: slope	Moderate: hard to pack	Severe: no water	Deep to water	Slope, percs slowly, erodes easily	Slope, erodes easily	Slope, erodes easily, percs slowly
1333							
ARTRP4/FEID Quirt	Severe: slope	Moderate: hard to pack	Severe: no water	Deep to water	Slope, percs slowly, erodes easily	Slope, erodes easily	Slope, erodes easily, percs slowly
ARTRP4/SYOR2/ FEID Tetonia	Severe: slope	Severe: piping	Severe: no water	Deep to water	Slope, erodes easily	Slope, erodes easily	Slope, erodes easily
1400							
ARTRP4/ARART Trude	Severe: seepage	Severe: seepage	Severe: no water	Deep to water	Droughty, soil blowing	Too sandy, soil blowing	Droughty
1401							
ARTRP4/ARART Trude	Severe: seepage	Severe: seepage	Severe: no water	Deep to water	Droughty, soil blowing	Too sandy, soil blowing	Droughty
ABLA/CACA4, CACA4 Bootjack	Severe: seepage	Severe: seepage, piping, wetness	Severe: slow refill, cutbanks cave	Flooding, frost action, cutbanks cave	Wetness, droughty, erodes easily	Erodes easily, wetness, too sandy	Wetness, erodes easily, droughty

Ecological Unit Symbol and Ecological Type Name	Limitations for			Features Affecting			
	Pond Reservoir Areas	Embankments, Dikes, and Levees	Aquifer-fed Excavated Ponds	Drainage	Irrigation	Terraces and Diversions	Grassed Waterways
1414							
ABLA/VASC,PIAL Winegar	Severe: seepage, slope	Severe: seepage	Severe: no water	Deep to water	Slope, rooting depth	Slope, large stones, too sandy	Large stones, slope, rooting depth
CALE4 Oxyaquic Cryochrepts	Severe: seepage, slope	Severe: piping, wetness	Moderate: slow refill	Frost action, slope	Slope, wetness, erodes easily	Slope, erodes easily, wetness	Wetness, slope, erodes easily
Rock Outcrop							
1430							
PSME/SYOR2 Kyway	Severe: seepage, slope	Severe: piping	Severe: no water	Deep to water	Slope, depth to rock	Slope, depth to rock	Slope, depth to rock
1505							
ARTRP4/SYOR2/ FEID Tetonia	Severe: slope	Severe: piping	Severe: no water	Deep to water	Slope, erodes easily	Slope, erodes easily	Slope, erodes easily
1506							
PSME/SYAL Lagall, till substratum	Severe: seepage, slope	Moderate: thin layer, large stones	Severe: no water	Deep to water	Slope	Slope, large stones	Large stones, slope
1507							
ARTRT/AGSP Buist	Severe: seepage, slope	Severe: piping, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
ABLA/PHMA5 Lagall	Severe: seepage, slope	Severe: large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
1516							
ABLA/VAGL,VAGL Winegar	Severe: seepage, slope	Severe: seepage	Severe: no water	Deep to water	Slope, rooting depth	Slope, large stones, too sandy	Large stones, slope, rooting depth
ABLA/VASC,CARU Bradco	Severe: seepage, slope	Severe: seepage	Severe: no water	Deep to water	Slope, soil blowing, rooting depth	Slope, too sandy, soil blowing	Slope, rooting depth
1570							
ABLA/VASC,VASC Dashiki	Severe: seepage	Severe: seepage	Severe: no water	Deep to water	Slope, soil blowing	Too sandy, soil blowing	Favorable
PIAL/CARO5,PICO Lasac	Severe: seepage, slope	Severe: seepage	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones, too sandy	Large stones, slope, droughty
1573							
ABLA/VASC Oleo	Severe: seepage, slope	Severe: piping, hard to pack	Severe: no water	Deep to water	Slope, soil blowing	Slope, large stones, soil blowing	Large stones, slope
PIAL/CARO5,PICO Lasac	Severe: seepage, slope	Severe: seepage	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones, too sandy	Large stones, slope, droughty
1575							
ABLA/CARU,CARU Koffgo	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
ABLA/VAGL,VAGL Koffgo	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
1576							
ABLA/ARCO9, ARCO9 Fitzwil	Severe: slope	Moderate: piping, large stones	Severe: no water	Deep to water	Slope, droughty	Slope, large stones	Large stones, slope, droughty
PIAL/ARTRP4 Fitzwil	Severe: slope	Moderate: piping, large stones	Severe: no water	Deep to water	Slope, droughty	Slope, large stones	Large stones, slope, droughty
1585							
ABLA/VASC,CARU Rhylow	Severe: seepage, slope	Severe: seepage	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
1592							
PSME/SYAL Lagall	Severe: seepage, slope	Severe: large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
1593							
ABLA/VAGL,PAMY Koffgo	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
1594							
ABLA/VAGL,VAGL Koffgo	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty

Ecological Unit Symbol and Ecological Type Name	Limitations for			Features Affecting			
	Pond Reservoir Areas	Embankments, Dikes, and Levees	Aquifer-fed Excavated Ponds	Drainage	Irrigation	Terraces and Diversions	Grassed Waterways
1595							
ABLA/VAGL,PAMY Koffgo	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
1597							
ABLA/SPBE2 Koffgo	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
1600							
ABLA/VAGL,VASC Koffgo	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
1646							
ABLA/VAGL,PAMY Huckridge	Severe: slope	Severe: piping	Severe: no water	Deep to water	Slope, percs slowly, erodes easily	Slope, erodes easily	Slope, erodes easily
ABLA/VAGL,PAMY Koffgo	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
ABLA/OSCH,PAMY Edgway	Severe: slope	Moderate: piping, large stones	Severe: no water	Deep to water	Slope, large stones	Slope, large stones, erodes easily	Large stones, slope, erodes easily
1700							
ABLA/VASC,CARU Koffgo	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
1720							
ABLA/VAGL,VAGL Flatstone	Severe: slope	Severe: piping, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
ABLA/VASC,CARU Koffgo	Severe: seepage	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Large stones	Large stones, droughty
1730							
ABLA/VASC,CARU Koffgo	Severe: seepage, slope	Severe: seepage, large stones	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones	Large stones, slope, droughty
PICO Perfa	Severe: seepage	Severe: seepage, wetness	Severe: cutbanks cave	Slope, cutbanks cave	Slope, wetness, droughty	Wetness, too sandy, soil blowing	Wetness, droughty
1760							
PSME/ARTRV Fourme	Severe: seepage	Severe: seepage	Severe: no water	Deep to water	Droughty	Too sandy	Droughty
1970							
ABLA Cryoboralfs	Severe: slope	Severe: hard to pack	Severe: no water	Deep to water	Slope, large stones, percs slowly	Slope, large stones, depth to rock	Large stones, slope, erodes easily
PSME/BERE, SYOR2 Cryochrepts, fine	Severe: slope	Severe: hard to pack	Severe: no water	Deep to water	Slope, large stones, droughty	Slope, large stones, depth to rock	Large stones, slope, erodes easily
1999							
Valleys							
2000							
Graminoid Cryaquolls	Moderate: seepage	Severe: piping, wetness	Severe: slow refill	Frost action	Wetness, percs slowly	Erodes easily, wetness	Wetness, erodes easily
2020							
Graminoid Chickreek	Severe: seepage	Severe: seepage, ponding	Severe: slow refill, cutbanks cave	Ponding, percs slowly, frost action	Ponding, percs slowly, rooting depth	Erodes easily, ponding, too sandy	Wetness, erodes easily, rooting depth
Salix/Graminoid Tepete	Severe: seepage	Severe: seepage, ponding	Moderate: cutbanks cave	Ponding, subsides, frost action	Ponding, soil blowing	Ponding, too sandy, soil blowing	Wetness
2040							
PICO Perfa	Severe: seepage	Severe: seepage, wetness	Severe: cutbanks cave	Cutbanks cave	Wetness, droughty, soil blowing	Wetness, too sandy, soil blowing	Wetness, droughty
ABLA/CACA4, CACA4 Bootjack	Severe: seepage	Severe: seepage, piping, wetness	Severe: slow refill, cutbanks cave	Flooding, frost action, cutbanks cave	Wetness, droughty, erodes easily	Erodes easily, wetness, too sandy	Wetness, erodes easily, droughty
2604							
PIEN/GATR3 Cryofluvents	Severe: seepage	Severe: seepage, large stones, wetness	Severe: cutbanks cave	Flooding, large stones, cutbanks cave	Large stones, wetness, droughty	Large stones, erodes easily, wetness	Large stones, wetness, erodes easily

Ecological Unit Symbol and Ecological Type Name	Limitations for			Features Affecting			
	Pond Reservoir Areas	Embankments, Dikes, and Levees	Aquifer-fed Excavated Ponds	Drainage	Irrigation	Terraces and Diversions	Grassed Waterways
2606							
Salix/Graminoid Cryaquolls	Severe: seepage	Severe: seepage, wetness	Severe: cutbanks cave	Flooding, frost action, slope	Slope, wetness, flooding	Erodes easily, wetness, too sandy	Wetness, erodes easily
Salix/Graminoid Cryaquolls, poorly drained	Severe: seepage	Severe: seepage, ponding	Severe: cutbanks cave	Ponding, flooding, frost action	Ponding, flooding	Erodes easily, ponding, too sandy	Wetness, erodes easily
2608							
ABLA/CACA4, CACA4 Bootjack	Severe: seepage	Severe: seepage, piping, wetness	Severe: slow refill, cutbanks cave	Flooding, frost action, cutbanks cave	Wetness, droughty, erodes easily	Erodes easily, wetness, too sandy	Wetness, erodes easily, droughty
Salix/Graminoid Cryaquolls, poorly drained	Severe: seepage	Severe: seepage, ponding	Severe: cutbanks cave	Ponding, flooding, frost action	Ponding, flooding	Erodes easily, ponding, too sandy	Wetness, erodes easily
2609							
PIEN Cryaquolls	Severe: seepage	Severe: seepage, ponding	Moderate: slow refill, large stones, cutbanks cave	Ponding, flooding, large stones	Slope, large stones, ponding	Large stones, erodes easily, ponding	Large stones, wetness, erodes easily
3000							
Pits							

For interpretations of map units 4028 through 4302 refer to the original adjoining soil survey(s).

Appendix A. Classification of the Soils

Soil Name	Taxonomic Class
Bootjack series	Fine-loamy over sandy or sandy-skeletal, mixed, superactive Aeric Cryaquepts
Bradco series	Ashy, amorphic Humic Vitricryands
Buist series	Loamy-skeletal, mixed, superactive, frigid Calcic Haploxerolls
Castan series	Ashy-skeletal, glassy Humic Vitricryands
Chickreek series	Fine-silty over sandy or sandy-skeletal, mixed, superactive, nonacid Typic Cryaquents
Cryaquolls great group	Cryaquolls
Cryoboralfs family	Fine, mixed, active Typic Cryoboralfs
Cryoborolls family	Loamy-skeletal, mixed, superactive Typic Cryoborolls
Cryochrepts, fine family	Fine, carbonatic Typic Cryochrepts
Cryochrepts, loamy-skeletal subgroup	Typic Cryochrepts
Cryofluvents subgroup	Oxyaquic Cryofluvents
Cryumbrepts family	Loamy-skeletal, mixed, superactive Vitrandic Cryumbrepts
Dashiki series	Ashy, glassy Typic Vitricryands
Edgway series	Loamy-skeletal, mixed, superactive Vitrandic Cryoborolls
Etnass series	Fine, smectitic Typic Humicryerts
Fitzwil series	Loamy-skeletal, mixed, active Vitrandic Paleboralfs
Flatstone series	Loamy-skeletal, mixed, active Vitrandic Paleboralfs
Fourme series	Loamy-skeletal, mixed, superactive Argic Cryoborolls
Fritz series	Loamy-skeletal, carbonatic Calcic Cryoborolls
Gany series	Loamy-skeletal, mixed, superactive Calcic Cryoborolls
Greys series	Fine-silty, mixed, superactive Boralfic Cryoborolls
Hapgood series	Loamy-skeletal, mixed, superactive Pachic Cryoborolls
Hopburn series	Fine-loamy, mixed, superactive Vitrandic Cryoboralfs
Huckridge series	Fine-silty, mixed, superactive Vitrandic Paleboralfs
Ike series	Loamy-skeletal, carbonatic, frigid Lithic Xeric Haplocalcids
Islandpark series	Coarse-silty, mixed, active Vitrandic Paleboralfs
Jimbee series	Loamy-skeletal, carbonatic Lithic Cryoborolls
Jumpstart series	Fine, mixed, active Mollic Cryoboralfs
Katpa series	Loamy-skeletal, carbonatic Calcic Pachic Cryoborolls
Koffgo series	Loamy-skeletal, mixed, superactive Vitrandic Cryochrepts
Kyway series	Coarse-loamy, mixed, superactive Vitrandic Cryoborolls
Lagall series	Loamy-skeletal, mixed, superactive Vitrandic Cryoborolls
Lasac series	Ashy-skeletal, glassy Vitrandic Cryochrepts
Lostine series	Coarse-silty, mixed, superactive, frigid Pachic Haploxerolls
Maxville series	Fine-loamy over sandy or sandy-skeletal, mixed, superactive Typic Cryoborolls
Meegero series	Loamy-skeletal, carbonatic Calcic Pachic Cryoborolls
Monida series	Fine-loamy, mixed, superactive Argic Cryoborolls
Mountainboy series	Loamy-skeletal, carbonatic, shallow Duric Cryoborolls
Nearl series	Fine, smectitic Vertic Cryoborolls
Nopla series	Fine-loamy, mixed, superactive Cryic Paleborolls
Oleo series	Ashy, glassy Alfic Vitricryands

Soil Name	Taxonomic Class
Oorang series	Fragmental, carbonatic Typic Cryochrepts
Oxyaquic Cryochrepts subgroup	Oxyaquic Cryochrepts
Paleborolls family	Fine-silty, mixed, superactive Cryic Paleborolls
Perfa series	Sandy, mixed Oxyaquic Cryochrepts
Pikaden series	Sandy-skeletal, mixed Typic Cryochrepts
Potrmound series	Loamy-skeletal, mixed, superactive Vitrandic Cryumbrepts
Povey series	Loamy-skeletal, mixed, superactive Pachic Cryoborolls
Quirt series	Fine, mixed, superactive Argic Cryoborolls
Raynoldson series	Loamy-skeletal, mixed, superactive Calcic Pachic Cryoborolls
Rhylow series	Loamy-skeletal, mixed, superactive Vitrandic Cryumbrepts
Rin series	Coarse-silty, mixed, superactive Pachic Cryoborolls
Sebud series	Loamy-skeletal, mixed, superactive Typic Cryoborolls
Simeroi series	Loamy-skeletal, carbonatic, frigid Xeric Haplocalcids
Spliten series	Loamy, mixed, superactive Lithic Cryoborolls
Stamp series	Coarse-loamy, mixed, superactive Aquic Cryochrepts
Tepete series	Loamy, mixed, euic Terric Borohemists
Tetonia series	Coarse-silty, mixed, superactive Calcic Pachic Cryoborolls
Tophat series	Fine, mixed, superactive Argic Pachic Cryoborolls
Trude series	Sandy-skeletal, mixed Dystric Cryochrepts
Turnerville series	Fine-silty, mixed, superactive Typic Cryoboralfs
Vadnais series	Fine-loamy, mixed, superactive Argic Pachic Cryoborolls
Vitricryands family	Ashy-skeletal, glassy Typic Vitricryands
Winegar series	Ashy, amorphic Typic Vitricryands
Yodal series	Fine-loamy, mixed, active Abruptic Paleboralfs
Zeale series	Loamy-skeletal, carbonatic Calcic Cryoborolls
Zeebar series	Loamy-skeletal, mixed, superactive Argic Cryoborolls

Appendix B. Potential Natural Communities

Code	Scientific Names	Common Names
ABLA	*A mosaic of: Abies lasiocarpa/Physocarpus malvaceus* p.a.; *Abies lasiocarpa/Calamagrostis rubescens* p.a., *Calamagrostis rubescens* phase	A mosaic of: subalpine fir/mallow ninebark p.a.; subalpine fir/pinegrass p.a., pinegrass phase
ABLA/ACGL	*Abies lasiocarpa/Acer glabrum* p.a.	subalpine fir/Rocky Mountain maple p.a.
ABLA/ACRU2	*Abies lasiocarpa/Actea rubra* p.a.	subalpine fir/red baneberry p.a.
ABLA/ARCO9,ARCO9	*Abies lasiocarpa/Arnica cordifolia* p.a., *Arnica cordifolia* phase	subalpine fir/heartleaf arnica p.a., heartleaf arnica phase
ABLA/ARTRS2	A mosaic of: *Abies lasiocarpa/Ribes montigenum* p.a., *Pinus albicaulis* phase; *Artemisia tridentata* ssp. *spiciformis/Carex geyeri* p.a.	A mosaic of: subalpine fir/gooseberry currant p.a., whitebark pine phase; spiked big sagebrush/elk sedge p.a.
ABLA/CACA4,CACA4	*Abies lasiocarpa/Calamagrostis canadensis* p.a., *Calamagrostis canadensis* phase	subalpine fir/bluejoint p.a., bluejoint phase
ABLA/CAGE2	*Abies lasiocarpa/Carex geyeri* p.a.	subalpine fir/elk sedge p.a.
ABLA/CARU,CARU	*Abies lasiocarpa/Calamagrostis rubescens* p.a., *Calamagrostis rubescens* phase	subalpine fir/pinegrass p.a., pinegrass phase
ABLA/OSCH,PAMY	*Abies lasiocarpa/Osmorhiza chilensis* p.a., *Pachistima myrsinites* phase	subalpine fir/sweetcicely p.a., myrtle pachistima phase
ABLA/PHMA5	*Abies lasiocarpa/Physocarpus malvaceus* p.a.	subalpine fir/mallow ninebark p.a.
ABLA/RIMO2,PIAL	*Abies lasiocarpa/Ribes montigenum* p.a., *Pinus albicaulis* phase	subalpine fir/gooseberry currant p.a., whitebark pine phase
ABLA/SPBE2	*Abies lasiocarpa/Spiraea betulifolia* p.a.	subalpine fir/white spirea p.a.
ABLA/Tall Forb	A mosaic of: *Abies lasiocarpa/Ribes montigenum* p.a., *Pinus albicaulis* phase; tall forb communities	A mosaic of: subalpine fir/gooseberry currant p.a., whitebark pine phase; tall forb communities
ABLA/THOC	*Abies lasiocarpa/Thalictrum occidentale* p.a.	subalpine fir/western meadowrue p.a.
ABLA/VAGL,PAMY	*Abies lasiocarpa/Vaccinium globulare* p.a., *Pachistima myrsinites* phase	subalpine fir/blue huckleberry p.a., myrtle pachistima phase
ABLA/VAGL,VAGL	*Abies lasiocarpa/Vaccinium globulare* p.a., *Vaccinium globulare* phase	subalpine fir/blue huckleberry p.a., blue huckleberry phase
ABLA/VAGL,VASC	*Abies lasiocarpa/Vaccinium globulare* p.a., *Vaccinium scoparium* phase	subalpine fir/blue huckleberry p.a., grouse whortleberry phase
ABLA/VASC	*Abies lasiocarpa/Vaccinium scoparium* p.a., *Vaccinium scoparium* phase or *Calamagrostis rubescens* phase	subalpine fir/grouse whortleberry p.a., grouse whortleberry phase or pinegrass phase
ABLA/VASC,CARU	*Abies lasiocarpa/Vaccinium scoparium* p.a., *Calamagrostis rubescens* phase	subalpine fir/grouse whortleberry p.a., pinegrass phase
ABLA/VASC,PIAL	*Abies lasiocarpa/Vaccinium scoparium* p.a., *Pinus albicaulis* phase	subalpine fir/grouse whortleberry p.a., whitebark pine phase
ABLA/VASC,VASC	*Abies lasiocarpa/Vaccinium scoparium* p.a., *Vaccinium scoparium* phase	subalpine fir/grouse whortleberry p.a., grouse whortleberry phase
Alpine Graminoid	alpine graminoid communities	alpine grass and sedge communities
ARARA/AGSP	*Artemisia arbuscula* ssp. *arbuscula/Agropyron spicatum* p.a.	gray low sagebrush/bluebunch wheatgrass p.a.
ARARA/FEID	*Artemisia arbuscula* ssp. *arbuscula/Festuca idahoensis* p.a.	gray low sagebrush/Idaho fescue p.a.
ARNO4/AGSP	*Artemisia nova/Agropyron spicatum* p.a.	black sagebrush/bluebunch wheatgrass p.a.

Code	Scientific Names	Common Names
ARTRP4/AGSP	*Artemisia tridentata* ssp. *vaseyana* var. *pauciflora/Agropyron spicatum* p.a.	mountain big sagebrush/bluebunch wheatgrass p.a.
ARTRP4/ARART	A mosaic of: *Artemisia tridentata* ssp. *vaseyana* var. *pauciflora/Festuca idahoensis* p.a.; *Artemisia arbuscula* ssp. *thermopola/Festuca idahoensis* p.a.	A mosaic of: mountain big sagebrush/Idaho fescue p.a.; hotsprings sagebrush/Idaho fescue p.a.
ARTRP4/FEID	*Artemisia tridentata* ssp. *vaseyana* var. *pauciflora/Festuca idahoensis* p.a.	mountain big sagebrush/Idaho fescue p.a.
ARTRP4/SYOR2/FEID	*Artemisia tridentata* ssp. *vaseyana* var. *pauciflora/Symphoricarpos oreophilus/Festuca idahoensis* p.a.	mountain big sagebrush/whortleleaf snowberry/Idaho fescue p.a.
ARTRT/AGSP	*Artemisia tridentata* ssp. *tridentata/Agropyron spicatum* p.a.	basin big sagebrush/bluebunch wheatgrass p.a.
ARTRT/STCO4	*Artemisia tridentata* ssp. *tridentata/Stipa comata* p.a.	basin big sagebrush/needleandthread p.a.
ARTRW8/AGSP	*Artemisia tridentata* ssp. *wyomingensis/ Agropyron spicatum* p.a.	Wyoming big sagebrush/bluebunch wheatgrass p.a.
ARTRW8/ARARA	A mosaic of: *Artemisia tridentata* ssp. *wyomingensis/Agropyron spicatum* p.a.; *Artemisia arbuscula* ssp. *arbuscula/Agropyron spicatum* p.a.	A mosaic of: Wyoming big sagebrush/bluebunch wheatgrass p.a; gray low sagebrush/ bluebunch wheatgrass p.a.
CALE4	*Caltha leptosepala* c.t.	white marshmarigold c.t.
CELE3/AGSP	*Cercocarpus ledifolius* var. *intercedens/ Agropyron spicatum* p.a.	curlleaf mountain mahogany/bluebunch wheatgrass p.a.
Graminoid	graminoid dominated communities	grass and sedge dominated communities
Krummholz	krummholz communities	krummholz communities
Low Alpine Forb	low alpine forb communities	low alpine forb communities
Mountain Brush	mountain brush communities	mountain brush communities
PIAL	A mosaic of: *Pinus albicaulis/Carex geyeri* p.a. and *Pinus albicaulis/Vaccinium scoparium* p.a.	A mosaic of: whitebark pine/elk sedge p.a. and whitebark pine/grouse whortleberry p.a.
PIAL/ARTRP4	An ecotone of: *Pinus albicaulis/Festuca idahoensis* p.a.; *Artemisia tridentata* ssp. *vaseyana* var. *pauciflora/Festuca idahoensis* p.a.	An ecotone of: whitebark pine/Idaho fescue p.a.; mountain big sagebrush/Idaho fescue p.a.
PIAL/CARO5,CARO5	*Pinus albicaulis/Carex rossii* p.a., *Carex rossii* phase	whitebark pine/Ross' sedge p.a., Ross' sedge phase
PIAL/CARO5,PICO	*Pinus albicaulis/Carex rossii* p.a., *Pinus contorta* phase	whitebark pine/Ross' sedge p.a., lodgepole pine phase
PICO	*A mosaic of: Pinus contorta/Calamagrostis rubescens* c.t., *Pinus contorta/Carex geyeri* c.t. or *Pinus contorta/Vaccinium scoparium* c.t.	A mosaic of: lodgepole pine/pinegrass c.t., lodgepole pine/elk sedge c.t., or lodgepole pine/grouse whortleberry c.t.
PICO/ARTRP4	An ecotone of: *Pinus contorta/Purshia tridentata* p.a.; *Artemisia tridentata* ssp. *vaseyana* var. *pauciflora/Festuca idahoensis* p.a.	An ecotone of: lodgepole pine/antelope bitterbrush p.a.; mountain big sagebrush/Idaho fescue p.a.
PICO/CAGE2	*Pinus contorta/Carex geyeri* c.t.	lodgepole pine/elk sedge c.t.
PICO/VASC	*Pinus contorta/Vaccinium scoparium* c.t.	lodgepole pine/grouse whortleberry c.t.
PIEN	A mosaic of: *Picea engelmannii/Galium triflorum* c.t.; *Picea engelmannii/Equisetum arvense* c.t.	A mosaic of: Engelmann's spruce/fragrant bedstraw c.t; Engelmann's spruce/field horsetail c.t.
PIEN/EQAR	*Picea engelmannii/Equisetum arvense* c.t.	Engelmann's spruce/field horsetail c.t.
PIEN/GATR3	*Picea engelmannii/Galium triflorum* c.t.	Engelmann's spruce/fragrant bedstraw c.t.
PIEN/JUCO6	*Picea engelmannii/Juniperus communis* p.a.	Engelmann's spruce/common juniper p.a.
PIFL2/FEID	*Pinus flexilis/Festuca idahoensis* p.a.	limber pine/Idaho fescue p.a.

Code	Scientific Names	Common Names
PIFL2/LEKI2	*Pinus flexilis/Leucopoa kingii* p.a.	limber pine/spike fescue p.a.
PSME/ACGL	*Pseudotsuga menziesii/Acer glabrum* p.a.	Douglas-fir/Rocky Mountain maple p.a.
PSME/ARCO9	*Pseudotsuga menziesii/Arnica cordifolia* p.a.	Douglas-fir/heartleaf arnica p.a.
PSME/ARTRV	An ecotone of: *Pseudotsuga menziesii/ Symphoricarpos oreophilus* p.a.; *Artemisia tridentata* ssp. *vaseyana* var. *pauciflora/ Festuca idahoensis* p.a.; *Artemisia tridentata* ssp. *vaseyana* var. *vaseyana/Bromus carinatus* p.a.	An ecotone of: Douglas-fir/whortleleaf snowberry p.a.; mountain big sagebrush/Idaho fescue p.a.; subalpine big sagebrush/California brome p.a.
PSME/BERE,SYOR2	*Pseudotsuga menziesii/Berberis repens* p.a., *Symphoricarpos oreophilus* phase	Douglas-fir/Oregongrape p.a., whortleleaf snowberry phase
PSME/CARU,CARU	*Pseudotsuga menziesii/Calamagrostis rubescens* p.a., *Calamagrostis rubescens* phase	Douglas-fir/pinegrass p.a., pinegrass phase
PSME/FEID	*Pseudotsuga menziesii/Festuca idahoensis* p.a.	Douglas-fir/Idaho fescue p.a.
PSME/JUCO6	*Pseudotsuga menziesii/Juniperus communis* p.a.	Douglas-fir/common juniper p.a.
PSME/OSCH	*Pseudotsuga menziesii/Osmorhiza chilensis p.a.*	Douglas-fir/sweetcicely p.a.
PSME/SPBE2,CARU	*Pseudotsuga menziesii/Spiraea betulifolia* p.a., *Calamagrostis rubescens* phase	Douglas-fir/white spirea p.a., pinegrass phase
PSME/SYAL	*Pseudotsuga menziesii/Symphoricarpos albus* p.a.	Douglas-fir/common snowberry p.a.
PSME/SYOR2	*Pseudotsuga menziesii/Symphoricarpos oreophilus* p.a.	Douglas-fir/whortleleaf snowberry p.a.
Salix/Graminoid	*Salix* spp./graminoid dominated communities	willow/grass and sedge dominated communities
Tall Forb	tall forb communities	tall forb communities

Appendix C. Plants Listed By Life-Form and Common Name

Life-Form	Common Name	Scientific Name	Code
Trees			
T	Douglas-fir	*Pseudotsuga menziesii*	PSME
T	Engelmann's spruce	*Picea engelmannii*	PIEN
T	juniper	*Juniperus* sp.	JUNIP
T	limber pine	*Pinus flexilis*	PIFL2
T	lodgepole pine	*Pinus contorta*	PICO
T	narrowleaf cottonwood	*Populus angustifolia*	POAN3
T	quaking aspen	*Populus tremuloides*	POTR5
T	Rocky Mountain juniper	*Juniperus scopulorum*	JUSC2
T	subalpine fir	*Abies lasiocarpa*	ABLA
T	whitebark pine	*Pinus albicaulis*	PIAL
Shrubs			
S	alkali sagebrush	*Artemisia arbuscula* ssp. *longiloba*	ARARL
S	antelope bitterbrush	*Purshia tridentata*	PUTR2
S	barrenground willow	*Salix brachycarpa*	SABR
S	basin big sagebrush	*Artemisia tridentata* ssp. *tridentata*	ARTRT
S	Bebb willow	*Salix bebbiana*	SABE2
S	bigtooth maple	*Acer grandidentatum*	ACGR3
S	black chokecherry	*Prunus virginiana* var. *melanocarpa*	PRVIM
S	black hawthorn	*Crataegus douglasii*	CRDO2
S	black sagebrush	*Artemisia nova*	ARNO4
S	blackberry	*Rubus* sp.	RUBUS
S	blue huckleberry	*Vaccinium globulare (membranaceum)*	VAGL
S	bog birch	*Betula glandulosa (nana)*	BEGL
S	Bolander's silver sagebrush	*Artemisia cana* ssp. *bolanderi*	ARCAB3
S	Booth's willow	*Salix boothii*	SABO2
S	Coaltown sagebrush	*Artemisia cana* ssp. *viscidula*	ARCAV
S	common juniper	*Juniperus communis*	JUCO6
S	common snowberry	*Symphoricarpos albus*	SYAL
S	curlleaf mountain mahogany	*Cercocarpus ledifolius* var. *intercedens*	CELE3
S	currant	*Ribes* sp.	RIBES
S	diamondleaf willow	*Salix planifolia*	SAPL2
S	Drummond's willow	*Salix drummondiana*	SADR
S	dwarf blueberry	*Vaccinium caespitosum (cespitosum)*	VACA
S	dwarf rose	*Rosa gymnocarpa*	ROGY
S	fernbush	*Chamaebatiaria millefolium*	CHMI2
S	fringed sagebrush	*Artemisia frigida*	ARFR4
S	Geyer's willow	*Salix geyeriana*	SAGE2
S	golden currant	*Ribes aureum*	RIAU
S	gooseberry currant	*Ribes montigenum*	RIMO2
S	gray low sagebrush	*Artemisia arbuscula* ssp. *arbuscula*	ARARA

Life-Form	Common Name	Scientific Name	Code
S	grayleaf red raspberry	*Rubus idaeus* (ssp. *strigosus*) var. *gracilipes*	RUIDS
S	green rabbitbrush	*Chrysothamnus viscidiflorus*	CHVI8
S	Greene mountainash	*Sorbus scopulina*	SOSC2
S	greenleaf willow	*Salix lasiandra (lucida)* var. (ssp.) *caudata*	SALAC
S	grouse whortleberry	*Vaccinium scoparium*	VASC
S	Hooker's mountainavens	*Dryas octopetala* ssp. *hookeriana*	DROCH
S	hotsprings sagebrush	*Artemisia arbuscula* ssp. *thermopola*	ARART
S	inland gooseberry	*Ribes (oxyacanthoides* ssp.) *setosum*	RISE2
S	kinnikinnick	*Arctostaphylos uva-ursi*	ARUV
S	Lemmon's willow	*Salix lemmonii*	SALE
S	mallow ninebark	*Physocarpus malvaceus*	PHMA5
S	mountain big sagebrush	*Artemisia tridentata* ssp. *vaseyana* var. *pauciflora*	ARTRP4
S	myrtle pachistima	*Pachistima (Paxistima) myrsinites*	PAMY
S	Nootka rose	*Rosa nutkana*	RONU
S	northern black currant	*Ribes hudsonianum*	RIHU
S	Oregongrape	*Berberis (Mahonia) repens*	BERE
S	pipsissewa	*Chimaphila umbellata*	CHUM
S	prickly currant	*Ribes lacustre*	RILA
S	prickly rose	*Rosa acicularis*	ROAC
S	rabbitbrush	*Chrysothamnus* sp.	CHRYS
S	redosier dogwood	*Cornus stolonifera (serecea)*	COST4
S	rock clematis	*Clematis columbiana*	CLCO2
S	Rocky Mountain maple	*Acer glabrum*	ACGL
S	rose	*Rosa* sp.	ROSA
S	rubber rabbitbrush	*Chrysothamnus nauseosus*	CHNA2
S	russet buffaloberry	*Shepherdia canadensis*	SHCA
S	sandbar willow	*Salix exigua*	SAEX
S	Saskatoon serviceberry	*Amelanchier alnifolia*	AMAL2
S	scarlet elderberry	*Sambucus racemosa*	SARA2
S	Scouler's willow	*Salix scouleriana*	SASC
S	shrubby cinquefoil	*Potentilla (Pentaphylloides) fruticosa*	POFR4
S	silverberry	*Elaeagnus commutata*	ELCO
S	singlehead heathgoldenrod	*Haplopappus (Ericameria) suffruticosus*	HASU
S	Sitka willow	*Salix cuneata (sitchensis)*	SACU8
S	snow willow	*Salix nivalis (reticulata* ssp. *nivalis)*	SANI8
S	snowberry	*Symphoricarpos* sp.	SYMPH
S	snowbrush ceanothus	*Ceanothus velutinus*	CEVE
S	spiked big sagebrush	*Artemisia tridentata* ssp. *spiciformis*	ARTRS2
S	spineless horsebrush	*Tetradymia canescens*	TECA2
S	sticky currant	*Ribes viscosissimum*	RIVI3
S	stiff sagebrush	*Artemisia rigida*	ARRI2
S	subalpine big sagebrush	*Artemisia tridentata* ssp. *vaseyana* var. *vaseyana*	ARTRV2
S	thimbleberry	*Rubus parviflorus*	RUPA
S	thinleaf alder	*Alnus incana* var. *occidentalis* (ssp. *tenuifolia)*	ALINO
S	threetip sagebrush	*Artemisia tripartita*	ARTR4
S	twinberry honeysuckle	*Lonicera involucrata*	LOIN5
S	Utah honeysuckle	*Lonicera utahensis*	LOUT2

Life-Form	Common Name	Scientific Name	Code
S	water birch	*Betula occidentalis*	BEOC2
S	wax current	*Ribes cereum*	RICE
S	western white clematis	*Clematis ligusticifolia*	CLLI2
S	white spirea	*Spiraea betulifolia*	SPBE2
S	whitestem gooseberry	*Ribes inerme*	RIIN2
S	whortleleaf snowberry	*Symphoricarpos oreophilus*	SYOR2
S	willow	*Salix* sp.	SALIX
S	Wolf's willow	*Salix wolfii*	SAWO
S	Woods' rose	*Rosa woodsii*	ROWO
S	Wyoming big sagebrush	*Artemisia tridentata* ssp. *wyomingensis*	ARTRW8
S	yellow willow	*Salix lutea*	SALU2
Graminoids			
G	Alaska oniongrass	*Melica subulata*	MESU
G	alpine bluegrass	*Poa alpina*	POAL2
G	alpine nerve sedge	*Carex neurophora*	CANE6
G	alpine timothy	*Phleum alpinum*	PHAL2
G	analogue sedge	*Carex simulata*	CAS12
G	Baltic rush	*Juncus balticus*	JUBA
G	basin wildrye	*Elymus (Leymus) cinereus*	ELCI2
G	beaked sedge	*Carex rostrata*	CARO6
G	beardless wheatgrass	*Agropyron (Pseudoroegneria) spicatum* var. *inerme*	AGSPI
G	Bebb's sedge	*Carex bebbii*	CABE2
G	bentgrass	*Agrostis* sp.	AGROS
G	big bluegrass	*Poa ampla (secunda)*	POAM
G	blackroot sedge	*Carex elynoides*	CAEL3
G	blister sedge	*Carex vesicaria*	CAVE6
G	blue wildrye	*Elymus glaucus*	ELGL
G	bluebunch wheatgrass	*Agropyron (Pseudoroegneria) spicatum*	AGSP
G	bluegrass	*Poa* sp.	POA
G	bluejoint	*Calamagrostis canadensis*	CACA4
G	bog bluegrass	*Poa leptocoma*	POLE2
G	bottlebrush squirreltail	*Sitanion (Elymus) hystrix*	SIHY
G	brome	*Bromus* sp.	BROMU
G	bulrush	*Scirpus* sp.	SCIRP
G	Buxbaum's sedge	*Carex buxbaumii*	CABU6
G	California brome	*Bromus carinatus*	BRCA5
G	Canada bluegrass	*Poa compressa*	POCO
G	chamisso sedge	*Carex pachystachya*	CAPA14
G	cheatgrass	*Bromus tectorum*	BRTE
G	clustered field sedge	*Carex praegracilis*	CAPR5
G	Colombian brome	*Bromus vulgaris*	BRVU
G	Colorado rush	*Juncus confusus*	JUCO2
G	cottongrass	*Eriophorum polystachion*	ERPO6
G	creeping bentgrass	*Agrostis stolonifera*	AGST2
G	crested wheatgrass	*Agropyron cristatum*	AGCR
G	Cusick bluegrass	*Poa cusickii (fendleriana)*	POCU3
G	Douglas' sedge	*Carex douglasii*	CADO2

Life-Form	Common Name	Scientific Name	Code
G	Drummond's rush	*Juncus drummondii*	JUDR
G	elk sedge	*Carex geyeri*	CAGE2
G	fescue	*Festuca* sp.	FESTU
G	fewflower spikerush	*Eleocharis pauciflora*	ELPA6
G	fowl bluegrass	*Poa palustris*	POPA2
G	fowl mannagrass	*Glyceria striata*	GLST
G	foxtail	*Alopecurus* sp.	ALOPE
G	foxtail barley	*Hordeum jubatum*	HOJU
G	fringed brome	*Bromus ciliatus*	BRCI2
G	Hitchcock's smooth woodrush	*Luzula glabrata* var. *hitchcockii*	LUHI4
G	Hood's sedge	*Carex hoodii*	CAHO5
G	Idaho bentgrass	*Agrostis idahoensis*	AGID
G	Idaho fescue	*Festuca idahoensis*	FEID
G	Indian ricegrass	*Oryzopsis hymenoides*	ORHY
G	inland bluegrass	*Poa interior*	POIN
G	intermediate wheatgrass	*Agropyron (Elytrigia) intermedium*	AGIN2
G	Kentucky bluegrass	*Poa pratensis*	POPR
G	Leiberg bluegrass	*Poa leibergii*	POLE
G	Letterman's needlegrass	*Stipa lettermanii*	STLE4
G	Liddon sedge	*Carex petasata*	CAPE7
G	longstyle rush	*Juncus longistylis*	JULO
G	mannagrass	*Glyceria* sp.	GLYCE
G	meadow barley	*Hordeum brachyantherum*	HOBR2
G	meadow sedge	*Carex praticola*	CAPR7
G	mountain foxtail	*Alopecurus alpinus*	ALAL2
G	mutton grass	*Poa fendleriana*	POFE
G	nearlyblack sedge	*Carex subnigricans*	CASU7
G	Nebraska sedge	*Carex nebrascensis*	CANE2
G	needleandthread	*Stipa comata*	STCO4
G	needlegrass	*Stipa* sp.	STIPA
G	nodding bluegrass	*Poa reflexa*	PORE
G	nodding brome	*Bromus anomalus*	BRAN
G	Norway sedge	*Carex norvegica*	CANO2
G	oatgrass	*Danthonia* sp.	DANTH
G	onespike danthonia	*Danthonia unispicata*	DAUN
G	oniongrass	*Melica bulbosa*	MEBU
G	oniongrass	*Melica* sp.	MELIC
G	orchardgrass	*Dactylis glomerata*	DAGL
G	Parry's rush	*Juncus parryi*	JUPA
G	Patterson bluegrass	*Poa pattersonii (abbreviata)*	POPA3
G	Payson's sedge	*Carex paysonis*	CAPA31
G	pine bluegrass	*Poa scabrella*	POSC
G	pine needlegrass	*Stipa pinetorum*	STPI2
G	pinegrass	*Calamagrostis rubescens*	CARU
G	plains bluegrass	*Poa arida*	POAR3
G	prairie Junegrass	*Koeleria nitida (macrantha)*	KOCR
G	purple oniongrass	*Melica spectabilis*	MESP

Life-Form	Common Name	Scientific Name	Code
G	purple reedgrass	*Calamagrostis purpurascens*	CAPU
G	quackgrass	*Agropyron (Elytrigia) repens*	AGRE2
G	Raynolds' sedge	*Carex raynoldsii*	CARA6
G	reed canarygrass	*Phalaris arundinacea*	PHAR3
G	ricegrass	*Oryzopsis* sp.	ORYZO
G	rock sedge	*Carex rupestris*	CARU3
G	Ross' sedge	*Carex rossii*	CARO5
G	rough bentgrass	*Agrostis scabra*	AGSC5
G	rough fescue	*Festuca scabrella (campestris)*	FESC
G	rush	*Juncus* sp.	JUNCU
G	Sandberg bluegrass	*Poa sandbergii*	POSA12
G	Sandberg bluegrass	*Poa nevadensis (secunda)*	PONE3
G	Sandberg bluegrass	*Poa secunda*	POSE
G	sedge	*Carex* sp.	CAREX
G	sheep fescue	*Festuca ovina*	FEOV
G	shortawn foxtail	*Alopecurus aequalis*	ALAE
G	Sierran hare sedge	*Carex leporinella*	CALE9
G	skyline bluegrass	*Poa epilis (fendleriana)*	POCUE
G	slender wheatgrass	*Agropyron (Elymus) trachycaulum*	AGTR
G	smallflowered woodrush	*Luzula parviflora*	LUPA4
G	smallwing sedge	*Carex microptera*	CAMI7
G	smooth brome	*Bromus inermis*	BRIN2
G	softleaf sedge	*Carex disperma*	CADI6
G	spike bentgrass	*Agrostis exarata*	AGEX
G	spike fescue	*Leucopoa kingii*	LEKI2
G	spike trisetum	*Trisetum spicatum*	TRSP2
G	spreading wheatgrass	*Agropyron (Elymus) scribneri*	AGSC4
G	swordleaf rush	*Juncus ensifolius*	JUEN
G	thickspike wheatgrass	*Agropyron (Elymus) dasytachyum*	AGDA
G	threadleaf sedge	*Carex filifolia*	CAFI
G	Thurber's bentgrass	*Agrostis thurberiana*	AGTH2
G	timber oatgrass	*Danthonia intermedia*	DAIN
G	timberline bluegrass	*Poa rupicola (glauca)*	PORU10
G	timothy	*Phleum pratense*	PHPR3
G	tufted hairgrass	*Deschampsia cespitosa*	DECE
G	tufted sedge	*Carex lenticularis*	CALE8
G	valley sedge	*Carex vallicola*	CAVA3
G	water sedge	*Carex aquatilis*	CAAQ
G	Webber's needlegrass	*Stipa webberi*	STWE
G	western needlegrass	*Stipa occidentalis*	STOC2
G	western wheatgrass	*Agropyron (Pascopyrum) smithii*	AGSM
G	wheatgrass	*Agropyron* sp.	AGROP
G	Wheeler bluegrass	*Poa nervosa* var. *wheeleri*	PONEW
G	wildrye	*Elymus* sp.	ELYMU
G	Wolf's trisetum	*Trisetum wolfii*	TRWO3
G	woolly sedge	*Carex lanuginosa*	CALA30
G		Other Poaceae	UNKPOA

Life-Form	Common Name	Scientific Name	Code
Forbs			
F	agoseris	*Agoseris* sp.	AGOSE
F	Alaska rein orchid	*Habenaria (Piperia) unalascensis*	HAUN
F	alfalfa	*Medicago sativa*	MESA
F	alpine alumroot	*Heuchera cylindrica* var. *alpina*	HECYA
F	alpine dustymaiden	*Chaenactis alpina (douglasii)*	CHAL2
F	alpine mountainsorrel	*Oxyria digyna*	OXDI3
F	alpine mountaintrumpet	*Collomia debilis* var. *debilis*	CODED
F	alpine pennycress	*Thlaspi montanum*	THMO5
F	alpine pussytoes	*Antennaria alpina*	ANAL4
F	alpine smelowskia	*Smelowskia calycina*	SMCA
F	alpine spicywintergreen	*Gaultheria humifusa*	GAHU
F	alpine willowherb	*Epilobium alpinum (anagallidifolium)*	EPAL
F	alsike clover	*Trifolium hybridum*	TRHY
F	alumroot	*Heuchera* sp.	HEUCH
F	American alpine speedwell	*Veronica wormskjoldii*	VEWO2
F	American bistort	*Polygonum bistortoides*	POBI6
F	American chickweed	*Stellaria americana*	STAM
F	American licorice	*Glycyrrhiza lepidota*	GLLE3
F	American speedwell	*Veronica americana*	VEAM2
F	American thorow wax	*Bupleurum americanum*	BUAM2
F	Anderson's larkspur	*Delphinium andersonii*	DEAN
F	anemone	*Anemone* sp.	ANEMO
F	arctic alpine forget me not	*Eritrichium nanum*	ERNA
F	arnica	*Arnica* sp.	ARNIC
F	arrowleaf balsamroot	*Balsamorhiza sagittata*	BASA3
F	arrowleaf groundsel	*Senecio triangularis*	SETR
F	aspen fleabane	*Erigeron speciosus*	ERSP4
F	aster	*Aster* sp.	ASTER
F	baby goldenrod	*Solidago nana*	SONA
F	ballhead sandwort	*Arenaria congesta*	ARCO5
F	ballhead waterleaf	*Hydrophyllum capitatum*	HYCA4
F	balsam groundsel	*Senecio pauperculus*	SEPA5
F	basin nemophila	*Nemophila breviflora*	NEBR
F	bastard toadflax	*Comandra umbellata*	COUM
F	Bear River fleabane	*Erigeron ursinus*	ERUR2
F	beautiful fleabane	*Erigeron formosissimus*	ERFO3
F	bedstraw	*Galium* sp.	GALIU
F	big chickweed	*Cerastium (fontanum* ssp. *vulgare) vulgatum*	CEVU
F	biscuitroot	*Lomatium* sp.	LOMAT
F	bitterroot	*Lewisia* sp.	LEWIS
F	blue penstemon	*Penstemon cyaneus*	PECY3
F	bluebell bellflower	*Campanula rotundifolia*	CARO2
F	bluebells	*Mertensia* sp.	MERTE
F	bluntleaf sandwort	*Arenaria (Moehringia) lateriflora*	ARLA15
F	bluntseed sweetroot	*Osmorhiza depauperata*	OSDE
F	bog orchid	*Habenaria* sp.	HABEN

Life-Form	Common Name	Scientific Name	Code
F	Bonneville shootingstar	*Dodecatheon conjugens*	DOCO
F	borage family	Other Boraginaceae	BORAG
F	box pussytoes	*Antennaria arcuata*	ANAR4
F	bracted lousewort	*Pedicularis bracteosa*	PEBR
F	Brewer's bittercress	*Cardamine breweri*	CABR6
F	brittle bladderfern	*Cystopteris fragilis*	CYFR2
F	broadleaf arnica	*Arnica latifolia*	ARLA8
F	brook saxifrage	*Saxifraga arguta (odontoloma)*	SAAR13
F	broomrape	*Orobanche* sp.	OROBA
F	Brown's peony	*Paeonia brownii*	PABR
F	bulbous woodlandstar	*Lithophragma bulbifera (glabrum)*	LIBU2
F	butter and eggs	*Linaria vulgaris*	LIVU2
F	buttercup	*Ranunculus* sp.	RANUN
F	buttercup family	Other Ranunculaceae	RANUN
F	butterweed groundsel	*Senecio serra*	SESE2
F	Canada goldenrod	*Solidago canadensis*	SOCA6
F	Canadian mint	*Mentha arvensis (canadensis)* var. *glabrata*	MEARG
F	Canadian thistle	*Cirsium arvense*	CIAR4
F	Canadian white violet	*Viola canadensis*	VICA4
F	Canby's aster	*Aster foliaceus* var. *canbyi*	ASFOC
F	Central Idaho penstemon	*Penstemon montanus* var. *idahoensis*	PEMOI
F	chamisso arnica	*Arnica chamissonis*	ARCH3
F	chickweed	*Cerastium* sp.	CERAS
F	chicory tribe	*Other Cichorium* sp.	CICHO
F	Chile aster	*Aster chilensis (ascendens)* ssp. *adscendens*	ASCHA
F	cinquefoil	*Potentilla* sp.	POTEN
F	cinquefoil	*Potentilla palustris*	POPA14
F	claspleaf twistedstalk	*Streptopus amplexifolius*	STAM2
F	cleftleaf groundsel	*Senecio streptanthifolius*	SEST2
F	clover	*Trifolium* sp.	TRIFO
F	clubfruit willowherb	*Epilobium clavatum*	EPCL
F	clubmoss	*Lycopodium* sp.	LYCOP
F	clustered broomrape	*Orobanche fasciculata*	ORFA
F	coast willowweed	*Epilobium watsonii* var. *parishii (ciliatum)*	EPWAP2
F	coiled lousewort	*Pedicularis contorta* var. *contorta*	PECOC2
F	coiled lousewort	*Pedicularis contorta* var. *ctenophora*	PECOC
F	cold mountain crazyweed	*Oxytropis campestris*	OXCA4
F	Colorado blue columbine	*Aquilegia coerulea*	AQCO
F	Columbia monkshood	*Aconitum columbianum*	ACCO4
F	columbine	*Aquilegia* sp.	AQUIL
F	common alplily	*Lloydia serotina*	LLSE
F	common beargrass	*Xerophyllum tenax*	XETE
F	common cowparsnip	*Heracleum lanatum (maximum)*	HELA4
F	common dandelion	*Taraxacum officinale*	TAOF
F	common groundsel	*Senecio vulgaris*	SEVU
F	common mullein	*Verbascum thapsis*	VETH
F	common selfheal	*Prunella vulgaris*	PRVU

Life-Form	Common Name	Scientific Name	Code
F	common sheep sorrel	*Rumex acetosella*	RUAC3
F	common stickseed	*Hackelia patens*	HAPA
F	common twinpod	*Physaria didymocarpa* var. *didymocarpa*	PHDID
F	common yarrow	*Achillea millefolium*	ACMI2
F	composite family	Other Compositae	COMPO
F	coralroot	*Corallorhiza (Corallorrhiza)* sp.	CORAL
F	country Indian paintbrush	*Castilleja rustica (flava)*	CARU10
F	cous biscuitroot	*Lomatium cous*	LOCO4
F	crazyweed	*Oxytropis* sp.	OXYTR
F	creeping sibbaldia	*Sibbaldia procumbens*	SIPR
F	curly dock	*Rumex crispus*	RUCR
F	cushion buckwheat	*Eriogonum ovalifolium*	EROV
F	cushion phlox	*Phlox pulvinata*	PHPU5
F	Cusick's giant hyssop	*Agastache cusickii*	AGCU
F	Cusick's Indian paintbrush	*Castilleja cusickii*	CACU7
F	cutleaf balsamroot	*Balsamorhiza macrophylla*	BAMA4
F	cutleaf daisy	*Erigeron compositus*	ERCO4
F	dagger pod	*Anelsonia eurycarpa*	ANEU
F	darkthroat shootingstar	*Dodecatheon pulchellum*	DOPU
F	darkwoods violet	*Viola orbiculata*	VIOR
F	deathcamas	*Zigadenus* sp.	ZIGAD
F	dense spikemoss	*Selaginella densa* var. *densa*	SEDED
F	depresssed lupine	*Lupinus argenteus* var. *depressus*	LUARD2
F	desert stickseed	*Lappula redowskii (occidentalis* var. *occidentalis)*	LARE
F	diamondleaf saxifrage	*Saxifraga rhomboidea*	SARH2
F	diffuseflower eveningprimrose	*Oenothera (Camissonia) subacaulis*	OESU
F	dock	*Rumex* sp.	RUMEX
F	dogtooth lily	*Erythronium grandiflorum*	ERGR9
F	Douglas' knotweed	*Polygonum douglasii*	PODO4
F	Douglas' sagewort	*Artemisia douglasiana*	ARDO3
F	Douglas's campion	*Silene douglasii*	SIDO
F	droopflower clover	*Trifolium longipes* ssp. *reflexum*	TRLOR3
F	Drummond's rockcress	*Arabis drummondii*	ARDR
F	duncecap larkspur	*Delphinium occidentale*	DEOC
F	dwarf hesperochiron	*Hesperochiron pumilus*	HEPU6
F	Eaton's fleabane	*Erigeron eatonii*	EREA
F	edible valerian	*Valeriana edulis*	VAED
F	elegant aster	*Aster perelegans*	ASPE3
F	elegant cinquefoil	*Potentilla concinna*	POCO13
F	elephanthead lousewort	*Pedicularis groenlandica*	PEGR2
F	elkweed	*Frasera* sp.	FRASE
F	elliptical buttercup	*Ranunculus glaberrimus* var. *ellipticus*	RAGLE
F	Engelmann's aster	*Aster engelmannii*	ASEN2
F	Engelmann's knotweed	*Polygonum (douglasii* ssp.*) engelmannii*	POEN
F	Eschscholtz's buttercup	*Ranunculus eschscholtzii*	RAES
F	fairyslipper orchid	*Calypso bulbosa*	CABU
F	false mermaidweed	*Floerkea proserpinacoides*	FLPR

Life-Form	Common Name	Scientific Name	Code
F	false Solomon's seal	*Smilacina* sp.	SMILA
F	feather false Solomon's seal	*Smilacina (Maianthemum) racemosa*	SMRA
F	Fendler's meadowrue	*Thalictrum fendleri*	THFE
F	Fendler's pennycress	*Thlaspi (monatanum* ssp.*) fendleri*	THFE3
F	fern	*Polypodiaceae*	FERN
F	fernleaf licoriceroot	*Ligusticum filicinum*	LIFI
F	fewleaved dock	*Rumex paucifolius*	RUPA6
F	fewseed whitlowgrass	*Draba oligosperma*	DROL
F	field chickweed	*Cerastium arvense*	CEAR4
F	field horsetail	*Equisetum arvense*	EQAR
F	fireweed	*Epilobium angustifolium*	EPAN2
F	fivenerve helianthella	*Helianthella quinquenervis*	HEQU2
F	fivestamen miterwort	*Mitella pentandra*	MIPE
F	flattop pussytoes	*Antennaria corymbosa*	ANCO
F	flaxflower	*Linanthus* sp.	LINAN
F	fleabane	*Erigeron* sp.	ERIGE2
F	flowery phlox	*Phlox multiflora*	PHMU3
F	foothill arnica	*Arnica fulgens*	ARFU3
F	foothill deathcamas	*Zigadenus paniculatus*	ZIPA2
F	fragrant bedstraw	*Galium triflorum*	GATR3
F	Fremont's groundsel	*Senecio fremontii*	SEFR3
F	fuzzytongue penstemon	*Penstemon eriantherus*	PEER
F	gentian	*Gentiana* sp.	GENTI
F	gentian	*Gentiana detonsa*	GEDEU
F	geranium	*Geranium* sp.	GERAN
F	Geyer's onion	*Allium geyeri*	ALGE
F	gland cinquefoil	*Potentilla glandulosa*	POGL9
F	golden whitlowgrass	*Draba aurea*	DRAU
F	goldenrod	*Solidago* sp.	SOLID
F	goldenweed	*Haplopappus* sp.	HAPLO
F	goosefoot family	*Other Chenopodiaceae*	CHENO
F	goosefoot violet	*Viola purpurea*	VIPU4
F	Gordon's ivesia	*Ivesia gordonii*	IVGO
F	granite pricklygilia	*Leptodactylon pungens*	LEPU
F	graylocks hymenoxys	*Hymenoxys (Tetraneuris) grandiflora*	HYGR5
F	green princesplume	*Stanleya viridiflora*	STVI
F	greenflowered wintergreen	*Pyrola chlorantha*	PYCH
F	greenleaf bluebells	*Mertensia viridis (lanceolata* var. *nivalis)*	MEVI4
F	groundsel	*Senecio* sp.	SENEC
F	gypsyflower	*Cynoglossum officinale*	CYOF
F	hairy clematis	*Clematis hirsutissima*	CLHI
F	hairy townsendia	*Townsendia condensata*	TOCO2
F	haresfoot pointloco	*Oxytropis lagopus*	OXLA2
F	hawksbeard	*Crepis* sp.	CREPI
F	hawkweed	*Hieracium* sp.	HIERA
F	Hayden's clover	*Trifolium haydenii*	TRHA
F	heartleaf arnica	*Arnica cordifolia*	ARCO9

Life-Form	Common Name	Scientific Name	Code
F	heartleaf twayblade	*Listera cordata*	LICO6
F	hemlock waterparsnip	*Sium suave*	SISU2
F	Henderson's desertparsley	*Cymopterus (Pteryxia) hendersonii*	CYHE3
F	herb sophia	*Descurainia sophia*	DESO2
F	high mountain cinquefoil	*Potentilla flabellifolia*	POFL3
F	hoary aster	*Machaeranthera canescens*	MACA2
F	Holboell's rockcress	*Arabis holboellii*	ARHO2
F	hooded coralroot	*Corallorhiza (Corallorrhiza) striata*	COST
F	hooded ladiestresses	*Spiranthes romanzoffiana*	SPRO
F	hooked buttercup	*Ranunculus uncinatus*	RAUN
F	hookedspur violet	*Viola adunca*	VIAD
F	Hooker's townsendia	*Townsendia hookeri*	TOHO
F	horsetail	*Equisetum* sp.	EQUIS
F	houndstongue hawkweed	*Hieracium cynoglossoides*	HICY
F	houndstongue hawkweed	*Hieracium albertinum (cynoglossoides)*	HIAL
F	Idaho bladderpod	*Lesquerella carinata*	LECA10
F	Indian paintbrush	*Castilleja* sp.	CASTI
F	Jessica sticktight	*Hackelia micrantha*	HAMI
F	King's sandwort	*Arenaria kingii*	ARKI
F	knotweed	*Polygonum* sp.	POLYG
F	lambstongue groundsel	*Senecio integerrimus*	SEIN2
F	lanceleaf springbeauty	*Claytonia lanceolata*	CLLA2
F	largeflower hawksbeard	*Crepis occidentalis*	CROC
F	largeflower mountaintrumpet	*Collomia grandiflora*	COGR4
F	largeleaf avens	*Geum macrophyllum*	GEMA4
F	larkspur	*Delphinium* sp.	DELPH
F	leafybract aster	*Aster foliaceus* var. *apricus*	ASFOA
F	legume family	Other Leguminosae	LEGUM
F	Lemmon's rockcress	*Arabis lemmonii*	ARLE
F	lesser burrdock	*Arctium minus*	ARMI2
F	Lewis' flax	*Linum perenne (lewisii)* var. *lewisii*	LIPE2
F	lichen	Lichen	LICHEN
F	licoriceroot	*Ligusticum* sp.	LIGUS
F	lilac penstemon	*Penstemon gracilis*	PEGR5
F	lily family	*Other Liliaceae*	LILIA
F	limestone hawksbeard	*Crepis intermedia*	CRIN4
F	little larkspur	*Delphinium bicolor*	DEBI
F	littleflower penstemon	*Penstemon procerus*	PEPR2
F	littleleaf pussytoes	*Antennaria microphylla*	ANMI3
F	littlepod falseflax	*Camelina microcarpa*	CAMI2
F	liverleaf wintergreen	*Pyrola asarifolia*	PYAS
F	longhorn steershead	*Dicentra uniflora*	DIUN
F	longleaf hawksbeard	*Crepis acuminata*	CRAC2
F	longleaf phlox	*Phlox longifolia*	PHLO2
F	longspike Indian paintbrush	*Castilleja longispica (pilosa)*	CALO7
F	longstalk clover	*Trifolium longipes*	TRLO
F	longstalk springparsley	*Cymopterus longipes*	CYLO

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F	longstalk starwort	*Stellaria longipes* var. *altocaulis*	STLOA
F	Louisiana sagewort	*Artemisia ludoviciana*	ARLU
F	lousewort	*Pedicularis* sp.	PEDIC
F	low pussytoes	*Antennaria dimorpha*	ANDI2
F	lupine	*Lupinus* sp.	LUPIN
F	Lyall's angelica	*Angelica arguta*	ANAR3
F	mallow	*Malva* sp.	MALVA
F	manyflower stickseed	*Hackelia floribunda*	HAFL2
F	manyhead bladderpod	*Lesquerella multiceps*	LEMU2
F	Mariposa lily	*Calochortus* sp.	CALOC
F	marsh skullcap	*Scutellaria galericulata*	SCGA
F	marsh willowherb	*Epilobium palustre*	EPPA
F	mat rockspirea	*Petrophytum (Petrophyton) caespitosum*	PECA12
F	matroot penstemon	*Penstemon radicosus*	PERA2
F	matted poison milkvetch	*Astragalus calycosus*	ASCA9
F	meadow deathcamas	*Zigadenus venenosus*	ZIVE
F	meadow thistle	*Cirsium scariosum*	CISC2
F	meadowrue	*Thalictrum* sp.	THALIC
F	Menzies' campion	*Silene menziesii*	SIME
F	Michaux's sagebrush	*Artemisia michauxiana*	ARMI4
F	microseris	*Microseris* sp.	MICRO
F	milkvetch	*Astragalus* sp.	ASTRA
F	mint family	Other Labiatae	LABIA
F	missionbells	*Fritillaria* sp.	FRITIL
F	Missouri foxtail cactus	*Coryphantha (Escobaria) missouriensis*	COMI5
F	Missouri goldenrod	*Solidago missouriensis*	SOMI2
F	miterwort	*Mitella* sp.	MITEL
F	Modoc bog orchid	*Habenaria (Platanthera) saccata*	HASA
F	mosses and/or liverworts	Bryophytes	MOSSES
F	mountain bluebells	*Mertensia ciliata*	MECI3
F	mountain deathcamas	*Zigadenus elegans*	ZIEL2
F	mountain goldenrod	*Solidago multiradiata*	SOMU
F	mountain penstemon	*Penstemon montanus*	PEMO4
F	mountain tansymustard	*Descurainia richardsonii (incana* ssp. *incana)*	DERI2
F	mountain tarweed	*Madia glomerata*	MAGL2
F	mountain townsendia	*Townsendia montana (alpigena)*	TOMO
F	mountaintrumpet	*Collomia* sp.	COLLO
F	mulesears wyethia	*Wyethia amplexicaulis*	WYAM
F	mustard family	*Other Cruciferae*	CRUCI
F	narrowleaf goldenweed	*Haplopappus (Stenotus) stenophyllus*	HAST
F	narrowleaf hawkweed	*Hieracium umbellatum*	HIUM
F	narrowleaf mountaintrumpet	*Collomia linearis*	COLI2
F	nettleleaf giant hyssop	*Agastache urticifolia*	AGUR
F	nineleaf biscuitroot	*Lomatium triternatum*	LOTR2
F	nodding microseris	*Microseris nutans*	MINU
F	nodding onion	*Allium cernuum*	ALCE2
F	northern bedstraw	*Galium boreale*	GABO2

Life-Form	Common Name	Scientific Name	Code
F	northern sweetvetch	*Hedysarum boreale*	HEBO
F	northwest cinquefoil	*Potentilla gracilis*	POGR9
F	northwestern Indian paintbrush	*Castilleja angustifolia*	CAAN7
F	northwestern twayblade	*Listera caurina*	LICA10
F	Nuttall's larkspur	*Delphinium nuttallianum*	DENU2
F	Nuttall's rockcress	*Arabis nuttallii*	ARNU
F	Nuttall's sandwort	*Arenaria (Minuartia) nuttallii*	ARNU5
F	Nuttall's sunflower	*Helianthus nuttallii*	HENU
F	Nuttall's violet	*Viola nuttallii*	VINU2
F	oblongleaf bluebells	*Mertensia oblongifolia*	MEOB
F	oneflower helianthella	*Helianthella uniflora*	HEUN
F	oneflowered broomrape	*Orobanche uniflora* var. *minuta*	ORUNM2
F	oneflowered woodnymph	*Pyrola (Moneses) uniflora*	PYUN
F	orange agoseris	*Agoseris aurantiaca*	AGAU2
F	orchid family	Other Orchidaceae	ORCHI
F	Oregon silene	*Silene oregana*	SIOR3
F	orpine stonecrop	*Sedum debile*	SEDE
F	other forbs	Other forbs	FORBS
F	owlclover	*Orthocarpus* sp.	ORTHO
F	Pacific anemone	*Anemone multifida*	ANMU
F	Pacific coralroot	*Corallorhiza (Corallorrhiza) mertensiana*	COME4
F	Pacific lupine	*Lupinus lepidus*	LULE2
F	pale agoseris	*Agoseris glauca*	AGGL
F	pale Indian paintbrush	*Castilleja pallescens*	CAPA25
F	Parry's arnica	*Arnica parryi*	ARPA13
F	Parry's aster	*Aster foliaceus* var. *parryi*	ASFOP
F	Parry's lousewort	*Pedicularis parryi*	PEPA3
F	Parry's silene	*Silene parryi*	SIPA4
F	Parry's townsend daisy	*Townsendia parryi*	TOPA2
F	parsnipflower buckwheat	*Eriogonum heracleoides*	ERHE2
F	pennycress	*Thlaspi* sp.	THLAS
F	penstemon	*Penstemon* sp.	PENST
F	phacelia	*Phacelia* sp.	PHACE
F	phlox	*Phlox* sp.	PHLOX
F	pigmy bitterroot	*Lewisia pygmaea*	LEPY2
F	pink family	Other Caryophyllaceae	CARYO
F	plains pricklypear	*Opuntia polyacantha*	OPPO
F	plains springparsley	*Cymopterus acaulis*	CYAC
F	plantain goldenweed	*Haplopappus (Pyrrocoma) uniflorus*	HAUN2
F	prairiesmoke	*Geum triflorum*	GETR
F	princesplume	*Stanleya* sp.	STANL
F	purple milkvetch	*Astragalus agrestis*	ASAG2
F	purple mountain saxifrage	*Saxifraga oppositifolia*	SAOP
F	pussytoes	*Antennaria* sp.	ANTEN
F	pygmyflower rockjasmine	*Androsace septentrionalis*	ANSE4
F	quill fleabane	*Erigeron gracilis*	ERGR2
F	rabbitfoot clover	*Trifolium arvense*	TRAR4

Life-Form	Common Name	Scientific Name	Code
F	raceme pussytoes	*Antennaria racemosa*	ANRA
F	red baneberry	*Actaea rubra*	ACRU2
F	Richardson's geranium	*Geranium richardsonii*	GERI
F	rockcress	*Arabis* sp.	ARABI
F	rockslide yellow fleabane	*Erigeron leiomerus*	ERLE6
F	Rocky Mountain iris	*Iris missouriensis*	IRMI
F	rose angelica	*Angelica roseanna*	ANRO
F	roughfruit fairybells	*Disporum trachycarpum*	DITR2
F	roundleaf monkeyflower	*Mimulus glabratus*	MIGL
F	rush aster	*Aster junciformis*	ASJU
F	rush pussytoes	*Antennaria luzuloides*	ANLU2
F	Rydberg's arnica	*Arnica rydbergii*	ARRY
F	Rydberg's penstemon	*Penstemon rydbergii*	PERY
F	sagebrush buttercup	*Ranunculus glaberrimus*	RAGL
F	sagebrush Mariposa lily	*Calochortus macrocarpus*	CAMA5
F	sanddune wallflower	*Erysimum capitatum*	ERCA14
F	sandwort	*Arenaria* sp.	ARENA
F	saxifrage	*Saxifraga* sp.	SAXIF
F	scarlet Indian paintbrush	*Castilleja miniata*	CAMI12
F	scentbottle	*Habenaria (Platanthera) dilatata* var. *dilatata*	HADIA2
F	scouringrush horsetail	*Equisetum hyemale*	EQHY
F	seaside arrowgrass	*Triglochin maritimum*	TRMA4
F	seep monkeyflower	*Mimulus guttatus*	MIGU
F	selaginella	*Selaginella* sp.	SELAG
F	shaggy fleabane	*Erigeron pumilus*	ERPU2
F	sharpleaf valerian	*Valeriana acutiloba*	VAAC
F	sheep cinquefoil	*Potentilla ovina*	POOV2
F	shootingstar	*Dodecatheon* sp.	DODEC
F	shortray boreal daisy	*Erigeron (Trimorpha) lonchophyllus*	ERLO
F	shortstyle onion	*Allium brevistylum*	ALBR2
F	showy aster	*Aster conspicuus*	ASCO3
F	showy frasera	*Frasera speciosa*	FRSP
F	showy goldeneye	*Viguiera (Heliomeris) multiflora*	VIMU
F	showy townsendia	*Townsendia florifer*	TOFL2
F	shy wallflower	*Erysimum inconspicuum*	ERIN7
F	sickletop lousewort	*Pedicularis racemosa*	PERA
F	sidebells wintergreen	*Pyrola (Orthilia) secunda*	PYSE
F	silene	*Silene* sp.	SILEN
F	silky lupine	*Lupinus sericeus*	LUSE4
F	silky milkvetch	*Astragalus cibarius*	ASCI2
F	silky phacelia	*Phacelia sericea*	PHSE
F	silverleaf phacelia	*Phacelia hastata*	PHHA
F	silverweed cinquefoil	*Potentilla (Argentina) anserina*	POAN5
F	silvery lupine	*Lupinus argenteus*	LUAR3
F	silvery oxytrope	*Oxytropis sericea*	OXSE
F	Siskiyou hawksbeard	*Crepis modocensis*	CRMO4
F	skyrocket gilia	*Gilia (Ipomopsis) aggregata*	GIAG

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F	slender hawksbeard	*Crepis atrabarba (atribarba)*	CRAT
F	slender hawkweed	*Hieracium gracile*	HIGR
F	slender phlox	*Microsteris (Phlox) gracilis*	MIGR
F	slender popcornflower	*Plagiobothrys stipitatus*	PLST
F	slender woodlandstar	*Lithophragma tenellum*	LITE4
F	small camas	*Camassia quamash*	CAQU2
F	small white violet	*Viola macloskeyi*	VIMA2
F	small willowweed	*Epilobium minutum*	EPMI
F	smalleaf pussytoes	*Antennaria parvifolia*	ANPA5
F	smallflower blue eyed Mary	*Collinsia parviflora*	COPA3
F	smallflower miterwort	*Mitella stauropetala*	MIST3
F	smallflower nemophila	*Nemophila parviflora*	NEPA
F	smallflower woodlandstar	*Lithophragma parviflorum*	LIPA5
F	smallflowered anemone	*Anemone parviflora*	ANPA
F	smooth larkspur	*Delphinium glaucescens*	DEGL2
F	snapdragon family	Other Scrophulariaceae	SCROP
F	snowbed whitlowgrass	*Draba crassifolia*	DRCR2
F	snowline springparsley	*Cymopterus bipinnatus (nivalis)*	CYBI
F	snowline springparsley	*Cymopterus nivalis*	CYNI3
F	spearleaf arnica	*Arnica longifolia*	ARLO6
F	spearleaf stonecrop	*Sedum lanceolatum*	SELA
F	specklepod milkvetch	*Astragalus lentiginosus*	ASLE8
F	speedwell	*Veronica* sp.	VERON
F	spiny milkvetch	*Astragalus kentrophyta*	ASKE
F	spiny phlox	*Phlox hoodii*	PHHO
F	splitleaf groundsel	*Senecio dimorphophyllus*	SEDI4
F	splitleaf Indian paintbrush	*Castilleja rhexifolia (rhexiifolia)*	CARH4
F	spotted ladysthumb	*Polygonum persicaria*	POPE3
F	spotted missionbells	*Fritillaria atropurpurea*	FRAT
F	spreading dogbane	*Apocynum androsaemifolium*	APAN2
F	spreading fleabane	*Erigeron divergens*	ERDI4
F	spreading groundsmoke	*Gayophytum diffusum*	GADI2
F	spreading yellowcress	*Rorippa sinuata*	ROSI2
F	spring coralroot	*Corallorhiza (Corallorrhiza) wisteriana*	COWI2
F	springparsley	*Cymopterus* sp.	CYMOP
F	starry false Solomon's seal	*Smilacina (Maianthemum) stellata*	SMST
F	starwort/chickweed	*Stellaria* sp.	STELL
F	stickseed	*Hackelia* sp.	HACKE
F	sticky crazyweed	*Oxytropis viscida*	OXVI2
F	sticky geranium	*Geranium viscosissimum*	GEVI2
F	stickywilly	*Galium aparine*	GAAP2
F	stiffleaf penstemon	*Penstemon aridus*	PEAR2
F	stinging nettle	*Urtica dioica*	URDI
F	stonecrop	*Sedum* sp.	SEDUM
F	strawberry	*Fragaria* sp.	FRAGA
F	streambank globemallow	*Iliamna rivularis*	ILRI
F	streamside fleabane	*Erigeron glabellus*	ERGL2

Life-Form	Common Name	Scientific Name	Code
F	subalpine fleabane	*Erigeron peregrinus*	ERPE3
F	sulphur cinquefoil	*Potentilla recta*	PORE5
F	sulphur Indian paintbrush	*Castilleja sulphurea*	CASU12
F	sulphur penstemon	*Penstemon attenuatus*	PEAT3
F	sulphur wildbuckwheat	*Eriogonum umbellatum*	ERUM
F	summer coralroot	*Corallorhiza (Corallorrhiza) maculata*	COMA4
F	sunflower wyethia	*Wyethia helianthoides*	WYHE2
F	sweetcicely	*Osmorhiza chilensis*	OSCH
F	sweetroot	*Osmorhiza* sp.	OSMOR
F	sweetvetch	*Hedysarum* sp.	HEDYS
F	tailcup lupine	*Lupinus caudatus*	LUCA
F	tall cinquefoil	*Potentilla arguta*	POAR7
F	tansymustard	*Descurainia* sp.	DESCU
F	tapertip onion	*Allium acuminatum*	ALAC4
F	thickleaf groundsel	*Senecio crassulus*	SECR
F	thickstem aster	*Aster integrifolius*	ASIN3
F	thistle	*Cirsium* sp.	CIRSI
F	thymeleaf speedwell	*Veronica serpyllifolia*	VESE
F	tower rockcress	*Arabis glabra*	ARGL
F	townsendia	*Townsendia* sp.	TOWNS
F	tuber starwort	*Stellaria (Pseudostellaria) jamesiana*	STJA3
F	tufted eveningprimrose	*Oenothera caespitosa (cespitosa)*	OECE2
F	tufted fleabane	*Erigeron caespitosus*	ERCA2
F	Tweedy's fleabane	*Erigeron tweedyi*	ERTW
F	twin arnica	*Arnica sororia*	ARSO2
F	twinleaf bedstraw	*Galium bifolium*	GABI
F	twolobe speedwell	*Veronica biloba*	VEBI2
F	umbell (parsley) family	Other Umbelliferae	UMBEL
F	umber pussytoes	*Antennaria umbrinella*	ANUM
F	Utah buttercup	*Ranunculus jovis*	RAJO
F	valerian	*Valeriana* sp.	VALER
F	varileaf cinquefoil	*Potentilla diversifolia*	PODI2
F	varileaf phacelia	*Phacelia heterophylla*	PHHE2
F	velvet lupine	*Lupinus leucophyllus*	LULE3
F	violet	*Viola* sp.	VIOLA
F	Virginia strawberry	*Fragaria virginiana*	FRVI
F	wallflower	*Erysimum* sp.	ERYSI
F	water groundsel	*Senecio hydrophilus*	SEHY2
F	Watson's catseye	*Cryptantha watsonii*	CRWA2
F	weedy milkvetch	*Astragalus miser*	ASMI9
F	weevil microseris	*Microseris (Nothocalais) troximoides*	MITR5
F	western aster	*Aster occidentalis*	ASOC
F	western brackenfern	*Pteridium aquilinum*	PTAQ
F	western columbine	*Aquilegia formosa*	AQFO
F	western coneflower	*Rudbeckia occidentalis*	RUOC2
F	western gromwell	*Lithospermum ruderale*	LIRU4
F	western meadowrue	*Thalictrum occidentale*	THOC

Life-Form	Common Name	Scientific Name	Code
F	western pearlyeverlasting	*Anaphalis margaritacea*	ANMA
F	western rattlesnake plantain	*Goodyera oblongifolia*	GOOB2
F	western sweetroot	*Osmorhiza occidentalis*	OSOC
F	western sweetvetch	*Hedysarum occidentale*	HEOC
F	western tansymustard	*Descurainia pinnata*	DEPI
F	western valerian	*Valeriana occidentalis*	VAOC2
F	Whipple's penstemon	*Penstemon whippleanus*	PEWH
F	white hawkweed	*Hieracium albiflorum*	HIAL2
F	white Mariposa lily	*Calochortus eurycarpus*	CAEU
F	white marshmarigold	*Caltha leptosepala*	CALE4
F	white pasqueflower	*Anemone (Pulsatilla) occidentalis*	ANOC6
F	whiteveined wintergreen	*Pyrola picta*	PYPI2
F	whiteveined wintergreen	*Pyrola dentata (picta)*	PYDE
F	whitewoolly buckwheat	*Eriogonum ochrocephalum*	EROC2
F	whitlowgrass	*Draba* sp.	DRABA
F	wild buckwheat	*Eriogonum* sp.	ERIOG
F	wild chives	*Allium schoenoprasum*	ALSC
F	wild hyacinth	*Triteleia grandiflora*	TRGR7
F	wild mint	*Mentha arvensis*	MEAR4
F	wild onion	*Allium* sp.	ALLIU
F	willow dock	*Rumex salicifolius*	RUSA
F	willowherb	*Epilobium* sp.	EPILO
F	wintergreen	*Pyrola* sp.	PYROL
F	woodland pinedrops	*Pterospora andromedea*	PTAN2
F	woodland strawberry	*Fragaria vesca*	FRVE
F	woodland whitlowgrass	*Draba nemorosa*	DRNE
F	woodlandstar	*Lithophragma* sp.	LITHO
F	woolly eriophyllum	*Eriophyllum lanatum*	ERLA6
F	woolly groundsel	*Senecio canus*	SECA2
F	woolly pussytoes	*Antennaria lanata*	ANLA3
F	woollypod milkvetch	*Astragalus purshii*	ASPU9
F	wormleaf stonecrop	*Sedum stenopetalum*	SEST2
F	Wyeth biscuitroot	*Lomatium ambiguum*	LOAM
F	wyethia	*Wyethia* sp.	WYETH
F	Wyoming besseya	*Besseya wyomingensis*	BEWY
F	yampa	*Perideridia gairdneri*	PEGA3
F	yampa	*Perideridia* sp.	PERID
F	Yampa River catseye	*Cryptantha stricta*	CRST5
F	yellow columbine	*Aquilegia flavescens*	AQFL
F	yellow Indian paintbrush	*Castilleja flava*	CAFL7
F	yellow missionbells	*Fritillaria pudica*	FRPU2
F	yellow salsify	*Tragopogon dubius*	TRDU
F	yellowcress	*Rorippa* sp.	RORIP

Appendix D. Plants Listed By Life-Form and Scientific Name

Life-Form	Code	Scientific Name	Common Name
Trees			
T	ABLA	*Abies lasiocarpa*	subalpine fir
T	JUSC2	*Juniperus scopulorum*	Rocky Mountain juniper
T	JUNIP	*Juniperus* sp.	juniper
T	PIEN	*Picea engelmannii*	Engelmann's spruce
T	PIAL	*Pinus albicaulis*	whitebark pine
T	PICO	*Pinus contorta*	lodgepole pine
T	PIFL2	*Pinus flexilis*	limber pine
T	POAN3	*Populus angustifolia*	narrowleaf cottonwood
T	POTR5	*Populus tremuloides*	quaking aspen
T	PSME	*Pseudotsuga menziesii*	Douglas-fir
Shrubs			
S	ACGL	*Acer glabrum*	Rocky Mountain maple
S	ACGR3	*Acer grandidentatum*	bigtooth maple
S	ALINO	*Alnus incana* var. *occidentalis (*ssp. *tenuifolia)*	thinleaf alder
S	AMAL2	*Amelanchier alnifolia*	Saskatoon serviceberry
S	ARUV	*Arctostaphylos uva-ursi*	kinnikinnick
S	ARARA	*Artemisia arbuscula* ssp. *arbuscula*	gray low sagebrush
S	ARARL	*Artemisia arbuscula* ssp. *longiloba*	alkali sagebrush
S	ARART	*Artemisia arbuscula* ssp. *thermopola*	hotsprings sagebrush
S	ARCAB3	*Artemisia cana* ssp. *bolanderi*	Bolander's silver sagebrush
S	ARCAV	*Artemisia cana* ssp. *viscidula*	Coaltown sagebrush
S	ARFR4	*Artemisia frigida*	fringed sagebrush
S	ARNO4	*Artemisia nova*	black sagebrush
S	ARRI2	*Artemisia rigida*	stiff sagebrush
S	ARTRS2	*Artemisia tridentata* ssp. *spiciformis*	spiked big sagebrush
S	ARTRT	*Artemisia tridentata* ssp. *tridentata*	basin big sagebrush
S	ARTRP4	*Artemisia tridentata* ssp. *vaseyana* var. *pauciflora*	mountain big sagebrush
S	ARTRV2	*Artemisia tridentata* ssp. *vaseyana* var. *vaseyana*	subalpine big sagebrush
S	ARTRW8	*Artemisia tridentata* ssp. *wyomingensis*	Wyoming big sagebrush
S	ARTR4	*Artemisia tripartita*	threetip sagebrush
S	BERE	*Berberis (Mahonia) repens*	Oregongrape
S	BEGL	*Betula glandulosa (nana)*	bog birch
S	BEOC2	*Betula occidentalis*	water birch
S	CEVE	*Ceanothus velutinus*	snowbrush ceanothus
S	CELE3	*Cercocarpus ledifolius* var. *intercedens*	curlleaf mountain mahogany
S	CHMI2	*Chamaebatiaria millefolium*	fernbush
S	CHUM	*Chimaphila umbellata*	pipsissewa
S	CHNA2	*Chrysothamnus nauseosus*	rubber rabbitbrush
S	CHRYS	*Chrysothamnus* sp.	rabbitbrush
S	CHVI8	*Chrysothamnus viscidiflorus*	green rabbitbrush

Life-Form	Code	Scientific Name	Common Name
S	CLCO2	*Clematis columbiana*	rock clematis
S	CLLI2	*Clematis ligusticifolia*	western white clematis
S	COST4	*Cornus stolonifera (serecea)*	redosier dogwood
S	CRDO2	*Crataegus douglasii*	black hawthorn
S	DROCH	*Dryas octopetala* ssp. *hookeriana*	Hooker's mountainavens
S	ELCO	*Elaeagnus commutata*	silverberry
S	HASU	*Haplopappus (Ericameria) suffruticosus*	singlehead heathgoldenrod
S	JUCO6	*Juniperus communis*	common juniper
S	LOIN5	*Lonicera involucrata*	twinberry honeysuckle
S	LOUT2	*Lonicera utahensis*	Utah honeysuckle
S	PAMY	*Pachistima (Paxistima) myrsinites*	myrtle pachistima
S	PHMA5	*Physocarpus malvaceus*	mallow ninebark
S	POFR4	*Potentilla (Pentaphylloides) fruticosa*	shrubby cinquefoil
S	PRVIM	*Prunus virginiana* var. *melanocarpa*	black chokecherry
S	PUTR2	*Purshia tridentata*	antelope bitterbrush
S	RISE2	*Ribes (oxyacanthoides* ssp.*) setosum*	inland gooseberry
S	RIAU	*Ribes aureum*	golden currant
S	RICE	*Ribes cereum*	wax current
S	RIHU	*Ribes hudsonianum*	northern black currant
S	RIIN2	*Ribes inerme*	whitestem gooseberry
S	RILA	*Ribes lacustre*	prickly currant
S	RIMO2	*Ribes montigenum*	gooseberry currant
S	RIBES	*Ribes* sp.	currant
S	RIVI3	*Ribes viscosissimum*	sticky currant
S	ROAC	*Rosa acicularis*	prickly rose
S	ROGY	*Rosa gymnocarpa*	dwarf rose
S	RONU	*Rosa nutkana*	Nootka rose
S	ROSA	*Rosa* sp.	rose
S	ROWO	*Rosa woodsii*	Woods' rose
S	RUIDS	*Rubus idaeus (*ssp. *strigosus)* var. *gracilipes*	grayleaf red raspberry
S	RUPA	*Rubus parviflorus*	thimbleberry
S	RUBUS	*Rubus* sp.	blackberry
S	SABE2	*Salix bebbiana*	Bebb willow
S	SABO2	*Salix boothii*	Booth's willow
S	SABR	*Salix brachycarpa*	barrenground willow
S	SACU8	*Salix cuneata (sitchensis)*	Sitka willow
S	SADR	*Salix drummondiana*	Drummond's willow
S	SAEX	*Salix exigua*	sandbar willow
S	SAGE2	*Salix geyeriana*	Geyer's willow
S	SALAC	*Salix lasiandra (lucida)* var. *(*ssp.*) caudata*	greenleaf willow
S	SALE	*Salix lemmonii*	Lemmon's willow
S	SALU2	*Salix lutea*	yellow willow
S	SANI8	*Salix nivalis (reticulata* ssp. *nivalis)*	snow willow
S	SAPL2	*Salix planifolia*	diamondleaf willow
S	SASC	*Salix scouleriana*	Scouler's willow
S	SALIX	*Salix* sp.	willow
S	SAWO	*Salix wolfii*	Wolf's willow

Life-Form	Code	Scientific Name	Common Name
S	SARA2	*Sambucus racemosa*	scarlet elderberry
S	SHCA	*Shepherdia canadensis*	russet buffaloberry
S	SOSC2	*Sorbus scopulina*	Greene mountainash
S	SPBE2	*Spiraea betulifolia*	white spirea
S	SYAL	*Symphoricarpos albus*	common snowberry
S	SYOR2	*Symphoricarpos oreophilus*	whortleleaf snowberry
S	SYMPH	*Symphoricarpos* sp.	snowberry
S	TECA2	*Tetradymia canescens*	spineless horsebrush
S	VACA	*Vaccinium caespitosum (cespitosum)*	dwarf blueberry
S	VAGL	*Vaccinium globulare (membranaceum)*	blue huckleberry
S	VASC	*Vaccinium scoparium*	grouse whortleberry
Graminoids			
G	AGDA	*Agropyron (Elymus) dasytachyum*	thickspike wheatgrass
G	AGSC4	*Agropyron (Elymus) scribneri*	spreading wheatgrass
G	AGTR	*Agropyron (Elymus) trachycaulum*	slender wheatgrass
G	AGIN2	*Agropyron (Elytrigia) intermedium*	intermediate wheatgrass
G	AGRE2	*Agropyron (Elytrigia) repens*	quackgrass
G	AGSM	*Agropyron (Pascopyrum) smithii*	western wheatgrass
G	AGSP	*Agropyron (Pseudoroegneria) spicatum*	bluebunch wheatgrass
G	AGSPI	*Agropyron (Pseudoroegneria) spicatum* var. *inerme*	beardless wheatgrass
G	AGCR	*Agropyron cristatum*	crested wheatgrass
G	AGROP	*Agropyron* sp.	wheatgrass
G	AGEX	*Agrostis exarata*	spike bentgrass
G	AGID	*Agrostis idahoensis*	Idaho bentgrass
G	AGSC5	*Agrostis scabra*	rough bentgrass
G	AGROS	*Agrostis* sp.	bentgrass
G	AGST2	*Agrostis stolonifera*	creeping bentgrass
G	AGTH2	*Agrostis thurberiana*	Thurber's bentgrass
G	ALAE	*Alopecurus aequalis*	shortawn foxtail
G	ALAL2	*Alopecurus alpinus*	mountain foxtail
G	ALOPE	*Alopecurus* sp.	foxtail
G	BRAN	*Bromus anomalus*	nodding brome
G	BRCA5	*Bromus carinatus*	California brome
G	BRCI2	*Bromus ciliatus*	fringed brome
G	BRIN2	*Bromus inermis*	smooth brome
G	BROMU	*Bromus* sp.	brome
G	BRTE	*Bromus tectorum*	cheatgrass
G	BRVU	*Bromus vulgaris*	Colombian brome
G	CACA4	*Calamagrostis canadensis*	bluejoint
G	CAPU	*Calamagrostis purpurascens*	purple reedgrass
G	CARU	*Calamagrostis rubescens*	pinegrass
G	CAAQ	*Carex aquatilis*	water sedge
G	CABE2	*Carex bebbii*	Bebb's sedge
G	CABU6	*Carex buxbaumii*	Buxbaum's sedge
G	CADI6	*Carex disperma*	softleaf sedge
G	CADO2	*Carex douglasii*	Douglas' sedge
G	CAEL3	*Carex elynoides*	blackroot sedge

Life-Form	Code	Scientific Name	Common Name
G	CAFI	*Carex filifolia*	threadleaf sedge
G	CAGE2	*Carex geyeri*	elk sedge
G	CAHO5	*Carex hoodii*	Hood's sedge
G	CALA30	*Carex lanuginosa*	woolly sedge
G	CALE8	*Carex lenticularis*	tufted sedge
G	CALE9	*Carex leporinella*	Sierran hare sedge
G	CAMI7	*Carex microptera*	smallwing sedge
G	CANE2	*Carex nebrascensis*	Nebraska sedge
G	CANE6	*Carex neurophora*	alpine nerve sedge
G	CANO2	*Carex norvegica*	Norway sedge
G	CAPA14	*Carex pachystachya*	chamisso sedge
G	CAPA31	*Carex paysonis*	Payson's sedge
G	CAPE7	*Carex petasata*	Liddon sedge
G	CAPR5	*Carex praegracilis*	clustered field sedge
G	CAPR7	*Carex praticola*	meadow sedge
G	CARA6	*Carex raynoldsii*	Raynolds' sedge
G	CARO5	*Carex rossii*	Ross' sedge
G	CARO6	*Carex rostrata*	beaked sedge
G	CARU3	*Carex rupestris*	rock sedge
G	CAS12	*Carex simulata*	analogue sedge
G	CAREX	*Carex* sp.	sedge
G	CASU7	*Carex subnigricans*	nearlyblack sedge
G	CAVA3	*Carex vallicola*	valley sedge
G	CAVE6	*Carex vesicaria*	blister sedge
G	DAGL	*Dactylis glomerata*	orchardgrass
G	DAIN	*Danthonia intermedia*	timber oatgrass
G	DANTH	*Danthonia* sp.	oatgrass
G	DAUN	*Danthonia unispicata*	onespike danthonia
G	DECE	*Deschampsia cespitosa*	tufted hairgrass
G	ELPA6	*Eleocharis pauciflora*	fewflower spikerush
G	ELCI2	*Elymus (Leymus) cinereus*	basin wildrye
G	ELGL	*Elymus glaucus*	blue wildrye
G	ELYMU	*Elymus* sp.	wildrye
G	ERPO6	*Eriophorum polystachion*	cottongrass
G	FEID	*Festuca idahoensis*	Idaho fescue
G	FEOV	*Festuca ovina*	sheep fescue
G	FESC	*Festuca scabrella (campestris)*	rough fescue
G	FESTU	*Festuca* sp.	fescue
G	GLYCE	*Glyceria* sp.	mannagrass
G	GLST	*Glyceria striata*	fowl mannagrass
G	HOBR2	*Hordeum brachyantherum*	meadow barley
G	HOJU	*Hordeum jubatum*	foxtail barley
G	JUBA	*Juncus balticus*	Baltic rush
G	JUCO2	*Juncus confusus*	Colorado rush
G	JUDR	*Juncus drummondii*	Drummond's rush
G	JUEN	*Juncus ensifolius*	swordleaf rush
G	JULO	*Juncus longistylis*	longstyle rush

Life-Form	Code	Scientific Name	Common Name
G	JUPA	*Juncus parryi*	Parry's rush
G	JUNCU	*Juncus* sp.	rush
G	KOCR	*Koeleria nitida (macrantha)*	prairie Junegrass
G	LEKI2	*Leucopoa kingii*	spike fescue
G	LUHI4	*Luzula glabrata* var. *hitchcockii*	Hitchcock's smooth woodrush
G	LUPA4	*Luzula parviflora*	smallflowered woodrush
G	MEBU	*Melica bulbosa*	oniongrass
G	MELIC	*Melica* sp.	oniongrass
G	MESP	*Melica spectabilis*	purple oniongrass
G	MESU	*Melica subulata*	Alaska oniongrass
G	ORHY	*Oryzopsis hymenoides*	Indian ricegrass
G	ORYZO	*Oryzopsis* sp.	ricegrass
G	UNKPOA	Other Poaceae	
G	PHAR3	*Phalaris arundinacea*	reed canarygrass
G	PHAL2	*Phleum alpinum*	alpine timothy
G	PHPR3	*Phleum pratense*	timothy
G	POAL2	*Poa alpina*	alpine bluegrass
G	POAM	*Poa ampla (secunda)*	big bluegrass
G	POAR3	*Poa arida*	plains bluegrass
G	POCO	*Poa compressa*	Canada bluegrass
G	POCU3	*Poa cusickii (fendleriana)*	Cusick bluegrass
G	POCUE	*Poa epilis (fendleriana)*	skyline bluegrass
G	POFE	*Poa fendleriana*	mutton grass
G	POIN	*Poa interior*	inland bluegrass
G	POLE	*Poa leibergii*	Leiberg bluegrass
G	POLE2	*Poa leptocoma*	bog bluegrass
G	PONEW	*Poa nervosa* var. *wheeleri*	Wheeler bluegrass
G	PONE3	*Poa nevadensis (secunda)*	Sandberg bluegrass
G	POPA2	*Poa palustris*	fowl bluegrass
G	POPA3	*Poa pattersonii (abbreviata)*	Patterson bluegrass
G	POPR	*Poa pratensis*	Kentucky bluegrass
G	PORE	*Poa reflexa*	nodding bluegrass
G	PORU10	*Poa rupicola (glauca)*	timberline bluegrass
G	POSA12	*Poa sandbergii*	Sandberg bluegrass
G	POSC	*Poa scabrella*	pine bluegrass
G	POSE	*Poa secunda*	Sandberg bluegrass
G	POA	*Poa* sp.	bluegrass
G	SCIRP	*Scirpus* sp.	bulrush
G	SIHY	*Sitanion (Elymus) hystrix*	bottlebrush squirreltail
G	STCO4	*Stipa comata*	needleandthread
G	STLE4	*Stipa lettermanii*	Letterman's needlegrass
G	STOC2	*Stipa occidentalis*	western needlegrass
G	STPI2	*Stipa pinetorum*	pine needlegrass
G	STIPA	*Stipa* sp.	needlegrass
G	STWE	*Stipa webberi*	Webber's needlegrass
G	TRSP2	*Trisetum spicatum*	spike trisetum
G	TRWO3	*Trisetum wolfii*	Wolf's trisetum

Life-Form	Code	Scientific Name	Common Name
Forbs			
F	ACMI2	*Achillea millefolium*	common yarrow
F	ACCO4	*Aconitum columbianum*	Columbia monkshood
F	ACRU2	*Actaea rubra*	red baneberry
F	AGCU	*Agastache cusickii*	Cusick's giant hyssop
F	AGUR	*Agastache urticifolia*	nettleleaf giant hyssop
F	AGAU2	*Agoseris aurantiaca*	orange agoseris
F	AGGL	*Agoseris glauca*	pale agoseris
F	AGOSE	*Agoseris* sp.	agoseris
F	ALAC4	*Allium acuminatum*	tapertip onion
F	ALBR2	*Allium brevistylum*	shortstyle onion
F	ALCE2	*Allium cernuum*	nodding onion
F	ALGE	*Allium geyeri*	Geyer's onion
F	ALSC	*Allium schoenoprasum*	wild chives
F	ALLIU	*Allium* sp.	wild onion
F	ANMA	*Anaphalis margaritacea*	western pearlyeverlasting
F	ANSE4	*Androsace septentrionalis*	pygmyflower rockjasmine
F	ANEU	*Anelsonia eurycarpa*	dagger pod
F	ANOC6	*Anemone (Pulsatilla) occidentalis*	white pasqueflower
F	ANMU	*Anemone multifida*	Pacific anemone
F	ANPA	*Anemone parviflora*	smallflowered anemone
F	ANEMO	*Anemone* sp.	anemone
F	ANAR3	*Angelica arguta*	Lyall's angelica
F	ANRO	*Angelica roseanna*	rose angelica
F	ANAL4	*Antennaria alpina*	alpine pussytoes
F	ANAR4	*Antennaria arcuata*	box pussytoes
F	ANCO	*Antennaria corymbosa*	flattop pussytoes
F	ANDI2	*Antennaria dimorpha*	low pussytoes
F	ANLA3	*Antennaria lanata*	woolly pussytoes
F	ANLU2	*Antennaria luzuloides*	rush pussytoes
F	ANMI3	*Antennaria microphylla*	littleleaf pussytoes
F	ANPA5	*Antennaria parvifolia*	smalleaf pussytoes
F	ANRA	*Antennaria racemosa*	raceme pussytoes
F	ANTEN	*Antennaria* sp.	pussytoes
F	ANUM	*Antennaria umbrinella*	umber pussytoes
F	APAN2	*Apocynum androsaemifolium*	spreading dogbane
F	AQCO	*Aquilegia coerulea*	Colorado blue columbine
F	AQFL	*Aquilegia flavescens*	yellow columbine
F	AQFO	*Aquilegia formosa*	western columbine
F	AQUIL	*Aquilegia* sp.	columbine
F	ARDR	*Arabis drummondii*	Drummond's rockcress
F	ARGL	*Arabis glabra*	tower rockcress
F	ARHO2	*Arabis holboellii*	Holboell's rockcress
F	ARLE	*Arabis lemmonii*	Lemmon's rockcress
F	ARNU	*Arabis nuttallii*	Nuttall's rockcress
F	ARABI	*Arabis* sp.	rockcress
F	ARMI2	*Arctium minus*	lesser burrdock

Life-Form	Code	Scientific Name	Common Name
F	ARNU5	*Arenaria (Minuartia) nuttallii*	Nuttall's sandwort
F	ARLA15	*Arenaria (Moehringia) lateriflora*	bluntleaf sandwort
F	ARCO5	*Arenaria congesta*	ballhead sandwort
F	ARKI	*Arenaria kingii*	King's sandwort
F	ARENA	*Arenaria* sp.	sandwort
F	ARCH3	*Arnica chamissonis*	chamisso arnica
F	ARCO9	*Arnica cordifolia*	heartleaf arnica
F	ARFU3	*Arnica fulgens*	foothill arnica
F	ARLA8	*Arnica latifolia*	broadleaf arnica
F	ARLO6	*Arnica longifolia*	spearleaf arnica
F	ARPA13	*Arnica parryi*	Parry's arnica
F	ARRY	*Arnica rydbergii*	Rydberg's arnica
F	ARSO2	*Arnica sororia*	twin arnica
F	ARNIC	*Arnica* sp.	arnica
F	ARDO3	*Artemisia douglasiana*	Douglas' sagewort
F	ARLU	*Artemisia ludoviciana*	Louisiana sagewort
F	ARMI4	*Artemisia michauxiana*	Michaux's sagebrush
F	ASCHA	*Aster chilensis (ascendens)* ssp. *adscendens*	Chile aster
F	ASCO3	*Aster conspicuus*	showy aster
F	ASEN2	*Aster engelmannii*	Engelmann's aster
F	ASFOA	*Aster foliaceus* var. *apricus*	leafybract aster
F	ASFOC	*Aster foliaceus* var. *canbyi*	Canby's aster
F	ASFOP	*Aster foliaceus* var. *parryi*	Parry's aster
F	ASIN3	*Aster integrifolius*	thickstem aster
F	ASJU	*Aster junciformis*	rush aster
F	ASOC	*Aster occidentalis*	western aster
F	ASPE3	*Aster perelegans*	elegant aster
F	ASTER	*Aster* sp.	aster
F	ASAG2	*Astragalus agrestis*	purple milkvetch
F	ASCA9	*Astragalus calycosus*	matted poison milkvetch
F	ASCI2	*Astragalus cibarius*	silky milkvetch
F	ASKE	*Astragalus kentrophyta*	spiny milkvetch
F	ASLE8	*Astragalus lentiginosus*	specklepod milkvetch
F	ASMI9	*Astragalus miser*	weedy milkvetch
F	ASPU9	*Astragalus purshii*	woollypod milkvetch
F	ASTRA	*Astragalus* sp.	milkvetch
F	BAMA4	*Balsamorhiza macrophylla*	cutleaf balsamroot
F	BASA3	*Balsamorhiza sagittata*	arrowleaf balsamroot
F	BEWY	*Besseya wyomingensis*	Wyoming besseya
F	MOSSES	Bryophytes	mosses and/or liverworts
F	BUAM2	*Bupleurum americanum*	American thorow wax
F	CAEU	*Calochortus eurycarpus*	white Mariposa lily
F	CAMA5	*Calochortus macrocarpus*	sagebrush Mariposa lily
F	CALOC	*Calochortus* sp.	Mariposa lily
F	CALE4	*Caltha leptosepala*	white marshmarigold
F	CABU	*Calypso bulbosa*	fairyslipper orchid
F	CAQU2	*Camassia quamash*	small camas

Life-Form	Code	Scientific Name	Common Name
F	CAMI2	*Camelina microcarpa*	littlepod falseflax
F	CARO2	*Campanula rotundifolia*	bluebell bellflower
F	CABR6	*Cardamine breweri*	Brewer's bittercress
F	CAAN7	*Castilleja angustifolia*	northwestern Indian paintbrush
F	CACU7	*Castilleja cusickii*	Cusick's Indian paintbrush
F	CAFL7	*Castilleja flava*	yellow Indian paintbrush
F	CALO7	*Castilleja longispica (pilosa)*	longspike Indian paintbrush
F	CAMI12	*Castilleja miniata*	scarlet Indian paintbrush
F	CAPA25	*Castilleja pallescens*	pale Indian paintbrush
F	CARH4	*Castilleja rhexifolia (rhexiifolia)*	splitleaf Indian paintbrush
F	CARU10	*Castilleja rustica (flava)*	country Indian paintbrush
F	CASTI	*Castilleja* sp.	Indian paintbrush
F	CASU12	*Castilleja sulphurea*	sulphur Indian paintbrush
F	CEVU	*Cerastium (fontanum* ssp. *vulgare) vulgatum*	big chickweed
F	CEAR4	*Cerastium arvense*	field chickweed
F	CERAS	*Cerastium* sp.	chickweed
F	CHAL2	*Chaenactis alpina (douglasii)*	alpine dustymaiden
F	CIAR4	*Cirsium arvense*	Canadian thistle
F	CISC2	*Cirsium scariosum*	meadow thistle
F	CIRSI	*Cirsium* sp.	thistle
F	CLLA2	*Claytonia lanceolata*	lanceleaf springbeauty
F	CLHI	*Clematis hirsutissima*	hairy clematis
F	COPA3	*Collinsia parviflora*	smallflower blue eyed Mary
F	CODED	*Collomia debilis* var. *debilis*	alpine mountaintrumpet
F	COGR4	*Collomia grandiflora*	largeflower mountaintrumpet
F	COLI2	*Collomia linearis*	narrowleaf mountaintrumpet
F	COLLO	*Collomia* sp.	mountaintrumpet
F	COUM	*Comandra umbellata*	bastard toadflax
F	COMA4	*Corallorhiza (Corallorrhiza) maculata*	summer coralroot
F	COME4	*Corallorhiza (Corallorrhiza) mertensiana*	Pacific coralroot
F	CORAL	*Corallorhiza (Corallorrhiza)* sp.	coralroot
F	COST	*Corallorhiza (Corallorrhiza) striata*	hooded coralroot
F	COWI2	*Corallorhiza (Corallorrhiza) wisteriana*	spring coralroot
F	COMI5	*Coryphantha (Escobaria) missouriensis*	Missouri foxtail cactus
F	CRAC2	*Crepis acuminata*	longleaf hawksbeard
F	CRAT	*Crepis atrabarba (atribarba)*	slender hawksbeard
F	CRIN4	*Crepis intermedia*	limestone hawksbeard
F	CRMO4	*Crepis modocensis*	Siskiyou hawksbeard
F	CROC	*Crepis occidentalis*	largeflower hawksbeard
F	CREPI	*Crepis* sp.	hawksbeard
F	CRST5	*Cryptantha stricta*	Yampa River catseye
F	CRWA2	*Cryptantha watsonii*	Watson's catseye
F	CYHE3	*Cymopterus (Pteryxia) hendersonii*	Henderson's desertparsley
F	CYAC	*Cymopterus acaulis*	plains springparsley
F	CYBI	*Cymopterus bipinnatus (nivalis)*	snowline springparsley
F	CYLO	*Cymopterus longipes*	longstalk springparsley
F	CYNI3	*Cymopterus nivalis*	snowline springparsley

Life-Form	Code	Scientific Name	Common Name
F	CYMOP	*Cymopterus* sp.	springparsley
F	CYOF	*Cynoglossum officinale*	gypsyflower
F	CYFR2	*Cystopteris fragilis*	brittle bladderfern
F	DEAN	*Delphinium andersonii*	Anderson's larkspur
F	DEBI	*Delphinium bicolor*	little larkspur
F	DEGL2	*Delphinium glaucescens*	smooth larkspur
F	DENU2	*Delphinium nuttallianum*	Nuttall's larkspur
F	DEOC	*Delphinium occidentale*	duncecap larkspur
F	DELPH	*Delphinium* sp.	larkspur
F	DEPI	*Descurainia pinnata*	western tansymustard
F	DERI2	*Descurainia richardsonii (incana* ssp. *incana)*	mountain tansymustard
F	DESO2	*Descurainia sophia*	herb sophia
F	DESCU	*Descurainia* sp.	tansymustard
F	DIUN	*Dicentra uniflora*	longhorn steershead
F	DITR2	*Disporum trachycarpum*	roughfruit fairybells
F	DOCO	*Dodecatheon conjugens*	Bonneville shootingstar
F	DOPU	*Dodecatheon pulchellum*	darkthroat shootingstar
F	DODEC	*Dodecatheon* sp.	shootingstar
F	DRAU	*Draba aurea*	golden whitlowgrass
F	DRCR2	*Draba crassifolia*	snowbed whitlowgrass
F	DRNE	*Draba nemorosa*	woodland whitlowgrass
F	DROL	*Draba oligosperma*	fewseed whitlowgrass
F	DRABA	*Draba* sp.	whitlowgrass
F	EPAL	*Epilobium alpinum (anagallidifolium)*	alpine willowherb
F	EPAN2	*Epilobium angustifolium*	fireweed
F	EPCL	*Epilobium clavatum*	clubfruit willowherb
F	EPMI	*Epilobium minutum*	small willowweed
F	EPPA	*Epilobium palustre*	marsh willowherb
F	EPILO	*Epilobium* sp.	willowherb
F	EPWAP2	*Epilobium watsonii* var. *parishii (ciliatum)*	coast willowweed
F	EQAR	*Equisetum arvense*	field horsetail
F	EQHY	*Equisetum hyemale*	scouringrush horsetail
F	EQUIS	*Equisetum* sp.	horsetail
F	ERLO	*Erigeron (Trimorpha) lonchophyllus*	shortray boreal daisy
F	ERCA2	*Erigeron caespitosus*	tufted fleabane
F	ERCO4	*Erigeron compositus*	cutleaf daisy
F	ERDI4	*Erigeron divergens*	spreading fleabane
F	EREA	*Erigeron eatonii*	Eaton's fleabane
F	ERFO3	*Erigeron formosissimus*	beautiful fleabane
F	ERGL2	*Erigeron glabellus*	streamside fleabane
F	ERGR2	*Erigeron gracilis*	quill fleabane
F	ERLE6	*Erigeron leiomerus*	rockslide yellow fleabane
F	ERPE3	*Erigeron peregrinus*	subalpine fleabane
F	ERPU2	*Erigeron pumilus*	shaggy fleabane
F	ERIGE2	*Erigeron* sp.	fleabane
F	ERSP4	*Erigeron speciosus*	aspen fleabane
F	ERTW	*Erigeron tweedyi*	Tweedy's fleabane

Life-Form	Code	Scientific Name	Common Name
F	ERUR2	*Erigeron ursinus*	Bear River fleabane
F	ERHE2	*Eriogonum heracleoides*	parsnipflower buckwheat
F	EROC2	*Eriogonum ochrocephalum*	whitewoolly buckwheat
F	EROV	*Eriogonum ovalifolium*	cushion buckwheat
F	ERIOG	*Eriogonum* sp.	wild buckwheat
F	ERUM	*Eriogonum umbellatum*	sulphur wildbuckwheat
F	ERLA6	*Eriophyllum lanatum*	woolly eriophyllum
F	ERNA	*Eritrichium nanum*	arctic alpine forget me not
F	ERCA14	*Erysimum capitatum*	sanddune wallflower
F	ERIN7	*Erysimum inconspicuum*	shy wallflower
F	ERYSI	*Erysimum* sp.	wallflower
F	ERGR9	*Erythronium grandiflorum*	dogtooth lily
F	FLPR	*Floerkea proserpinacoides*	false mermaidweed
F	FRAGA	*Fragaria* sp.	strawberry
F	FRVE	*Fragaria vesca*	woodland strawberry
F	FRVI	*Fragaria virginiana*	Virginia strawberry
F	FRASE	*Frasera* sp.	elkweed
F	FRSP	*Frasera speciosa*	showy frasera
F	FRAT	*Fritillaria atropurpurea*	spotted missionbells
F	FRPU2	*Fritillaria pudica*	yellow missionbells
F	FRITIL	*Fritillaria* sp.	missionbells
F	GAAP2	*Galium aparine*	stickywilly
F	GABI	*Galium bifolium*	twinleaf bedstraw
F	GABO2	*Galium boreale*	northern bedstraw
F	GALIU	*Galium* sp.	bedstraw
F	GATR3	*Galium triflorum*	fragrant bedstraw
F	GAHU	*Gaultheria humifusa*	alpine spicywintergreen
F	GADI2	*Gayophytum diffusum*	spreading groundsmoke
F	GEDEU	*Gentiana detonsa*	gentian
F	GENTI	*Gentiana* sp.	gentian
F	GERI	*Geranium richardsonii*	Richardson's geranium
F	GERAN	*Geranium* sp.	geranium
F	GEVI2	*Geranium viscosissimum*	sticky geranium
F	GEMA4	*Geum macrophyllum*	largeleaf avens
F	GETR	*Geum triflorum*	prairiesmoke
F	GIAG	*Gilia (Ipomopsis) aggregata*	skyrocket gilia
F	GLLE3	*Glycyrrhiza lepidota*	American licorice
F	GOOB2	*Goodyera oblongifolia*	western rattlesnake plantain
F	HAUN	*Habenaria (Piperia) unalascensis*	Alaska rein orchid
F	HADIA2	*Habenaria (Platanthera) dilatata* var. *dilatata*	scentbottle
F	HASA	*Habenaria (Platanthera) saccata*	Modoc bog orchid
F	HABEN	*Habenaria* sp.	bog orchid
F	HAFL2	*Hackelia floribunda*	manyflower stickseed
F	HAMI	*Hackelia micrantha*	Jessica sticktight
F	HAPA	*Hackelia patens*	common stickseed
F	HACKE	*Hackelia* sp.	stickseed
F	HAUN2	*Haplopappus (Pyrrocoma) uniflorus*	plantain goldenweed

Life-Form	Code	Scientific Name	Common Name
F	HAST	*Haplopappus (Stenotus) stenophyllus*	narrowleaf goldenweed
F	HAPLO	*Haplopappus* sp.	goldenweed
F	HEBO	*Hedysarum boreale*	northern sweetvetch
F	HEOC	*Hedysarum occidentale*	western sweetvetch
F	HEDYS	*Hedysarum* sp.	sweetvetch
F	HEQU2	*Helianthella quinquenervis*	fivenerve helianthella
F	HEUN	*Helianthella uniflora*	oneflower helianthella
F	HENU	*Helianthus nuttallii*	Nuttall's sunflower
F	HELA4	*Heracleum lanatum (maximum)*	common cowparsnip
F	HEPU6	*Hesperochiron pumilus*	dwarf hesperochiron
F	HECYA	*Heuchera cylindrica* var. *alpina*	alpine alumroot
F	HEUCH	*Heuchera* sp.	alumroot
F	HIAL	*Hieracium albertinum (cynoglossoides)*	houndstongue hawkweed
F	HIAL2	*Hieracium albiflorum*	white hawkweed
F	HICY	*Hieracium cynoglossoides*	houndstongue hawkweed
F	HIGR	*Hieracium gracile*	slender hawkweed
F	HIERA	*Hieracium* sp.	hawkweed
F	HIUM	*Hieracium umbellatum*	narrowleaf hawkweed
F	HYCA4	*Hydrophyllum capitatum*	ballhead waterleaf
F	HYGR5	*Hymenoxys (Tetraneuris) grandiflora*	graylocks hymenoxys
F	ILRI	*Iliamna rivularis*	streambank globemallow
F	IRMI	*Iris missouriensis*	Rocky Mountain iris
F	IVGO	*Ivesia gordonii*	Gordon's ivesia
F	LARE	*Lappula redowskii (occidentalis* var. *occidentalis)*	desert stickseed
F	LEPU	*Leptodactylon pungens*	granite pricklygilia
F	LECA10	*Lesquerella carinata*	Idaho bladderpod
F	LEMU2	*Lesquerella multiceps*	manyhead bladderpod
F	LEPY2	*Lewisia pygmaea*	pigmy bitterroot
F	LEWIS	*Lewisia* sp.	bitterroot
F	LICHEN	Lichen	lichen
F	LIFI	*Ligusticum filicinum*	fernleaf licoriceroot
F	LIGUS	*Ligusticum* sp.	licoriceroot
F	LINAN	*Linanthus* sp.	flaxflower
F	LIVU2	*Linaria vulgaris*	butter and eggs
F	LIPE2	*Linum perenne (lewisii)* var. *lewisii*	Lewis' flax
F	LICA10	*Listera caurina*	northwestern twayblade
F	LICO6	*Listera cordata*	heartleaf twayblade
F	LIBU2	*Lithophragma bulbifera (glabrum)*	bulbous woodlandstar
F	LIPA5	*Lithophragma parviflorum*	smallflower woodlandstar
F	LITHO	*Lithophragma* sp.	woodlandstar
F	LITE4	*Lithophragma tenellum*	slender woodlandstar
F	LIRU4	*Lithospermum ruderale*	western gromwell
F	LLSE	*Lloydia serotina*	common alplily
F	LOAM	*Lomatium ambiguum*	Wyeth biscuitroot
F	LOCO4	*Lomatium cous*	cous biscuitroot
F	LOMAT	*Lomatium* sp.	biscuitroot
F	LOTR2	*Lomatium triternatum*	nineleaf biscuitroot

Life-Form	Code	Scientific Name	Common Name
F	LUAR3	*Lupinus argenteus*	silvery lupine
F	LUARD2	*Lupinus argenteus* var. *depressus*	depresssed lupine
F	LUCA	*Lupinus caudatus*	tailcup lupine
F	LULE2	*Lupinus lepidus*	Pacific lupine
F	LULE3	*Lupinus leucophyllus*	velvet lupine
F	LUSE4	*Lupinus sericeus*	silky lupine
F	LUPIN	*Lupinus* sp.	lupine
F	LYCOP	*Lycopodium* sp.	clubmoss
F	MACA2	*Machaeranthera canescens*	hoary aster
F	MAGL2	*Madia glomerata*	mountain tarweed
F	MALVA	*Malva* sp.	mallow
F	MESA	*Medicago sativa*	alfalfa
F	MEAR4	*Mentha arvensis*	wild mint
F	MEARG	*Mentha arvensis (canadensis)* var. *glabrata*	Canadian mint
F	MECI3	*Mertensia ciliata*	mountain bluebells
F	MEOB	*Mertensia oblongifolia*	oblongleaf bluebells
F	MERTE	*Mertensia* sp.	bluebells
F	MEVI4	*Mertensia viridis (lanceolata* var. *nivalis)*	greenleaf bluebells
F	MITR5	*Microseris (Nothocalais) troximoides*	weevil microseris
F	MINU	*Microseris nutans*	nodding microseris
F	MICRO	*Microseris* sp.	microseris
F	MIGR	*Microsteris (Phlox) gracilis*	slender phlox
F	MIGL	*Mimulus glabratus*	roundleaf monkeyflower
F	MIGU	*Mimulus guttatus*	seep monkeyflower
F	MIPE	*Mitella pentandra*	fivestamen miterwort
F	MITEL	*Mitella* sp.	miterwort
F	MIST3	*Mitella stauropetala*	smallflower miterwort
F	NEBR	*Nemophila breviflora*	basin nemophila
F	NEPA	*Nemophila parviflora*	smallflower nemophila
F	OESU	*Oenothera (Camissonia) subacaulis*	diffuseflower eveningprimrose
F	OECE2	*Oenothera caespitosa (cespitosa)*	tufted eveningprimrose
F	OPPO	*Opuntia polyacantha*	plains pricklypear
F	ORFA	*Orobanche fasciculata*	clustered broomrape
F	OROBA	*Orobanche* sp.	broomrape
F	ORUNM2	*Orobanche uniflora* var. *minuta*	oneflowered broomrape
F	ORTHO	*Orthocarpus* sp.	owlclover
F	OSCH	*Osmorhiza chilensis*	sweetcicely
F	OSDE	*Osmorhiza depauperata*	bluntseed sweetroot
F	OSOC	*Osmorhiza occidentalis*	western sweetroot
F	OSMOR	*Osmorhiza* sp.	sweetroot
F	BORAG	Other Boraginaceae	borage family
F	CARYO	Other Caryophyllaceae	pink family
F	CHENO	Other Chenopodiaceae	goosefoot family
F	CICHO	Other Cichorium sp.	chicory tribe
F	COMPO	Other Compositae	composite family
F	CRUCI	Other Cruciferae	mustard family
F	FORBS	Other forbs	other forbs

Life-Form	Code	Scientific Name	Common Name
F	LABIA	Other Labiatae	mint family
F	LEGUM	Other Leguminosae	legume family
F	LILIA	Other Liliaceae	lily family
F	ORCHI	Other Orchidaceae	orchid family
F	RANUN	Other Ranunculaceae	buttercup family
F	SCROP	Other Scrophulariaceae	snapdragon family
F	UMBEL	Other Umbelliferae	umbell (parsley) family
F	OXDI3	*Oxyria digyna*	alpine mountainsorrel
F	OXCA4	*Oxytropis campestris*	cold mountain crazyweed
F	OXLA2	*Oxytropis lagopus*	haresfoot pointloco
F	OXSE	*Oxytropis sericea*	silvery oxytrope
F	OXYTR	*Oxytropis* sp.	crazyweed
F	OXVI2	*Oxytropis viscida*	sticky crazyweed
F	PABR	*Paeonia brownii*	Brown's peony
F	PEBR	*Pedicularis bracteosa*	bracted lousewort
F	PECOC2	*Pedicularis contorta* var. *contorta*	coiled lousewort
F	PECOC	*Pedicularis contorta* var. *ctenophora*	coiled lousewort
F	PEGR2	*Pedicularis groenlandica*	elephanthead lousewort
F	PEPA3	*Pedicularis parryi*	Parry's lousewort
F	PERA	*Pedicularis racemosa*	sickletop lousewort
F	PEDIC	*Pedicularis* sp.	lousewort
F	PEAR2	*Penstemon aridus*	stiffleaf penstemon
F	PEAT3	*Penstemon attenuatus*	sulphur penstemon
F	PECY3	*Penstemon cyaneus*	blue penstemon
F	PEER	*Penstemon eriantherus*	fuzzytongue penstemon
F	PEGR5	*Penstemon gracilis*	lilac penstemon
F	PEMO4	*Penstemon montanus*	mountain penstemon
F	PEMOI	*Penstemon montanus* var. *idahoensis*	Central Idaho penstemon
F	PEPR2	*Penstemon procerus*	littleflower penstemon
F	PERA2	*Penstemon radicosus*	matroot penstemon
F	PERY	*Penstemon rydbergii*	Rydberg's penstemon
F	PENST	*Penstemon* sp.	penstemon
F	PEWH	*Penstemon whippleanus*	Whipple's penstemon
F	PEGA3	*Perideridia gairdneri*	yampa
F	PERID	*Perideridia* sp.	yampa
F	PECA12	*Petrophytum (Petrophyton) caespitosum*	mat rockspirea
F	PHHA	*Phacelia hastata*	silverleaf phacelia
F	PHHE2	*Phacelia heterophylla*	varileaf phacelia
F	PHSE	*Phacelia sericea*	silky phacelia
F	PHACE	*Phacelia* sp.	phacelia
F	PHHO	*Phlox hoodii*	spiny phlox
F	PHLO2	*Phlox longifolia*	longleaf phlox
F	PHMU3	*Phlox multiflora*	flowery phlox
F	PHPU5	*Phlox pulvinata*	cushion phlox
F	PHLOX	*Phlox* sp.	phlox
F	PHDID	*Physaria didymocarpa* var. *didymocarpa*	common twinpod
F	PLST	*Plagiobothrys stipitatus*	slender popcornflower

Life-Form	Code	Scientific Name	Common Name
F	POEN	*Polygonum (douglasii* ssp.*) engelmannii*	Engelmann's knotweed
F	POBI6	*Polygonum bistortoides*	American bistort
F	PODO4	*Polygonum douglasii*	Douglas' knotweed
F	POPE3	*Polygonum persicaria*	spotted ladysthumb
F	POLYG	*Polygonum* sp.	knotweed
F	FERN	*Polypodiaceae*	fern
F	POAN5	*Potentilla (Argentina) anserina*	silverweed cinquefoil
F	POAR7	*Potentilla arguta*	tall cinquefoil
F	POCO13	*Potentilla concinna*	elegant cinquefoil
F	PODI2	*Potentilla diversifolia*	varileaf cinquefoil
F	POFL3	*Potentilla flabellifolia*	high mountain cinquefoil
F	POGL9	*Potentilla glandulosa*	gland cinquefoil
F	POGR9	*Potentilla gracilis*	northwest cinquefoil
F	POOV2	*Potentilla ovina*	sheep cinquefoil
F	POPA14	*Potentilla palustris*	cinquefoil
F	PORE5	*Potentilla recta*	sulphur cinquefoil
F	POTEN	*Potentilla* sp.	cinquefoil
F	PRVU	*Prunella vulgaris*	common selfheal
F	PTAQ	*Pteridium aquilinum*	western brackenfern
F	PTAN2	*Pterospora andromedea*	woodland pinedrops
F	PYUN	*Pyrola (Moneses) uniflora*	oneflowered woodnymph
F	PYSE	*Pyrola (Orthilia) secunda*	sidebells wintergreen
F	PYAS	*Pyrola asarifolia*	liverleaf wintergreen
F	PYCH	*Pyrola chlorantha*	greenflowered wintergreen
F	PYDE	*Pyrola dentata (picta)*	whiteveined wintergreen
F	PYPI2	*Pyrola picta*	whiteveined wintergreen
F	PYROL	*Pyrola* sp.	wintergreen
F	RAES	*Ranunculus eschscholtzii*	Eschscholtz's buttercup
F	RAGL	*Ranunculus glaberrimus*	sagebrush buttercup
F	RAGLE	*Ranunculus glaberrimus* var. *ellipticus*	elliptical buttercup
F	RAJO	*Ranunculus jovis*	Utah buttercup
F	RANUN	*Ranunculus* sp.	buttercup
F	RAUN	*Ranunculus uncinatus*	hooked buttercup
F	ROSI2	*Rorippa sinuata*	spreading yellowcress
F	RORIP	*Rorippa* sp.	yellowcress
F	RUOC2	*Rudbeckia occidentalis*	western coneflower
F	RUAC3	*Rumex acetosella*	common sheep sorrel
F	RUCR	*Rumex crispus*	curly dock
F	RUPA6	*Rumex paucifolius*	fewleaved dock
F	RUSA	*Rumex salicifolius*	willow dock
F	RUMEX	*Rumex* sp.	dock
F	SAAR13	*Saxifraga arguta (odontoloma)*	brook saxifrage
F	SAOP	*Saxifraga oppositifolia*	purple mountain saxifrage
F	SARH2	*Saxifraga rhomboidea*	diamondleaf saxifrage
F	SAXIF	*Saxifraga* sp.	saxifrage
F	SCGA	*Scutellaria galericulata*	marsh skullcap
F	SEDE	*Sedum debile*	orpine stonecrop

Life-Form	Code	Scientific Name	Common Name
F	SELA	*Sedum lanceolatum*	spearleaf stonecrop
F	SEDUM	*Sedum* sp.	stonecrop
F	SEST2	*Sedum stenopetalum*	wormleaf stonecrop
F	SEDED	*Selaginella densa* var. *densa*	dense spikemoss
F	SELAG	*Selaginella* sp.	selaginella
F	SECA2	*Senecio canus*	woolly groundsel
F	SECR	*Senecio crassulus*	thickleaf groundsel
F	SEDI4	*Senecio dimorphophyllus*	splitleaf groundsel
F	SEFR3	*Senecio fremontii*	Fremont's groundsel
F	SEHY2	*Senecio hydrophilus*	water groundsel
F	SEIN2	*Senecio integerrimus*	lambstongue groundsel
F	SEPA5	*Senecio pauperculus*	balsam groundsel
F	SESE2	*Senecio serra*	butterweed groundsel
F	SENEC	*Senecio* sp.	groundsel
F	SEST2	*Senecio streptanthifolius*	cleftleaf groundsel
F	SETR	*Senecio triangularis*	arrowleaf groundsel
F	SEVU	*Senecio vulgaris*	common groundsel
F	SIPR	*Sibbaldia procumbens*	creeping sibbaldia
F	SIDO	*Silene douglasii*	Douglas's campion
F	SIME	*Silene menziesii*	Menzies' campion
F	SIOR3	*Silene oregana*	Oregon silene
F	SIPA4	*Silene parryi*	Parry's silene
F	SILEN	*Silene* sp.	silene
F	SISU2	*Sium suave*	hemlock waterparsnip
F	SMCA	*Smelowskia calycina*	alpine smelowskia
F	SMRA	*Smilacina (Maianthemum) racemosa*	feather false Solomon's seal
F	SMST	*Smilacina (Maianthemum) stellata*	starry false Solomon's seal
F	SMILA	*Smilacina* sp.	false Solomon's seal
F	SOCA6	*Solidago canadensis*	Canada goldenrod
F	SOMI2	*Solidago missouriensis*	Missouri goldenrod
F	SOMU	*Solidago multiradiata*	mountain goldenrod
F	SONA	*Solidago nana*	baby goldenrod
F	SOLID	*Solidago* sp.	goldenrod
F	SPRO	*Spiranthes romanzoffiana*	hooded ladiestresses
F	STANL	*Stanleya* sp.	princesplume
F	STVI	*Stanleya viridiflora*	green princesplume
F	STJA3	*Stellaria (Pseudostellaria) jamesiana*	tuber starwort
F	STAM	*Stellaria americana*	American chickweed
F	STLOA	*Stellaria longipes* var. *altocaulis*	longstalk starwort
F	STELL	*Stellaria* sp.	starwort/chickweed
F	STAM2	*Streptopus amplexifolius*	claspleaf twistedstalk
F	TAOF	*Taraxacum officinale*	common dandelion
F	THFE	*Thalictrum fendleri*	Fendler's meadowrue
F	THOC	*Thalictrum occidentale*	western meadowrue
F	THALIC	*Thalictrum* sp.	meadowrue
F	THFE3	*Thlaspi (monatanum* ssp.*) fendleri*	Fendler's pennycress
F	THMO5	*Thlaspi montanum*	alpine pennycress

Life-Form	Code	Scientific Name	Common Name
F	THLAS	*Thlaspi* sp.	pennycress
F	TOCO2	*Townsendia condensata*	hairy townsendia
F	TOFL2	*Townsendia florifer*	showy townsendia
F	TOHO	*Townsendia hookeri*	Hooker's townsendia
F	TOMO	*Townsendia montana (alpigena)*	mountain townsendia
F	TOPA2	*Townsendia parryi*	Parry's townsend daisy
F	TOWNS	*Townsendia* sp.	townsendia
F	TRDU	*Tragopogon dubius*	yellow salsify
F	TRAR4	*Trifolium arvense*	rabbitfoot clover
F	TRHA	*Trifolium haydenii*	Hayden's clover
F	TRHY	*Trifolium hybridum*	alsike clover
F	TRLO	*Trifolium longipes*	longstalk clover
F	TRLOR3	*Trifolium longipes* ssp. *reflexum*	droopflower clover
F	TRIFO	*Trifolium* sp.	clover
F	TRMA4	*Triglochin maritimum*	seaside arrowgrass
F	TRGR7	*Triteleia grandiflora*	wild hyacinth
F	URDI	*Urtica dioica*	stinging nettle
F	VAAC	*Valeriana acutiloba*	sharpleaf valerian
F	VAED	*Valeriana edulis*	edible valerian
F	VAOC2	*Valeriana occidentalis*	western valerian
F	VALER	*Valeriana* sp.	valerian
F	VETH	*Verbascum thapsis*	common mullein
F	VEAM2	*Veronica americana*	American speedwell
F	VEBI2	*Veronica biloba*	twolobe speedwell
F	VESE	*Veronica serpyllifolia*	thymeleaf speedwell
F	VERON	*Veronica* sp.	speedwell
F	VEWO2	*Veronica wormskjoldii*	American alpine speedwell
F	VIMU	*Viguiera (Heliomeris) multiflora*	showy goldeneye
F	VIAD	*Viola adunca*	hookedspur violet
F	VICA4	*Viola canadensis*	Canadian white violet
F	VIMA2	*Viola macloskeyi*	small white violet
F	VINU2	*Viola nuttallii*	Nuttall's violet
F	VIOR	*Viola orbiculata*	darkwoods violet
F	VIPU4	*Viola purpurea*	goosefoot violet
F	VIOLA	*Viola* sp.	violet
F	WYAM	*Wyethia amplexicaulis*	mulesears wyethia
F	WYHE2	*Wyethia helianthoides*	sunflower wyethia
F	WYETH	*Wyethia* sp.	wyethia
F	XETE	*Xerophyllum tenax*	common beargrass
F	ZIEL2	*Zigadenus elegans*	mountain deathcamas
F	ZIPA2	*Zigadenus paniculatus*	foothill deathcamas
F	ZIGAD	*Zigadenus* sp.	deathcamas
F	ZIVE	*Zigadenus venenosus*	meadow deathcamas

Appendix E. Ecological Unit Acreage and Proportionate Extent

Map Symbol	Ecological Unit Name	Acres	Percent
1000	PICO/VASC Islandpark - PSME/SYAL Potrmound -PICO/ARTRP4 Spliten complex, 0 to 35 percent slopes	78,431	4.3
1046	PICO/ARTRP4 Vadnais - Rock Outcrop complex, 1 to 12 percent slopes	6,160	0.3
1050	Cinder Cones, 15 to 60 percent slopes	1,439	0.1
1106	ABLA/PHMA5 Gany - PSME/BERE,SYOR2 Fritz association, 40 to 70 percent slopes	59,084	3.2
1110	ARTRP4/FEID Raynoldson, 1 to 15 percent slopes	3,391	0.2
1112	ABLA/VAGL,PAMY Huckridge - PSME/OSCH Paleborolls complex, 4 to 35 percent slopes	20,678	1.1
1123	ABLA/CARU,CARU Hopburn - PICO/ARTRP4 Vadnais - Rock Outcrop complex, 1 to 12 percent slopes	10,306	0.5
1125	ARNO4/AGSP Simeroi - ARTRP4/FEID Zeale complex, 4 to 20 percent slopes	10,812	0.6
1126	ARNO4/AGSP Simeroi, 30 to 60 percent slopes	22,419	1.2
1127	ARTRW8/ARARA Simeroi, 4 to 20 percent slopes	929	0.1
1128	ARTRP4/FEID Monida - ARTRP4/FEID Zeale complex, 4 to 20 percent slopes	25,373	1.4
1129	PIFL2/LEKI2 Fritz - PSME/JUCO6 Gany association, 40 to 70 percent slopes	100,737	5.5
1130	Alpine Graminoid Fritz, 4 to 30 percent slopes	10,894	0.6
1131	ARARA/FEID Mountainboy, 2 to 8 percent slopes	856	*
1133	PSME/ARTRV Meegero - ARTRP4/FEID Monida complex, 20 to 50 percent slopes	48,229	2.7
1140	ABLA/THOC Nearl, 8 to 20 percent slopes	25,276	1.3
1144	ABLA/SPBE2 Koffgo, unstable, 15 to 60 percent slopes	929	0.1
1145	ARTRP4/FEID Monida - ARTRP4/FEID Zeebar complex, 4 to 30 percent slopes	19,278	1.0
1146	ARTRP4/FEID Zeebar, 4 to 20 percent slopes	8,166	0.4
1147	ARTRP4/FEID Zeebar, 30 to 50 percent slopes	37,585	2.1
1149	PSME/CARU,CARU Edgway, 15 to 40 percent slopes	64,243	3.5
1150	ABLA/CARU,CARU Rhylow - ABLA/CARU,CARU Fitzwil association, 4 to 40 percent slopes	44,223	2.5
1154	PSME/JUCO6 Pikaden - PSME/FEID Pikaden - Rubble Land association, 40 to 65 percent slopes	19,215	1.0
1170	ABLA/Tall Forb Yodal, 4 to 35 percent slopes	27,395	1.6
1172	ABLA/ACGL Gany - ABLA/THOC Katpa - PSME/BERE,SYOR2 Fritz complex, 40 to 70 percent slopes	34,358	1.9
1175	ABLA/Tall Forb Yodal, 35 to 60 percent slopes	37,990	2.1
1204	PSME/ARTRV Povey, 30 to 60 percent slopes	5,712	0.3
1209	Tall Forb Etnass - ABLA/THOC Nearl - PSME/ARTRV Tophat complex, 4 to 30 percent slopes	2,275	0.1
1216	ABLA/ACGL Koffgo - ABLA/ACGL Rhylow - PSME/ARTRV Povey complex, 35 to 60 percent slopes	92,118	5.0
1219	ABLA/PHMA5 Lagall - PSME/ARTRV Povey - PSME/BERE,SYOR2 Fritz complex, 35 to 70 percent slopes	66,488	3.6
1222	ABLA/ACGL Koffgo - PSME/SYAL Lagall - ABLA/ACGL Rhylow complex, 50 to 70 percent slopes	10,049	0.5

Map Symbol	Ecological Unit Name	Acres	Percent
1224	ABLA/VAGL,PAMY Huckridge - ABLA/VAGL, PAMY Koffgo - PSME/ARTRV Povey complex, 4 to 50 percent slopes	51,059	2.8
1225	PIAL Lasac - ABLA/VASC,VASC Castan complex, 30 to 60 percent slopes	8,543	0.5
1228	PSME/CARU,CARU Nopla, 2 to 15 percent slopes	17,431	0.9
1230	PSME/SPBE2,CARU Vitricryands, 35 to 60 percent slopes	1,809	0.1
1250	PSME/ARTRV Povey, 4 to 30 percent slopes	5,566	0.3
1270	ABLA/ARTRS2 Cryumbrepts - Rock Outcrop complex, 25 to 60 percent slopes	7,307	0.4
1280	Rubble Land - Low Alpine Forb Cryochrepts, loamy-skeletal - Rock Outcrop complex, 40 to 70 percent slopes	65,994	3.6
1294	ARTRP4/SYOR2/FEID Tetonia - PSME/OSCH Rin complex, 15 to 35 percent slopes	7,815	0.4
1303	ABLA/OSCH,PAMY Edgway - ABLA/THOC Jumpstart - PSME/ARTRV Tophat complex, 15 to 50 percent slopes	118,207	6.4
1307	ABLA/VAGL,PAMY Huckridge, 4 to 20 percent slopes	30,441	1.7
1313	ARTRP4/FEID Cryoborolls, 8 to 35 percent slopes	4,808	0.3
1315	ABLA/OSCH,PAMY Edgway - ABLA/VAGL,PAMY Koffgo - PSME/ARTRV Povey association, 15 to 50 percent slopes	64,224	3.5
1316	ABLA/VAGL,PAMY Koffgo - ABLA/THOC Koffgo - Rock Outcrop complex, 40 to 70 percent slopes	60,049	3.3
1331	Low Alpine Forb Oorang - Rubble Land complex, 4 to 35 percent slopes	9,456	0.5
1332	ARTRP4/FEID Quirt, 15 to 35 percent slopes	11,995	0.6
1333	ARTRP4/FEID Quirt - ARTRP4/SYOR2/FEID Tetonia complex, 4 to 15 percent slopes	8,209	0.4
1400	ARTRP4/ARART Trude, 0 to 4 percent slopes	4,024	0.2
1401	ARTRP4/ARART Trude - ABLA/CACA4,CACA4 Bootjack association, 0 to 2 percent slopes	2,032	0.1
1414	ABLA/VASC,PIAL Winegar - CALE4 Oxyaquic Cryochrepts - Rock Outcrop complex, 4 to 15 percent slopes	8,579	0.5
1430	PSME/SYOR2 Kyway, 4 to 30 percent slopes	6,203	0.3
1505	ARTRP4/SYOR2/FEID Tetonia, 4 to 15 percent slopes	3,876	0.2
1506	PSME/SYAL Lagall, till substratum, 4 to 25 percent slopes	19,166	1.0
1507	ARTRT/AGSP Buist - ABLA/PHMA5 Lagall complex, 35 to 60 percent slopes	4,653	0.2
1516	ABLA/VAGL,VAGL Winegar - ABLA/VASC,CARU Bradco complex, 4 to 15 percent slopes	32,850	1.8
1570	ABLA/VASC,VASC Dashiki - PIAL/CARO5,PICO Lasac association, 2 to 25 percent slopes	36,774	2.1
1573	ABLA/VASC Oleo - PIAL/CARO5,PICO Lasac association, 2 to 25 percent slopes	25,900	1.4
1575	ABLA/CARU,CARU Koffgo - ABLA/VAGL,VAGL Koffgo complex, 8 to 20 percent slopes	9,274	0.5
1576	ABLA/ARCO9,ARCO9 Fitzwil - PIAL/ARTRP4 Fitzwil complex, 4 to 25 percent slopes	20,368	1.1
1585	ABLA/VASC,CARU Rhylow, 15 to 35 percent slopes	19,921	1.1
1592	PSME/SYAL Lagall, 25 to 50 percent slopes	35,593	2.0
1593	ABLA/VAGL,PAMY Koffgo, 30 to 60 percent slopes	4,225	0.2
1594	ABLA/VAGL,VAGL Koffgo, 30 to 60 percent slopes	16,098	0.9
1595	ABLA/VAGL,PAMY Koffgo, 10 to 30 percent slopes	23,315	1.2
1597	ABLA/SPBE2 Koffgo, 35 to 60 percent slopes	9,951	0.5
1600	ABLA/VAGL,VASC Koffgo, 4 to 25 percent slopes	14,285	0.8

Map Symbol	Ecological Unit Name	Acres	Percent
1646	ABLA/VAGL,PAMY Huckridge - ABLA/VAGL, PAMY Koffgo - ABLA/OSCH,PAMY Edgway complex, 15 to 50 percent slopes	14,849	0.8
1700	ABLA/VASC,CARU Koffgo, 4 to 15 percent slopes	37,590	2.1
1720	ABLA/VAGL,VAGL Flatstone - ABLA/VASC,CARU Koffgo complex, 2 to 15 percent slopes	42,787	2.4
1730	ABLA/VASC,CARU Koffgo - PICO Perfa association, 2 to 30 percent slopes	5,134	0.3
1760	PSME/ARTRV Fourme, 0 to 4 percent slopes	8,692	0.5
1970	ABLA Cryoboralfs - PSME/BERE,SYOR2 Cryochrepts, fine association, 15 to 70 percent slopes	17,594	0.9
1999	Valleys, 4 to 25 percent slopes	5,957	0.3
2000	Graminoid Cryaquolls, 0 to 2 percent slopes	2,266	0.1
2020	Graminoid Chickreek - Salix/Graminoid Tepete complex, 0 to 1 percent slopes	3,196	0.2
2040	PICO Perfa - ABLA/CACA4,CACA4 Bootjack association, 0 to 4 percent slopes	12,522	0.7
2604	PIEN/GATR3 Cryofluvents, 0 to 2 percent slopes	911	0.1
2606	Salix/Graminoid Cryaquolls and Salix/Graminoid Cryaquolls, poorly drained, 0 to 6 percent slopes	11,958	0.6
2608	ABLA/CACA4,CACA4 Bootjack and Salix/Graminoid Cryaquolls, poorly drained, 0 to 2 percent slopes	53	*
2609	PIEN Cryaquolls, 2 to 8 percent slopes	2,735	0.1
3000	Pits	459	*
4028	Greys - Turnerville complex, 1 to 4 percent slopes	7	*
4029	Greys - Turnerville complex, 4 to 12 percent slopes	248	*
4030	Greys - Turnerville complex, 12 to 20 percent slopes	693	*
4057	Hapgood - Sebud complex, 15 to 45 percent slopes	308	*
4064	Lostine, 4 to 8 percent slopes	38	*
4076	Maxville, 2 to 8 percent slopes	133	*
4120	Stamp, 0 to 4 percent slopes	461	*
4138	Turnerville, 1 to 4 percent slopes	237	*
4139	Turnerville, 4 to 12 percent slopes	363	*
4140	Turnerville, 12 to 20 percent slopes	278	*
4301	Ike - Rock Outcrop - Jimbee association, 10 to 80 percent slopes	198	*
4302	Jimbee - Rock Outcrop - Ike association, 10 to 90 percent slopes	59	*
W	Water	5,144	0.3
	Total **	1,839,908	100.0

* < .05% of total acreage

** Total acres differ from forest plan total due to measurement method.

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Appendix G. Glossary of Terms

Alluvial fan. The fan-shaped deposit made by a stream when it: 1) emerges from a gorge and enters a plain; or 2) when a tributary stream joins with a main stream; or 3) when the gradient of the stream suddenly decreases (Bates and Jackson 1984).

Alluvium. Material, such as gravel, sand, silt or clay, deposited on land by streams. Compare: local alluvium.

Alpine. The zone in mountains above the upper limits of forests (Barbour and Billings 1988).

Ash (volcanic). Pyroclastic material (has been ejected from a volcanic vent) less than 2 mm in all dimensions (SSS 1996b)

Ashy. Refers to soil materials with intermediate (loamy) texture and a high content of slightly weathered volcanic ash.

Association (ecological unit). A relationship between two or more ecological types that is described by ecological units. The bodies of an association's component ecological types, mosaics or ecotones are large enough to be represented individually at the scale of 1:24,000. Compare: complex.

Available water capacity (AWC). The portion of water in a soil that can be absorbed by plant roots. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point, and is expressed as inches of water per inch of soil, rounded to the nearest 0.5 inch. The AWC ranges from 0 to 4 inches for the upper 20 inches of a profile, and from 0 to 12 inches for a 60 inch profile (SSSA 1987).

Avalanche chute. The track or path formed by an avalanche (Bates and Jackson 1984).

Average cover. The average percent canopy coverage of a species for those plots in which the species is found (Ferguson and Johnson 1996).

AWC. See available water capacity.

Badland. An intricately stream-dissected topography, which develops on surfaces with little or no vegetative cover. The material that underlies badlands is usually loosely arranged or soft. Potential runoff is very high, and erosion is active (Bates and Jackson 1984).

Bar (streams). A ridge-like accumulation of sand, gravel or other alluvial material formed in the channel, along the banks or at the mouth of a stream where a decrease in velocity induces deposition (Bates and Jackson 1984).

Barchan dune. A crescent-shaped dune with tips extending downwind, making the downwind side concave (hollow) and the windward (upwind) side convex (bulging). Barchan dunes tend to be arranged in chains extending in the direction of the most effective wind (Hawley and Parsons 1980).

Basal till. Compact material deposited beneath a moving glacier (Hawley and Parsons 1980). Compare: glacial till.

Basin (drainage basin). A depressed area with no surface outlet. A drainage basin is bounded by high ground, specifically the tract of land that contributes water to stream channel systems, lakes or other bodies of water (Bates and Jackson 1984).

Bedrock. The solid rock that underlies either the soil or other unconsolidated (loosely arranged) material, or that is exposed at the surface (Hawley and Parsons 1980).

Bench. A gently or moderately inclined landform bound by slopes with steeper gradients. Benches may dissect a sideslope.

Braided channel or stream. A channel or stream whose form consists of a number of small channels separated by bars (low ridges of sand or gravel). "Braiding" usually occurs in broad, shallow streams or in channels that have steep banks and that are made of non-cohesive bank materials (Hawley and Parsons 1980; Allaby 1994). Compare: flood plain, meander.

c.t. See community type.

Caldera. A large, basin-shaped volcanic depression, more or less circular in form, with a diameter that is many times greater than the included volcanic vents. The term "caldera" is used regardless of the steepness of the walls or the form of the floor (Bates and Jackson 1984).

Canopy cover. The area covered by the whole outline of an individual plant's foliage, or the area collectively covered by all individuals of a species within a stand or sample plot. The context in which the term is used explains whether it refers to individual or collective cover. For example, tree canopy refers to the collective cover; collective cover is the more typical

usage in this report.

Canyon. A long, deep, narrow valley surrounded by high walls. Canyons are most commonly found in mountainous or high plateau terrain (Hawley and Parsons 1980).

Carbonates. Refers to calcium carbonate (CaCO3) and magnesium carbonate (MgCO3). Soils that have a high calcium carbonate or magnesium carbonate content are often deficient in phosphorus, iron, boron, zinc or manganese, because carbonates influence the availability of these nutrients (SSS 1996b).

Channel (stream). The streambed through which the main current of water flows.

Cinder cone. A conical hill formed by the accumulation of volcanic ejecta, with slopes usually steeper than 20 percent (Hawley and Parsons 1980).

Cirque. A semicircular, bowl-like area with a steep face. The steep face is caused primarily by glacial ice and snow abrasion (Hawley and Parsons 1980; Bates and Jackson 1984).

Clayey. Containing large amounts of clay or having properties similar to those of clay. Clayey soils include silty clay or clay textures.

Cliff. Any high, very steep to perpendicular or overhanging face of rock or earth (Bates and Jackson 1984).

Closed. Trees or shrubs are closely spaced; there are few interspaces in the canopy.

Colluvium. Soil material, rock fragments or both, which are moved by creep, slide, rolling and other gravitational forces. Colluvium may occur on any slope position.

Community (plant). An assembly of plants living together in a particular environment. The term is not meant to describe the ecological status of the members of the community (Steele et al. 1983).

Community type (c.t.). An aggregation of all plant communities distinguished by floristic and structural similarities in both overstory and undergrowth layers. A unit of vegetation within a classification (Youngblood et al. 1985).

Complex (ecological unit). A relationship between two or more ecological types, mosaics or ecotones that is described by ecological units. The bodies of component ecological types are too small to be represented individually at the scale of 1:24,000. Compare: association.

Conglomerate. A coarse-grained sedimentary rock or rock fragment that is composed of rounded to subangular (particles with rounded corners) rock fragments larger than 2 mm. The matrix between rock fragments is most often composed of sand and other fine materials, which are cemented together with silica, calcium carbonate and iron oxides (Hawley and Parsons 1980).

Constancy. The percentage of sampled plots in a plant association that contain a given species (Steele et al. 1983).

Cover (percentage). The area covered by the combined aerial parts of plants, such as the leaves and stems of shrubs, and living vegetative ground cover, such as moss or mat-forming plants. Cover is expressed as a percentage of the total area.

Creep. Slow mass movement of earth material down slopes. The movement is primarily influenced by gravity but is made possible by water saturation and frost action (Hawley and Parsons 1980).

Crest. The commonly linear, narrow summit of a ridge, hill or mountain (Peterson 1981).

d.b.h. See diameter at breast height.

Debris flow. A rapid, semi-fluid mass movement of soil, rock, other detritus and water (Bates and Jackson 1984). Compare: earth flow, mass movement, slump.

Dendritic drainage pattern. A drainage pattern in which the streams branch randomly in all directions and at almost any angle (Bates and Jackson 1984).

Depauperate. Refers to an unusually sparse cover of undergrowth vegetation. A depauperate condition often develops beneath a dense forest canopy, especially on dry sites (Steele et al. 1983).

Diameter at breast height (d.b.h.). The measure of a tree trunk's diameter at 4.5 feet above the ground (Steele et al. 1993).

Dip slope. A slope of land surface whose surface dips to conform to the rocks beneath it (Hawley and Parsons 1980).

Dispersed. Trees or shrubs are widely spaced in a random fashion; there are more interspaces than canopy.

Divide. The ridge, summit or narrow tract of high ground that marks the boundary between two adjacent drainage basins. The high ground may separate the surface waters that flow naturally in one direction from those that flow in the opposite direction (Bates and Jackson 1984).

Dolomite (rock). A sedimentary rock high in car-

bonates that consists chiefly (more than 50 percent by weight or by area under the microscope) of the mineral dolomite (Bates and Jackson 1984).

Drainage basin. A region or area bounded by a drainage divide and occupied by a drainage system (Bates and Jackson 1984).

Drainage class. Identifies the natural drainage condition of the soil. Six classes of natural soil drainage are recognized in this inventory (SSS 1993):

- Somewhat excessively drained - Water is removed from the soil rapidly. Soil has high permeability and a low water-holding capacity. Within this survey area drought tolerant forested communities are commonly supported on somewhat excessively drained soils.
- Well drained - Water is removed from the soil readily but not rapidly. Soil has an intermediate water-holding capacity and retains optimum amounts of moisture. Within the survey area, the most common woodland and rangeland ecological types, mosaics or ecotones are supported on well drained soils.
- Moderately well drained - Water is removed somewhat slowly from the soil. Soil commonly has a layer with moderately slow or slow permeability within the upper 40 inches of the soil. Persistent mud puddles in trails and on unsurfaced roads are common on moderately well-drained soils.
- Somewhat poorly drained - Soil is wet close to the surface for significant periods during the growing season. Soil commonly has a layer with slow or very slow permeability, a wet layer high in the profile, additions of water through seepage or a combination of these factors. Communities with a blending of mesic and riparian species are common on somewhat poorly drained soils.
- Poorly drained - These soils commonly are wet at or near the surface during a considerable part of the year. Poorly drained conditions are caused by a saturated zone, a layer with slow or very slow permeability, seepage or a combination of these factors. Riparian plant communities are commonly supported on poorly drained soils.
- Very poorly drained - These soils are wet to the surface most of the time. Vegetation that requires submersion in water is commonly supported on very poorly drained soils.

Drainage pattern. The pattern of a stream and its tributaries as seen on a map.

Drainageway. A general term for a channel or for the course along which water moves in draining an area (Bates and Jackson 1984).

Draw. An elongated, shallow depression that runs up and down slope (Hawley and Parsons 1980). Compare: gully.

Earth flow. A slow mass movement of soil, rock and other detritus. Earth flows have well-defined lateral boundaries and a basal shear surface that is more or less parallel to the ground surface. Earth flows commonly lie downslope of slumps (Bates and Jackson 1984). Compare: debris flow, mass movement, slump.

Ecological type. The definition given to land that has a unique combination of vegetation, soil, topography, climate and geology. Ecological types are defined because they differ from each other in their response to management activities (Avers and Schlatter 1991).

Ecological unit. A unit on a map comprised of one or more ecological types, mosaics or ecotones that occur in a repeating pattern across the landscape. Boundaries between ecological units are defined in order to meet management objectives (FSS 1991).

Ecotone. A blending of dominant plant association species in a transitional area between ecological types.

Eolian. Pertains to material that is transported and deposited by wind. The term includes earth materials such as dune sands and silty loess deposits (Hawley and Parsons 1980). Compare: loess.

Erratic. A rock fragment, carried by glacial ice or by floating ice, that is deposited at some distance from its source, and that generally ends up resting on bedrock of different lithology (physical character). Its size ranges from a pebble to a house-sized block (Bates and Jackson 1984).

Escarpment. A relatively continuous and steep slope or cliff that breaks the general continuity of more gently sloping land surfaces and that is produced by erosion or faulting (Hawley and Parsons 1980).

Fan remnant (geomorphology). The dissected or eroded remains of an alluvial fan.

Flood plain. The nearly level alluvial plain bordering a stream that is subject to inundation under flood-stage conditions. A flood plain is usually constructed from sediment deposited when streams overflow or migrate laterally (Hawley and Parsons 1980). Compare: braided channel or stream, meander.

Flooding. The temporary covering of the soil surface by flowing water from any source.

Floor. A generic term for the lower part of a basin or valley.

Flow (mass movement). Refers to mass movement of unconsolidated material that exhibits a continuity of motion and a plastic or semifluid behavior resembling that of a viscous fluid; e.g., creep, solifluction, earth flow, mudflow, debris flow. Water is usually required for flow to occur (Bates and Jackson 1984).

Foothill. A steeply sloping upland with relief up to 1000 feet that fringes a mountain range or high-plateau escarpment (Bates and Jackson 1984). Compare: mountain.

Footslope. The landform position that forms the inner, gently inclined surface at the base of a hillslope. The surface-profile is dominantly concave; it is a transition zone between upslope sites of erosion (shoulder, backslope) and downslope sites of deposition (toeslope) (Hawley and Parsons 1980). Compare: shoulder.

Forb. An herbaceous, usually broadleaved, plant that is not a graminoid (grass, sedge or rush) (Steele et al. 1983).

Glacial. Of or relating to the presence and activities of ice and glaciers, such as "glacial erosion". Pertaining to distinctive features and materials produced by or derived from glaciers and ice sheets, such as glacial lakes. Pertaining also to an ice age or region of glaciation (Bates and Jackson 1984).

Glacial till. Dominantly unsorted and unstratified debris that has been deposited by a glacier and consists of a heterogeneous mixture of clay, silt, sand, gravel, stones and boulders (Bates and Jackson 1984). Compare: basal till, moraine.

Glacier. A large mass of ice that is formed on land by the compaction and recrystallization of snow that creeps downslope or outward in all directions due to the stress of its own weight. The term glacier includes small mountain glaciers as well as ice sheets continental in size (Bates and Jackson 1984).

Graminoid. All grasses (Gramineae) and grasslike plants, including sedges (Carex) and rushes (Juncus) (Steele et al. 1983).

Ground moraine. An extensive, fairly even layer of glacial till that has an undulating surface. A deposit of rock debris dragged along, in, on and beneath a glacier and emplaced by processes including basal lodgement and release from downwasting stagnant ice (Hawley and Parsons 1980).

Gully. A very small channel with steep sides cut by running water. Water ordinarily runs through a gully only after a rain, ice or snow melt (Hawley and Parsons 1980). Compare: draw.

Hanging valley. A tributary valley whose floor at the lower end is notably higher than the floor of the main valley in the area of junction (Bates and Jackson 1984).

Horizon. A layer of soil that is approximately parallel to the soil surface and that has characteristics produced by soil-forming processes (SSSA 1987).

Igneous rock. Rock that crystallizes from molten magma (molten rock beneath the earth's surface) or lava (molten rock ejected at the earth's surface). Major varieties include plutonic and volcanic rocks such as andesite, basalt and granite (Hawley and Parsons 1980).

Inclusion. An ecological type, mosaic, ecotone or miscellaneous land area within the boundary of a ecological unit that is not identified by the ecological unit's name. Such ecological types, mosaics, ecotones or miscellaneous areas are too small to be delineated separately without creating excessive map or legend detail, or occur too erratically to be considered a component, or can not be identified by typical mapping methods.

Interbedded. Said of beds lying between or alternating with others of different character. The term often refers to rock material or sediments laid down in sequence between other beds, as in the case of "interbedded" sands and gravels (Bates and Jackson 1984).

Intermittent stream. A stream, or reach of a stream, that flows for protracted periods only when it receives ground-water discharge or long- continued contributions from melting snow or other surface and shallow subsurface sources (Hawley and Parsons 1980). Compare: perennial stream.

Kw factor. A relative value that quantifies the susceptibility of soil to be detached by water. Kw factors are ranked on a scale of 0.02 to 0.64, with 0.02 representing the lowest susceptibility, and 0.64 the highest susceptibility to erosion.

Karst. A type of topography that is formed in limestone, gypsum and other rocks by dissolution, and that is characterized by sinkholes, caves and underground drainage (Bates and Jackson 1984).

Kettle. A steep-sided, bowl-shaped depression without surface drainage. It takes its form in glacial drift deposits after large detached blocks of stagnant ice, which are buried in the glacial drift, melt (Hawley and Parsons 1980).

Knoll. A small, low, rounded hill that rises above adjacent landforms (Hawley and Parsons 1980).

Krummholz. Refers to environmentally dwarfed forms of species that become treelike in favorable sites (Arno 1984).

Landform. Any physical, recognizable form or feature on the earth's surface that has a characteristic shape and that is produced by natural causes. It includes forms such as a hill, plain, plateau, mountain or valley (Hawley and Parsons 1980).

Landscape. The natural features such as fields, hills, forests, water, etc. that distinguish one part of the earth's surface from another part. Usually the term refers to the portion of land or territory that the eye can comprehend in a single view, including all of its natural characteristics (SSSA 1987).

Lateral moraine. A ridge-like moraine carried on and deposited at the side margin of a valley glacier. It is composed chiefly of rock fragments derived from valley walls by glacial abrasion or by mass wasting (Hawley and Parsons 1980).

Ledge. A narrow shelf or projection of rock that is much longer than it is wide and that is formed on a rock wall or cliff face (Bates and Jackson 1984).

Limestone. A sedimentary rock that consists chiefly of (more than 50 percent) calcium carbonate, primarily in the form of calcite. Limestones are usually formed by a combination of organic and inorganic processes and include chemical and clastic (soluble and insoluble) constituents; many contain fossils (Hawley and Parsons 1980).

Loamy. Refers to soil materials with intermediate texture. The term includes textural classes with the word "loam" as part of the class name, such as clay loam or sandy loam.

Local alluvium. Soil material, rock fragments or both, that are moved by local wash. Compare: alluvium.

Loess. Fine-grained, wind-deposited material that is usually the size of silt (Hawley and Parsons 1980). Compare: eolian.

Mass movement. Occurs when rocks and rock debris are dislodged and transported downslope as a result of direct gravitational stress. The process includes slow displacements such as creep and solifluction (downslope movement of waterlogged soil), and rapid movements such as earth flow, debris flow and rock slides and falls. Water may play a subordinate role in the process (Hawley and Parsons 1980). Compare: debris flow, earth flow, slump.

Meander (streams). One of a series of regular, freely developing sinuous curves, bends, loops, turns or windings in the course of a stream (Bates and Jackson 1984). Compare: braided channel or stream, flood plain.

Metamorphic rock. A rock whose mineralogical composition, chemical composition or structure has been altered by heat, pressure and movement at depth in the earth's crust. Nearly all such rocks are crystalline. Examples: schist, gneiss, quartzite (Hawley and Parsons 1980).

Microrelief. Localized features like channels, mounds or bars, which are too small to show on a topographic map (Bates and Jackson 1984).

Moraine (glacial geology). General term applied to certain landforms composed of glacial till. Examples are ground, lateral and recessional moraines (Hawley and Parsons 1980). Compare: glacial till.

Mosaic. A repeating pattern of distinct plant associations occurring in patches across the landscape.

Mountain. A natural elevation of the land surface that rises more than 1000 feet above surrounding lowlands. A mountain usually has a restricted summit area relative to a plateau (Hawley and Parsons 1980). Compare: foothill, plateau.

Mucky peat. Moderately decomposed organic material in which a portion of the original plant parts are recognizable (SSSA 1987).

Open. Trees or shrubs are relatively widely spaced; there are numerous interspaces in the canopy.

Outwash (glacial geology). Refers to the meltwater of a glacier. Meltwater streams "wash" sand and gravel out from a glacier and deposit them in front of or beyond the margin of an active glacier. The coarser material is deposited nearer to the ice (Bates and Jackson 1984).

Outwash plain. An extensive lowland area of coarse-textured, glaciofluvial (pertains to meltwater streams) material. An outwash plain is commonly smooth and low in relief. If it is pitted it is usually due to meltout of incorporated ice masses (Hawley and Parsons 1980).

Overstory. The part of a woodland or forest community that is formed by trees greater than or equal to 5 inches diameter at breast height.

Overthrust. A low angle thrust fault of large scale, with displacement generally measured in kilometers (Bates and Jackson 1984).

p.a. See plant association.

PNC. See potential natural community.

Parallel drainage pattern. A drainage pattern in which the streams and their tributaries are regularly spaced and flow parallel or subparallel to one another over a considerable area (Bates and Jackson 1984).

Parent material. The loosely arranged and more or less chemically weathered mineral or organic matter from which the solum (upper part of the soil) is developed (SSSA 1987).

Patterned ground. A general term for any ground surface that exhibits an ordered, more or less symmetrical pattern of ground and, where present, vegetation (Hawley and Parsons 1980).

Peak. Refers to the sharp or rugged upward extension of a ridge chain, usually at the junction of two or more ridges; the prominent highest point of a summit area (Hawley and Parsons 1980).

Pedon. A three-dimensional body of soil with lateral dimensions large enough to permit the study of horizon shapes and relations. Its area ranges from 1 to 10 square meters (SSSA 1987).

Perennial stream. A stream, or reach of a stream, that flows continuously throughout the year. Its surface is generally lower than the water table in the region adjoining the stream (Bates and Jackson 1984). Compare: intermittent stream.

Periglacial. Pertains to processes, conditions, areas, climates and topographic features that occur at the immediate margins of glaciers and ice sheets and that are influenced by the cold temperature of the ice (Hawley and Parsons 1980).

Permeability (soil). The quality of the soil that enables water and air to move through it. Accepted as a measure of this quality is the rate, in inches per hour, at which a saturated soil transmits water. A very slow permeability ranges from.01 to.06 inches per hour, while a rapid permeability ranges from 6.0 to 20 inches per hour (SSS 1996b).

Phase (plant). A subdivision of a plant association representing a characteristic variation in environmental conditions. For example: "*Abies lasiocarpa/ Vaccinium globulare* p.a., *Pachistima myrsinoides* phase (ABLA/VAGL, PAMY)." The "ABLA/VAGL" refers to the plant association, and the "PAMY" refers to the phase.

Phase (soil). The term is used to group soils defined by soil or environmental features that are not classified in the U.S. system of soil taxonomy. Phase identifications are introduced as modifiers of soil names. For example: "Cryaquolls, poorly drained." The "Cryaquolls" in the classification refers to the soil name, while the "poorly drained" refers to the soil phase.

Plain. An extensive lowland area that ranges from level to gently sloping or undulating. A plain has few or no prominent hills or valleys and usually occurs at a low elevation relative to surrounding areas. Local relief on a plain is usually less than 50 feet (Bates and Jackson 1984). Compare: plateau.

Plant association (p.a.). A potential natural plant community of definite floristic composition and uniform appearance (FSS 1993).

Plateau. An extensive upland mass with a relatively flat summit area that is considerably elevated (more than 300 feet) above adjacent lowlands and separated from them on one or more sides by escarpments. A comparatively large part of a plateau surface is near summit level (Hawley and Parsons 1980). Compare: mountain, plain.

Ponding. Refers to standing water on soils in closed depressions that is removed only by percolation or evapotranspiration (SSS 1996b).

Potential natural community (PNC). The biotic community that would be established and maintained over time under present environmental conditions if all successional sequences were completed without additional human-caused disturbance. Grazing by native fauna and natural disturbances, such as drought, floods, wildfires, wind, insects, and disease, are inherent in the development of communities. However, PNCs are described without disturbance by natural elements, including fire (Hall et al. 1995).

Present Vegetation. The plant communities that currently occur on a given ecological type, mosaic, ecotone or inclusion. These may include plant associations (p.a.), community types (c.t.) and communities.

Pressure ridge. A low ridge that is produced by the horizontal pressure associated with lava flows.

Profile (soil). A vertical section of the soil through all its horizons to bedrock.

Recessional moraine. A moraine built during a minor readvance of the ice front during a period of general recession (Bates and Jackson 1984).

Relief. The relative difference in elevation between the hilltops or mountain summits and the lowlands or valleys of a given region (Bates and Jackson 1984).

Residuum (residual soil material). Loosely arranged, weathered or partly weathered mineral material that accumulates by disintegration of bedrock (Hawley and Parsons 1980).

Ridge. A long, narrow elevation of the land surface that is usually sharp crested with steep sides and that forms an extended upland between valleys. The term is used in areas with both hill and mountain relief (Hawley and Parsons 1980).

Rock fall (mass movement). The mass of material moved by a fall. A very rapid movement of a mass of rock or earth that travels mostly through the air by free fall, leaping, bounding or rolling, with little or no interaction between one moving unit and another (Bates and Jackson 1984).

Saddle. A low point on a ridge. A saddle is usually a divide between the heads of streams that flow in opposite directions (Hawley and Parsons 1980).

Sandstone. Sedimentary rock that contains dominantly sand-size particles (Hawley and Parsons 1980).

Sandy. Containing a large percentage of sand. The term includes textural classes with the word "sand" as part of the name, such as loamy coarse sand or fine sand.

Scree. An accumulation of rock debris that mantles a slope (Hawley and Parsons 1980).

Secondary succession. An ecological process of progressive change in a plant community after disturbance (Hall et al. 1995).

Sedimentary rock. Rock formed from accumulations of sediment. The sediment may consist of rock fragments of various sizes, remains or products of animals or plants, products of chemical action or evaporation or mixtures of these. The chief kinds of sedimentary rock are conglomerate (formed from gravel), sandstone (formed from sand), shale (formed from clay) and limestone (formed from soft masses of calcium carbonate) (Leet et al. 1978).

Seep. A generally small area where water percolates slowly to the land surface with flows too small to be considered springs (Bates and Jackson 1984).

Seral condition. A stage of secondary successional development that is replaced by another as succession progresses (Hall et al. 1995).

Series (soil). The lowest category of soil taxonomy in the U.S. system. A conceptualized class of soil bodies (polypedons) that have limits and ranges more restrictive than all higher taxa. A soil series is commonly used to name dominant or codominant polypedons represented on detailed soil maps. The soil series serves as a major vehicle to transfer soil information and research knowledge from one soil area to another.

Shale. A hard sedimentary rock that was formed when a clay, silty clay or silty clay loam deposit hardened as a result of heat, pressure or cementation. Shale has the tendency to split into thin layers (Hawley and Parsons 1980).

Shield volcano. A broad, gently sloping volcanic cone of flat domical shape, built chiefly of overlapping and interfingering basaltic lava flows.

Shoulder. The landform position that forms the uppermost inclined surface near the top of a hillslope. It is made up of the transition zone from backslope to summit and has a surface that is dominantly convex in profile and erosional in origin (Hawley and Parsons 1980). Compare: footslope.

Sideslope. The part of a fan, hill, mountain or plateau between its summit and the drainage line or valley floor at the base of the slope. In descending order, the landform positions of a simple sideslope include shoulder, backslope, footslope and toeslope. However, not all of these components are necessarily present in any given sideslope continuum. In addition, complex hillslopes may include two or more shoulder-to-toeslope sequences.

Siltstone. A soft sedimentary rock that contains dominantly silt-sized particles.

Sinkhole. A closed depression formed either by collapse of underlying caves or by solution of the surface bedrock (e.g., limestone, gypsum, salt). Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography (Hawley and Parsons 1980).

Slough. Refers to a section of an abandoned river channel that contains stagnant water (Bates and Jackson 1984).

Slump. A slow rotational mass movement of soil and rock. The slippage usually occurs as a block rotates backward on a more or less horizontal axis that is parallel to the slope from which it has broken. Slumps commonly occur at the head of earth flows (Bates and Jackson 1984). Compare: debris flow, earth flow, mass movement.

Soil creep. See creep.

Spur ridge (geomorphology). A subordinate ridge of lesser elevation that projects sharply from the crest or side of a hill, mountain or other prominent range of hills or mountains (Bates and Jackson

1984).

Stratified. Formed, arranged or laid down in layers. The term refers to geologic deposits. Layers in soils that result from the processes of soil formation are called horizons; those inherited from the parent material are called strata (Hawley and Parsons 1980).

Stream channel. See channel.

Stream terrace. One of a series of platforms in a stream valley that flanks and is more or less parallel to the stream channel. The terrace was originally formed near the level of the stream and represents the dissected remnants of an abandoned flood plain, stream bed or valley floor (Hawley and Parsons 1980).

Structural bench. See bench.

Subsoil. The midportion of the mineral soil. It includes the B horizon and extends through the zone in which roots normally grow.

Substratum. Slightly altered alluvium, colluvium, residuum, unconsolidated bedrock, bedrock or other geologic materials. Substratum usually occurs below the zone of soil formation and includes the C and R soil horizons.

Succession. The series of changes in plant communities leading to a relatively stable PNC under existing environmental conditions. The term excludes disturbance. If disturbance occurs, succession is interrupted and the site regresses to earlier seral conditions (Hall et al. 1995).

Summit. A general term for the top, or highest level of a landform, such as a hill, mountain or tableland. It usually refers to a high interfluve area (between two streams) of gentle slope that is flanked by steeper hillslopes (Hawley and Parsons 1980).

Surface layer. The uppermost part of the mineral soil. It includes the A and E horizons.

Swale. A shallow depression in an undulating ground moraine due to uneven glacial deposition (Bates and Jackson 1984).

T factor. A relative value that rates the ability of a soil to tolerate loss through erosion while maintaining quality as a medium for plant growth. T factors are ranked on a scale of 1 to 5, with 1 representing a low tolerance and 5 representing a high tolerance.

Tableland. A general term for a broad upland mass with a nearly level summit area of large extent (Bates and Jackson 1984).

Talus. Rock fragments of any size or shape (usually coarse and angular) that are derived from and that lie at the base of a cliff or very steep rock slope (Bates and Jackson 1984).

Tephra. A collective term for materials ejected from a volcano and transported through the air. It includes volcanic ash and coarser volcanic fragments (Bates and Jackson 1984).

Texture. Soil textures are defined according to percentages by weight of sand, silt, and clay in the less than 2 mm soil fraction; percent by volume of rock fragments; and dominant size of rock fragments. Textural classes used to describe the less than 2 mm soil fraction include: coarse sand, sand, loamy coarse sand, loamy sand, loamy fine sand, loamy very fine sand, coarse sandy loam, sandy loam, fine sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, silty clay and clay. Textural classes are used without modifiers for soils that have less than 15 percent rock fragments. The dominant size of rock fragment is used as a modifier for soils with 15 to 35 percent fragments. The word "very" plus the dominant size of rock fragment is used as a modifier for soils with 35 to 60 percent fragments. The word "extremely" plus the dominant size of rock fragment is used as a modifier for soils with 60 to 90 percent fragments. Terms describing the size of rock fragments in increasing size include: gravelly or channery, cobbly or flaggy, and stony. For example a "very gravelly loam," has 7 to 27 percent clay, 28 to 50 percent silt, less than 52 percent sand, and 35 to 60 percent rock fragments with at least 2.0 times more pebbles than cobbles and 2.5 times more pebbles than stones. Other terms used in lieu of texture include: cemented, fragmental material, mucky-peat, and bedrock. Fragmental material contains greater than 90 percent rock fragments. Mucky-peat is a partially decomposed organic soil material. Texture displayed in the Range in Characteristics of the ecological type, mosaic or ecotone descriptions refers to the less than 2 mm soil fraction (SSS 1996b).

Topography. The relative position and elevations of the natural or man-made features of an area that describe the configuration of its surface.

Trough (geomorphology). A long, narrow, U-shaped valley.

Tuff. A compacted deposit that is 50 percent or more volcanic ash and dust.

Undergrowth. The vegetation that grows beneath the trees. It may include shrubs, graminoids or forbs.

Understory. The part of a woodland or forest community that is formed by trees less than 5 inches diameter at breast height.

Valley. An elongate, relatively large, externally drained depression of the Earth's surface that is primarily developed by stream erosion (Hawley and Parsons 1980).

Valley fill. The loosely arranged sediment that is deposited by any agent (water, wind, ice, mass wasting) so as to fill or partly fill a valley (Hawley and Parsons 1980).

Valley floor. A general term for the lowest surface of a valley. Component landforms include stream channels, the flood plain and terrace surfaces that may be subject to flooding from tributary streams (Hawley and Parsons 1980)

Volcanic. Pertaining to: 1) the deep seated (igneous) processes by which magma and associated gases rise through the crust and are extruded onto the earth's surface and into the atmosphere; and 2) the structures, rocks and landforms thereby produced (Hawley and Parsons 1980).

Volcanic cone. A conical hill of lava and/or pyroclastics (materials that have been exploded or ejected from a volcanic vent) that is built up around a volcanic vent (Bates and Jackson 1984).

Water table. The average depth to water saturated soil during the wettest season (SSS 1996b).