Rare Plant and Vegetation Survey of Doug's Beach State Park

Pacific Biodiversity Institute

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Peter H. Morrison
pm@pacificbio.org

and

Hans M. Smith IV
hans@pacificbio.org

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Pacific Biodiversity Institute
P.O. Box 298
Winthrop, Washington 98862
509-996-2490

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Executive Summary

Pacific Biodiversity Institute conducted a rare plant and vegetation survey of Doug's Beach State Park for the Washington State Parks and Recreation Commission. The Doug's Beach State Park property covers about 389 acres and is located along the north side of the Columbia River, east of the town of Lyle, in Klickitat County, Washington.

Forty-two vegetation community polygons covered by 13 vegetation community and land use cover types were mapped and visited in Doug's Beach State Park. The park consists of two contrasting parts separated by Highway 14. A narrow strip, next to the Columbia River, to the south of Highway 14 receives most of the visitor use in the park. This part of the park is dominated by non-native vegetation and is hydrologically altered by the elevated water table from the Dalles Dam on the Columbia.

The bulk of the Doug's Beach park property extends up the steep cliffs and slopes on the north side of Highway 14. It is largely inaccessible because of the steep cliffs and poison oak. This part of the park contains more native vegetation communities than the beach section on the south side of Highway 14. However, the vegetation communities on both sides of the highway contain substantial amounts of non-native plants, especially annual, non-native grasses.

Rare plant populations do exist in this area. We found a small population of slickrock biscuitroot, *Lomatium laevigatum*, on a grassy bench. Near this area, a previously located population of few-flowered collinsia, *Collinsia sparsiflora* var. *bruceae*, could not be relocated, despite our intensive surveys. It is possible that the species was misidentified during the earlier survey, or it was not in flower during our surveys. A closely related, but not rare species of *Collinsia* was found in that area.

The portion of park property between the highway and the river has a long history of human disturbance and development. Past human disturbances have altered all the native plant communities in this area. Numerous noxious weeds were found in this portion of the property.

The main portion of the property above the road is not developed, except for a dirt road at the top of the property and BPA electrical transmission lines that cut through the top corner of the property. Noxious weeds and other non-native species are present in this portion of the park property, but they are usually not dominant.

The ecological condition of Doug's Beach State Park varies from developed and poor to excellent. There are several restoration opportunities in the portion of the property south of Highway 14. The most promising restoration option is restoring a patch of annual grasses and lupines to a native plant community dominated by basin wildrye and lupines.

Our primary management recommendation for the park is that a proper survey for the entire property be conducted. Fencing is needed immediately in the portion of the property north of Highway 14. No fences or boundary markers are currently visible. Cattle on adjacent ranches have open access to the park property. Considerable livestock grazing is occurring in the upper portion of the property and degradation of the plant communities and soil resource is occurring as a result. There is also the potential for rare plant populations to be negatively impacted by continued livestock grazing.

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Introduction

Doug's Beach State Park was surveyed for rare plant occurrences, vegetation communities and characteristics, noxious weeds and ecological condition by Pacific Biodiversity Institute (PBI) under contract with the Washington State Parks and Recreation Commission (WSPRC). This park is located in Klickitat County, Washington. This report summarizes the activities and findings of the contracted work. The Doug's Beach State Park property includes areas on both sides of Washington State Highway 14. On the south side of the highway, there is a narrow band between the highway and the Columbia River. This portion of the park is developed as a recreation site and is a favorite launching area for windsurfers. The bulk of the property is on the north side of the highway and rises steeply through a series of cliff bands to steep grassy slopes and ridges that define this portion of the Columbia River Gorge. The Doug's Beach property lies at the border of the pine-oak woodland and shrub-grassland vegetation zones of the Columbia Gorge (Jolley 1988).

Survey Conditions and Survey Routes

The project area was surveyed by two botanist/ecologists on April 8-11, 2008 and by one ecologist on August 4-6, 2008. Our routes from these surveys are illustrated in Figure 1. The portion of the park on the south side of the highway is readily accessible, except for dense blackberry thickets, which are impenetrable. The portion of the park on the north side of the highway is very steep and difficult to access. A series of cliff bands makes access very difficult except for a few very steep and relatively treacherous routes through the cliffs. Poison oak is abundant throughout this portion of the park making safe access even more difficult. Despite these conditions, we conducted extensive surveys in the northern portion of the park. A rough dirt road provides access to BPA electrical transmission lines that run along the top of the park. We attempted to gain access to this road from the town of Lyle, but a locked gate prevented access. In August, we were provided access along this road by state park staff through private property (Steiner Farms) to the east of the park. This facilitated a second survey of the upper portion of the Doug's Beach property.

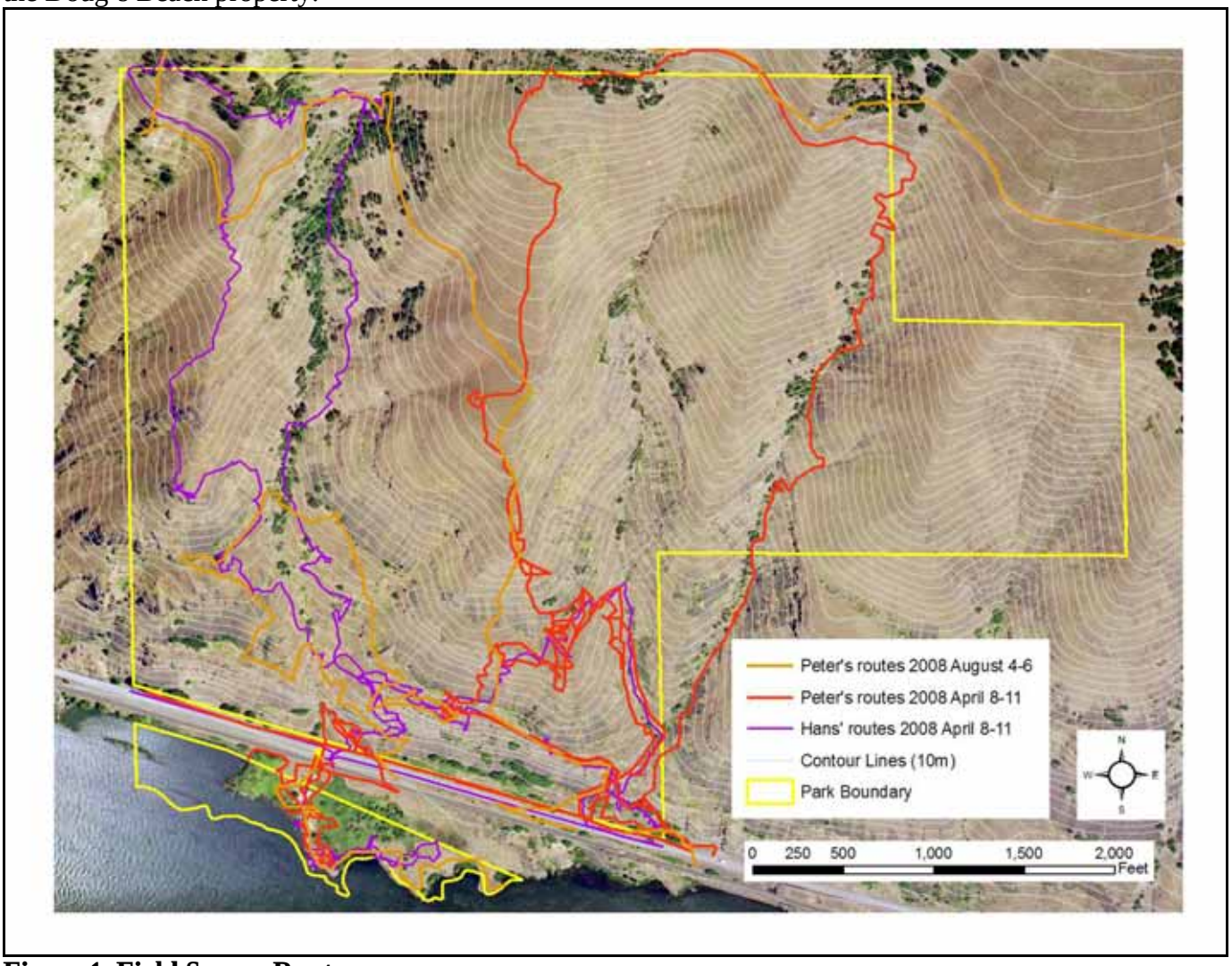

Figure 1. Field Survey Routes

Vegetation Communities

Methods

The first step of this project was to assemble and review the existing data and literature available about the park and its vegetation characteristics. Maps and remotely sensed data were assembled for each park and rare plant sightings were located on these maps. Initially, we used aerial photography and satellite imagery to digitize plant communities or mosaics of plant communities in a GIS environment. We reviewed orthorectified aerial photography and recent satellite images for discernable vegetation or landform patterns. Topographic maps and digital elevation models (DEMs) were also employed to assist the process of vegetation community delineation. Vegetation polygons were created by hand in a GIS by ocular assessment. The vegetation polygon data was edited and stored in an ESRI personal geodatabase. Vegetation polygons represent specific plant communities or unique mosaics of plant communities. They may also represent a significant variation in the ecological condition within a plant community.

The Doug's Beach property was visited twice during the field season to assure observation of both early and late-blooming plant species. The first visit was primarily a reconnaissance of the area to create a basic plant list and conduct initial rare plant surveys. The later visit added more species to the plant list and vegetation polygon surveys were completed. Fieldwork concluded with an ecological assessment of the polygons delineated within the parks assigning each vegetation community within a polygon to an ecological condition rank (Appendix A).

Most polygons contained more than one plant community type; therefore, we often assigned a secondary or tertiary vegetation community type (again often a plant association name) to each polygon. We relied on plant association keys and descriptions from several recognized sources to make vegetation community assignments, including the Key to Sagebrush Alliances of the Western United States (Crawford, 1999), Classification and Management of Aquatic, Riparian and Wetland Sites on the National Forests of Eastern Washington (Kovalchik and Clausnitzer, 2004), Classification of Native Vegetation of Oregon (Kagan et al, 2000), A Preliminary Vegetation Classification of the Western United States (Bourgeron and Engelking, 1994), Field Guide for Forested Plant Associations of the Wenatchee National Forest (Lillybridge et al, 1995), Washington Natural Heritage Program (WANHP) unpublished data files and other miscellaneous vegetation studies (Wolter and Fonda 2002, Washington Natural Heritage Program, Department of Natural Resources, Oregon Natural Heritage Data Base, The Nature Conservancy 1989). We also used the NatureServe website (www.natureserve.org) to evaluate existing plant community names and descriptions and compare them to the vegetation conditions we encountered in the field. In some cases, the vegetation community descriptions in existing studies were not adequate in describing distinctive vegetation associations in the project area. In these cases, new land cover type or plant association names and descriptions were created by PBI.

Survey personnel had printed and digital aerial imagery available during field visits. The latter was accessed in the field using ArcPad software (ESRI 2007) running on pocket PC, GPS enabled devices. This allowed us to view the data in the field, to evaluate our polygon delineations, and to make changes if necessary. It also allowed all survey routes to be mapped on a GPS while performing the vegetation surveys. Data could be viewed and edited directly from field locations, resulting in a field-verified vegetation map.

Plant community data was recorded based on methods developed by the WSPRC (Appendix B). Recorded data included a wide variety of information about vegetation, environmental characteristics, disturbance history and notes for each polygon. Each polygon was rated for its overall ecological condition.

Once gathered, the field data was edited and entered into a Microsoft Access database and linked to the vegetation polygon geodatabase. Further refinements and editing of the vegetation data stored in the personal geodatabase was made based on information collected in the field with ArcPad.

Historical Vegetation

The historical vegetation of Doug's Beach State Park consisted of shrub-steppe and/or eastside grassland. Patches of Oregon white oak woodland habitat also were present. No accurate vegetation maps exist for the park area, but a historic vegetation map (Kiilsgaard and Barrett 1999) corresponds to our observations. We also examined Landsat MSS satellite imagery from 1972, 1986 and 1992 and it appears that there have been no significant vegetation changes since 1972.

Results

Vegetation Community Mapping

Despite considerable botanical and ecological interest in the Columbia River Gorge (Jolley 1988, Diaz, and Mellen 1996, Columbia River Gorge Commission 2007), the Doug's Beach property has not been the subject of a prior vegetation survey. It was included in the area covered by Wolter and Fonda (2002) in their gradient analysis of vegetation on the north wall of the Columbia River Gorge, but no vegetation surveys or maps were created as part of that study. It was also included in a report on the identification of representative plant communities in the Columbia River Gorge National Scenic Area (Washington Natural Heritage Program, Department of Natural Resources, Oregon Natural Heritage Data Base, The Nature Conservancy. 1989). Both of these reports offer some guidance on existing plant communities.

A total of 42 vegetation community polygons covered by 13 vegetation and land cover types were mapped and visited in Doug's Beach State Park (Figures 2 and 3, Tables 1 and 2).

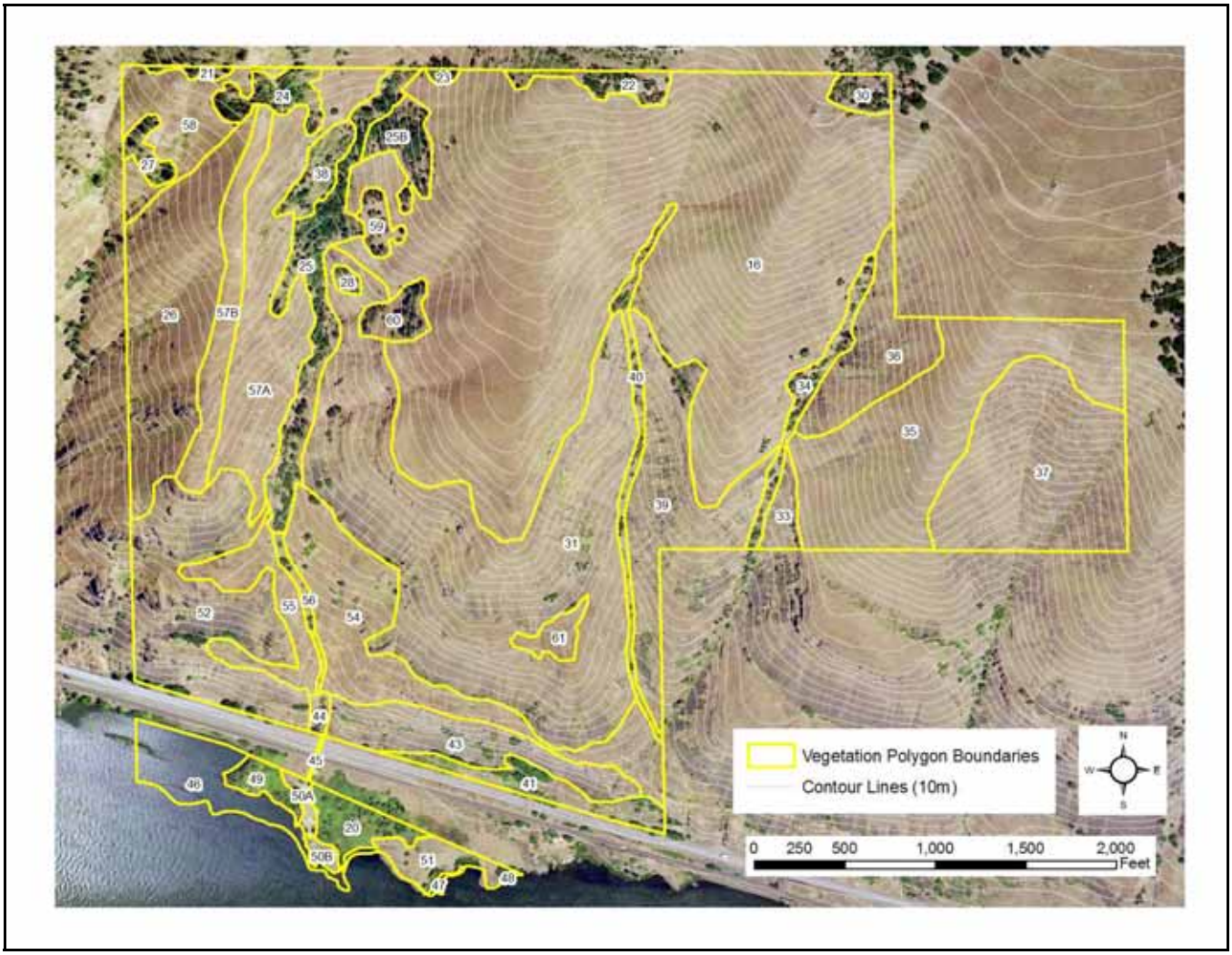

Figure 2. Map of Doug's Beach State Park showing vegetation community polygons and survey routes overlaid onto an aerial photo of the park.

Table 1. Plant communities and land cover observed in Doug's Beach State Park

Plant Association or Land Cover (code; reference)	Plant Communities or Land Cover Observed
ACMA3/TODI-PHLE4	ACMA3/PHLE4-TODI-SALIX/grasses-VICIA-MAOR3-RUCR
	ACMA3/TODI-PHLE4/annual grasses
	ACMA3/TODI-PRVI-SALIX
	ACMA3-QUGA4/TODI-PHLE4-SALIX/grasses
QUGA/TODI/ELGL	QUGA4/TODI/grasses
	QUGA4-ACMA3/TODI/grasses
	QUGA4-PIPO/TODI/grasses
ERNI2/POSE-PSSP6	rocky ridge crest; ERNI2-ERRE8/grasses-ERCOC8
PSSP6-LOCO-BACA	BRHOH-VUMY-PSSP6-BRTE-MAOR3
	steep, grassy slope
	very steep grassy slope
BRDIR-LULE3-EQTE	BRDIR-EQTE-LULE3-LECI4, deep soil
RUAR9	RUAR9
steep grasslands	annual exotic grasses-PLTE-ERCI6-OLDO-ZIVE
	BRHOH-ELELE
	BRHOH-VUMY-PSSP6-BRTE-MAOR3-LUPIN
	grassy bench and steep grasslands
	steep, grassy slope
	TODI-PRVI-ERST4/grasses
disturbed shrublands	mixed native and exotic shrubs
cliffs and talus with TODI-PHLE4	cliffs and talus
rock outcrop	flat rock outcrop along Columbia River
water	water, Columbia River
developed	developed area, recreation facilities, etc.

Figure 3 shows a map of Doug's Beach State Park classified into the primary land cover types attributed to each polygon. The GIS database created for this project can be queried and displayed to show the more complex mixtures of vegetation communities that occur in many polygons. Appendix D lists the attributes for each polygon in the project area.

Table 2. Plant association reference table for Doug's Beach State Park. (See Appendix C for status codes. Note that the "~" under Global Status represents the rank estimated by PBI.)

Code	Scientific Names	Common Names	Authority	Global Status
ACMA3/TODI-PHLE4	*Acer macrophyllum / Toxicodendron diversilobum – Philadelphus lewsii*	bigleaf maple / poison oak - Lewis' mock orange	Similar to: Washington NHP and Oregon NHDB (1989)	NR
QUGA/TODI/ ELGL	*Quercus garryana / Toxicodendron diversilobum / Elymus glaucus Woodland*	Oregon white oak / poison oak / blue wildrye	Kagan et al. 2000	G2
ERNI2/POSE-PSSP6	*Eriogonum niveum / Poa secunda - Pseudoroegneria spicata*	snow buckwheat / Sandberg bluegrass - bluebunch wheatgrass	Similar to: Bourgeron and Engelking (1994)	~G3
PSSP6-LOCO-BACA	*Pseudoroegneria spicata – Lomatium columbianum-Balsamorhiza careyana*	bluebunch wheatgrass - purple leptotaenia - Carey's balsamroot	Similar to: NatureServe 2008 and Kagan et al. 2000	G2
talus with TODI-PHLE4	Talus with *Toxicodendron diversilobum - Philadelphus lewsiii*	talus with poison oak - Lewis' mock orange	Washington NHP and Oregon NHDB (1989)	NR
BRDIR-LULE3-EQTE	*Bromus diandrus ssp. rigidus – Lupinus leucophyllus - Equisetum telmateia*	ripgut brome - velvet lupine - giant horsetail	Exotic community – no known description	NR
RUAR9	*Rubus armeniacus*	Himalayan blackberry	Exotic community – no known description	NR

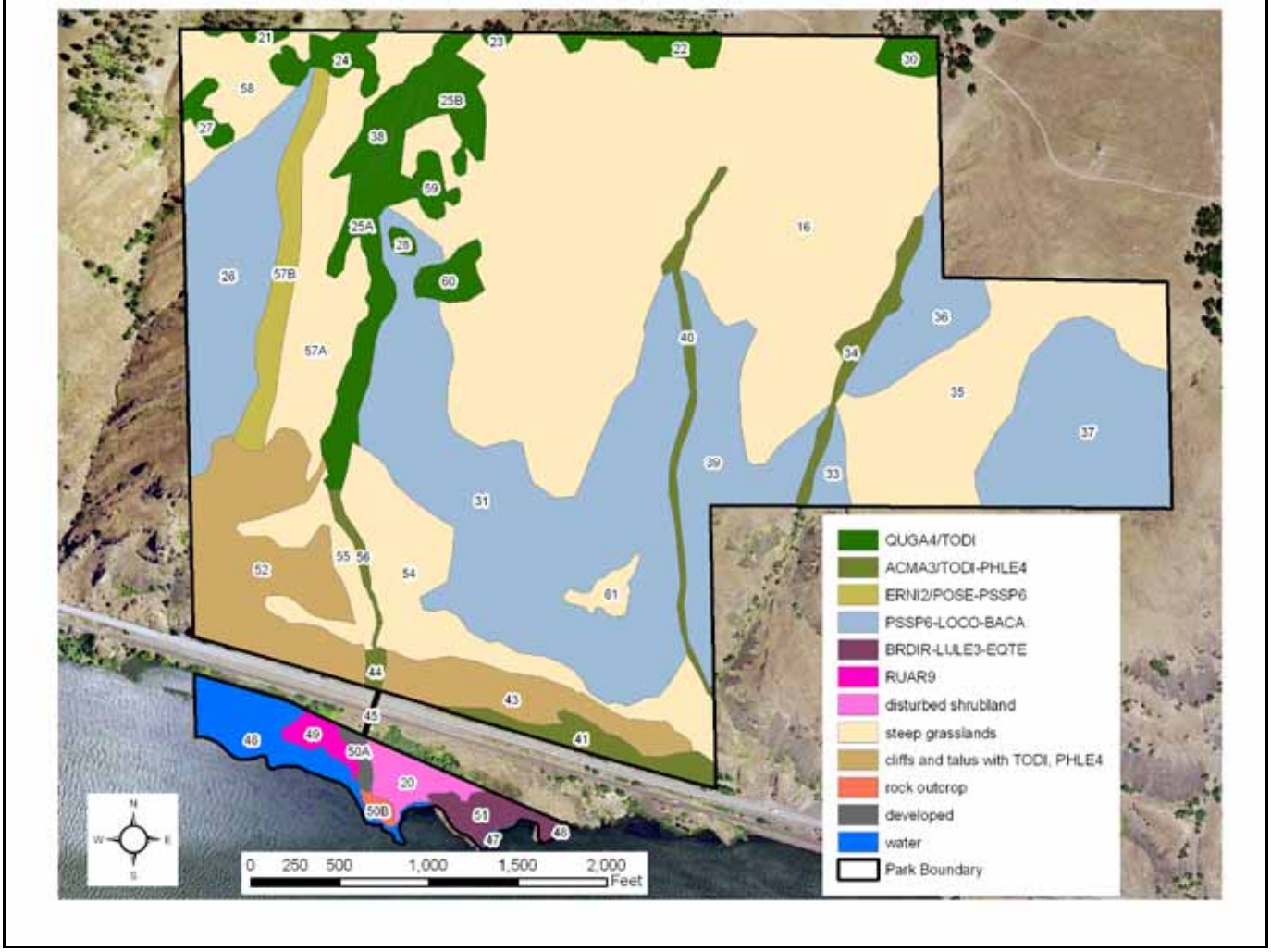

Figure 3. Primary vegetation communities and land cover types attributed to each vegetation polygon

Vegetation Community and Land Cover Types

Acer macrophyllum / Toxicodendron diversilobum – Philadelphus lewsii
bigleaf maple / poison oak - Lewis' mock orange (ACMA3/TODI-PHLE4) NR

This community characterizes some of the steep intermittent stream and toe slopes in the park. There is usually a very sparse overstory with big leaf maple with scattered to dense understory shrubs dominated by poison oak and mock orange. Forbs often include biscuit roots (purple leptotaenia and Gray's biscuitroot). Both perennial native grasses and annual exotic grasses are common. Talus deposits are also common. This community has similarities to both the “talus with PHLE4, RHDI” plant community and the “ACMA3 bottom” natural community described in Washington NHP and Oregon NHDB (1989).

Quercus garryana / Toxicodendron diversilobum / Elymus glaucus Woodland Oregon
Oregon white oak / poison oak / blue wildrye (QUGA/TODI/ELGL) G2

This vegetation community was described in Washington NHP and Oregon NHDB (1989). It is composed of an overstory of Oregon white oak with patches of poison oak in the understory. In addition, there is usually a high cover of annual and perennial grasses. Currently, much of the grass component is exotic annual species. The Columbia River Gorge Scenic Area Management Plan identifies the Oregon white oak woodlands as a high priority habitat with "comparatively high fish and wildlife density, species diversity, declining availability, high vulnerability" (Columbia River Gorge Commission 2007).

This plant community is identical to the Oregon white oak / poison ivy – snowberry / blue wildrye community described by Bourgeron and Engelking (1994) and has some similarities to the Oregon white oak / bluebunch wheatgrass associations described by Lillybridge et al (1995) and Bourgeron and Engelking (1994).

This is a fire-dependant association throughout most of its range. Maintenance of a natural fire regime with frequent, low-intensity fire may be important to maintain the ecological health of this community.

Eriogonum niveum / Poa secunda - Pseudoroegneria spicata

snow buckwheat / Sandberg bluegrass - bluebunch wheatgrass (ERNI2/POSE-PSSP6) ~G3

This vegetation community is found primarily on ridge crests with lithosol soils in the project area. It is characterized by sparse cover of snow buckwheat with grass cover of curly bluegrass, bluebunch wheatgrass and annual exotic grasses. Perennial and annual forbs are also common. Exposed rock, gravel and mineral soil, often covered with ground lichens and mosses, is a prominent feature of most communities. This is a variant of the snow buckwheat / Sandberg bluegrass Dwarf-shrub Herbaceous Vegetation community (NatureServe) and the snow buckwheat - Sandberg community (Bourgeron and Engelking 1994). These communities are restricted to the Columbia Basin. It has a Global Conservation Status of G3 (vulnerable). A major threat to this association is alteration of composition with exotic plant invasion. Adverse impact from livestock grazing is also a significant factor within Doug's Beach SP.

Steep grasslands

Many of the upper slopes of the Doug's Beach property are covered by steep grasslands. These grasslands consist of some native perennial grasses (e.g. bluebunch wheatgrass, Lemmon's needlegrass, curly bluegrass), but often have considerably more cover of non-native annual grasses (e.g. ripgut brome, soft brome, cheatgrass, rat-tail fescue). Native forbs are also an important component of these grasslands and some non-native forbs (e.g. redstem stork's bill) are common. The steep grasslands form some of the biggest polygons at the Doug's Beach property.

These grasslands have been highly altered by livestock grazing, non-native species invasion (and often dominance) and alteration of natural fire regimes. This alteration and the uniqueness of these grasslands in this section of the Columbia Gorge make it difficult to fit these grasslands into an established plant association or community type. Wolter and Fonda (2002) describe an eastern steppe association for this part of the Columbia Gorge that contains this plant community, although it is a broader vegetation classification.

Included in this vegetation community type are more gently sloping benches, also often dominated by annual grasses. These benches occur in the lower part of the northern section of the park between cliff bands. These benches contain a greater abundance and diversity of native forbs than the steeper upper grassy slopes. The rare plant populations of the park are found on these benches.

Livestock grazing is occurring in this community. This may perpetuate the conditions that created a plant community with high abundance of exotic plants.

Pseudoroegneria spicata – Lomatium columbianum- Balsamorhiza careyana **bluebunch wheatgrass - purple leptotaenia - Carey's balsamroot (PSSP6-LOCO-BACA) G2**

This vegetation community occupies the steep rocky slopes below basalt cliffs. It contains bluebunch wheatgrass, purple leptotaenia and Carey's balsamroot as dominant species along with significant rock and other perennial and annual grasses and forbs. This community is often interspersed with larger patches of talus, which is described as a secondary community in the polygons where this community occurs. It appears that this vegetation community is restricted to this part of the Columbia River Gorge. It has not been described elsewhere. It is part of the broader bluebunch wheatgrass Herbaceous Alliance (NatureServe) and has strong similarities to the bluebunch wheatgrass – arrowleaf balsamroot – Sandberg bluegrass Herbaceous Vegetation found on similar topographic situations in the canyons of northeastern Oregon, western Idaho, northwestern Wyoming (NatureServe 2008 and Kagan et al. 2000).

Livestock grazing is occurring in this community, but at a lower intensity due to the very steep terrain. The continuation of this disturbance may lower the abundance of native plants and perpetuate the conditions that encourage of the abundance and spread of exotic plants.

Rubus armeniacus, Himalayan blackberry (RUAR9) NR

This vegetation community consists largely of dense patches of Himalayan blackberry, an invasive, exotic shrub. It is found in disturbed sites along the Columbia River and a few wet sites on the hillsides at Doug's Beach SP.

Bromus diandrus ssp. rigidus – Lupinus leucophyllus - Equisetum telmateia
ripgut brome - velvet lupine - giant horsetail (BRDIR-LULE3-EQTE) NR

This plant community is found in one patch in the section of state park property south of Highway 14. It is influenced by the hydrologic alteration created by reservoir inundation. This community is dominated by the annual exotic grass, ripgut brome. Significant patches of velvet lupine are scattered throughout, as is giant horsetail. There are also patches of basin wildrye. It is difficult to tell what the original native vegetation was at this site.

Waterfall/seep wetland – seep monkeyflower wetland (MIGU) G5

This community occurs at a couple of locations near the base of where intermittent streams pour off basalt cliffs. There are a few smaller spots of this community scattered in the basalt cliffs. Waterfall spray provides enough moisture to support some hydrophilic plants such as seep monkeyflower and manyflowered monkeyflower. Grass cover in the spray zone is often abundant. This community resembles the seep monkeyflower wetland community described by Diaz and Mellen (1996).

Talus with poison oak (TODI) and Lewis' mock orange (PHLE4) NR

Talus slopes are a common feature of the Doug's Beach landscape. Some slopes are very extensive, while others are small patches below cliffs or on steep hillsides. The talus may be partially vegetated or completely absent of vegetation. Often poison oak is common on or adjacent to the talus slopes. Mock orange and chokecherry are also common associates. This community has similarities to the "talus with PHLE4, TODI" plant community described in Washington NHP and Oregon NHDB (1989).

In the vegetation polygon data and associated maps, this community is combined with the cliff community, as they occur together and are difficult to map separately.

Cliffs

Steep basalt cliffs with moss and other patchy vegetation characterize much of the lower portion of the park property north of Highway 14. The cliffs are nearly vertical in most spaces and were not sampled due to the difficulty and danger associated with this steep terrain.

In the vegetation polygon data and associated maps, this community is combined with the talus with TODI, PHLE4 community, as they occur together and are difficult to map separately.

Water

Small polygons that represent inundation from impounded water along the Columbia River are within the park boundary.

Rock Outcrop

A small area of relatively flat rock occurs in the southern portion of the park. There are patches of exotic annual bromes, moss and a few native vascular plants.

Developed

Only a small part of the park is developed as a recreational site with beaches, trails and other facilities. This area, below the highway, gets heavy recreational use, primarily by windsurfers and visitors that enjoy beach related activities.

Rare Plant Surveys

Methods

We visited the project area of the Doug's Beach State Park twice during the 2008 field season to conduct rare plant surveys. We used the Washington Department of Natural Resources Natural Heritage Program's (DNR NHP) rare plant list to determine the conservation status of vascular plants encountered in the field. We brought a portable plant identification lab with us to the state park, complete with microscopes and other of plant identification tools. We collected plant specimens for later identification when needed. We used a wide range of floras and other plant identification references (e.g. Boersma et al 2006, Flora of North America 1993+, Jolley 1988, Hitchcock and Cronquist 1973, Hitchcock et al 1955, Hickman 1993, University of Washington Burke Museum Herbarium Vascular Plant Collection, USDA 2008, Washington Natural Heritage Program 2008, Washington Natural Heritage Program. no date, Whitson et al 2000, Wilson 2006).

Field surveys were conducted during the April 8-11, 2008 and August 4-6, 2008 periods. We looked for rare plants in habitats previously identified as being likely occurrence sites based on DNR NHP rare plant lists and maps of previous sightings in the surrounding area. So as not to miss a rare plant, all vascular plant species encountered during the inventory were identified on site, at base camp in the portable laboratory, or back at our office.

Survey routes were determined based on the desire to cover efficiently a large proportion of the park's area throughout the field season. We surveyed areas of the park more intensively where rare plants are more likely to occur. This method is referred to as the intuitive-controlled method of rare plant surveys (Whiteaker et al. 1998). Survey routes for the rare plant inventory, as well as rare plant locations were recorded either as GPS waypoints and trackpoints, which were later compiled into a single GIS data layer, depicted in Figure 1.

Results

We found one rare plant species, *Lomatium laevigatum* (Nutt.) J.M. Coult. & Rose, slickrock biscuitroot, a state listed threatened plant in the park (Figure 4). This species is known to occur in the Columbia River Gorge east of Horsethief Lake State Park, but has not been found before at Doug's Beach. This species was found growing on grassy benches between basalt cliff bands. Only a few occurrences of this species were found, but we expect that more occurrences exist in similar locations of the park.

Table 3. Rare plants found at Doug's Beach State Park.

Symbol	Scientific Name with Author	National Common Name	Family	Global Rank	State Rank	State Status
LOLA3	Lomatium laevigatum (Nutt.) J.M. Coult. & Rose	Slickrock biscuitroot	Apiaceae	G3	S2	T

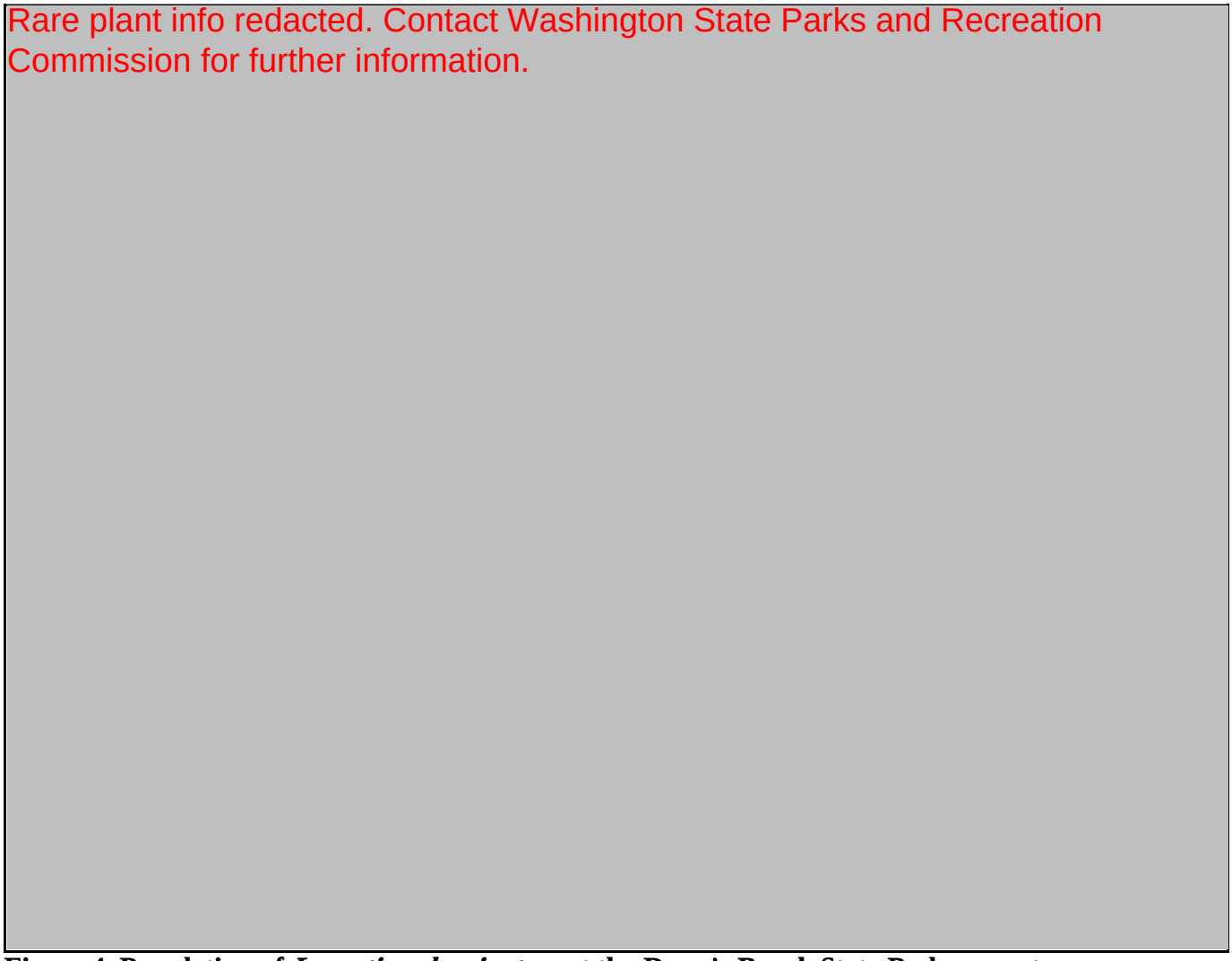

Figure 4. Population of *Lomatium laevigatum* at the Doug's Beach State Park property.

GIS data on rare plants provided by the Washington DNR NHP program does show a previous sighting location for spinster's blue eyed Mary (*Collinsia sparsiflora* var. *bruceae*), a state sensitive plant, in the park (Figure 5). We surveyed this location intensively over two days and did not find any plants matching the description of this species. We did find abundant patches of a closely related species, maiden blue eyed Mary (*Collinsia parviflora*), and another species, lesser baby innocence (*Tonella tenella*), both of which could be easily misidentified as spinster's blue eyed Mary. It is also possible that our visits did not coincide with a time when this species was blooming. Another explanation for a negative finding is the possibility that the diagnostic characteristic (pubescent filaments below the anthers) is not a good characteristic to identify the plant. We examined all the spinster's blue eyed Mary specimens at the University of Washington herbarium and none of the specimens had filaments that could be used to determine if this is an appropriate diagnostic characteristic. It is interesting to note that lesser baby innocence has pubescent filaments exactly as described for spinster's blue eyed Mary and it is similar in many other aspects.

We found 245 vascular plant species at Doug's Beach State Park. 62 of these species were non-native (Table 4).

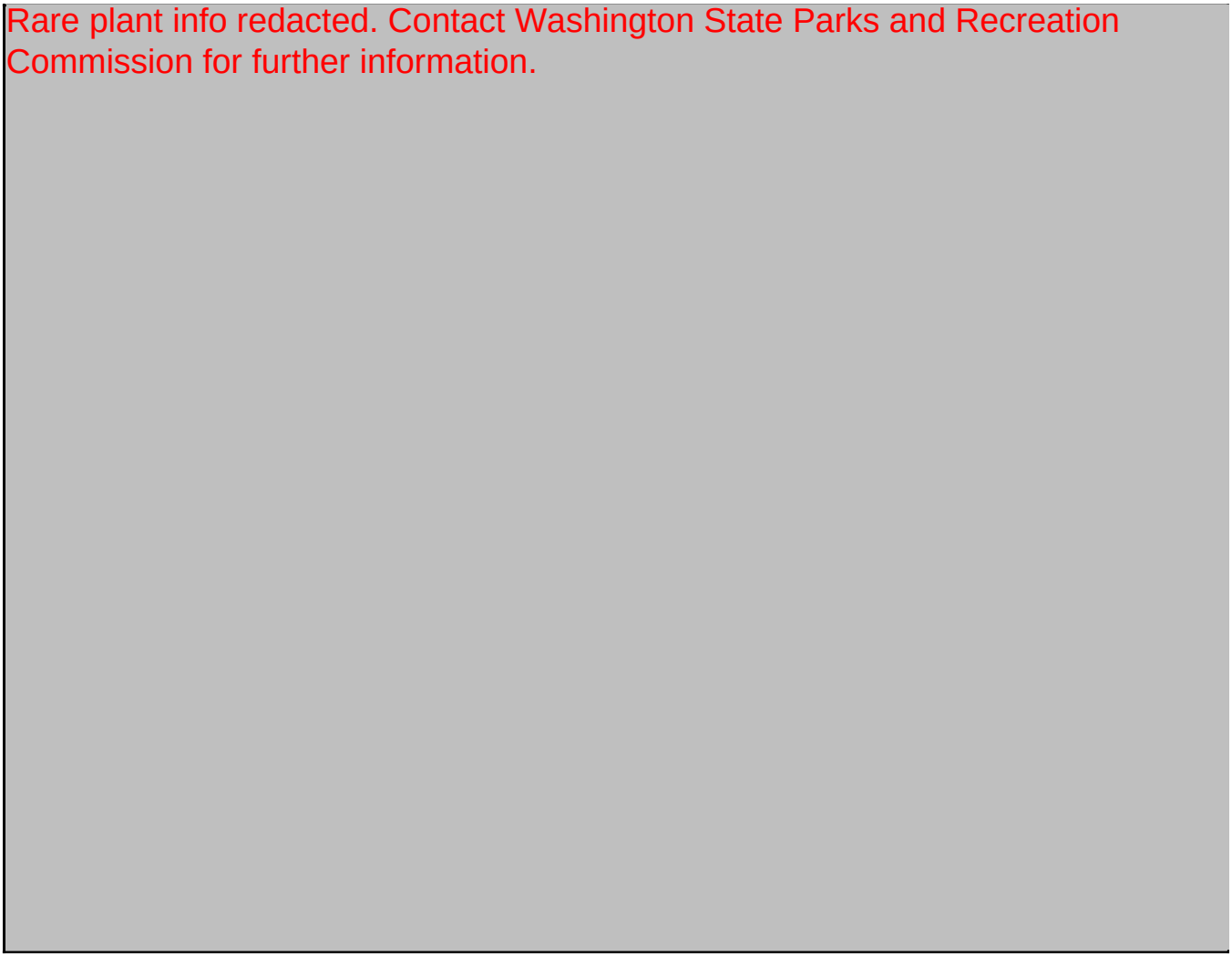

Figure 5. Historical population of *Collinsia sparsiflora* var. *bruceae* at the Doug's Beach State Park property.

Vascular Plant List for the 2008 Project Area

Table 4. Vascular Plant Species for Doug's Beach State Park.

Symbol	Scientific Name with Author	National Common Name	Family	Exotic
ACGL	Acer glabrum Torr.	Rocky Mountain maple	Aceraceae	
ACMA3	Acer macrophyllum Pursh	bigleaf maple	Aceraceae	
ACMI2	Achillea millefolium L.	common yarrow	Asteraceae	yes
ACLEL	Achnatherum lemmonii (Vasey) Barkworth var. lemmonii	Lemmon's needlegrass	Poaceae	
ACNED	Achnatherum nelsonii (Scribn.) Barkworth ssp. dorei (Barkworth & Maze) Barkworth	Dore's needlegrass	Poaceae	
ACOC3	Achnatherum occidentale (Thurb.) Barkworth	western needlegrass	Poaceae	
ALLIU	Allium L.	onion	Liliaceae	
ALRH2	Alnus rhombifolia Nutt.	white alder	Betulaceae	
ALPR3	Alopecurus pratensis L.	meadow foxtail	Poaceae	yes
AMAL2	Amelanchier alnifolia (Nutt.) Nutt. ex M. Roem.	Saskatoon serviceberry	Rosaceae	
AMFR	Amorpha fruticosa L.	desert false indigo	Fabaceae	yes
AMMEM2	Amsinckia menziesii (Lehm.) A. Nelson & J.F. Macbr. var. menziesii	Menzies' fiddleneck	Boraginaceae	
ANDI2	Antennaria dimorpha (Nutt.) Torr. & A. Gray	low pussytoes	Asteraceae	
ANCA14	Anthriscus caucalis M. Bieb.	bur chervil	Apiaceae	yes
APAN2	Apocynum androsaemifolium L.	spreading dogbane	Apocynaceae	
ARTH	Arabidopsis thaliana (L.) Heynh.	mouseear cress	Brassicaceae	yes
ARFU	Arabis furcata S. Watson	Columbia Gorge rockcress	Brassicaceae	
ARCA12	Artemisia campestris L.	field sagewort	Asteraceae	
ARTEM	Artemisia L.	sagebrush	Asteraceae	
ASFA	Asclepias fascicularis Decne.	Mexican whorled milkweed	Asclepiadaceae	
ASLE5	Astragalus leibergii M.E. Jones	Leiberg's milkvetch	Fabaceae	
ASPUG2	Astragalus purshii Douglas ex Hook. var. glareosus (Douglas ex Hook.) Barneby	woollypod milkvetch	Fabaceae	
ATPU	Athysanus pusillus (Hook.) Greene	common sandweed	Brassicaceae	
AVENA	Avena L.	oat	Poaceae	
AVSA	Avena sativa L.	common oat	Poaceae	yes
BACA3	Balsamorhiza careyana A. Gray	Carey's balsamroot	Asteraceae	
BRODI	Brodiaea Sm.	brodiaea	Liliaceae	
BRAR5	Bromus arvensis L.	field brome	Poaceae	yes
BRDIR	Bromus diandrus Roth ssp. rigidus (Roth) Lainz	ripgut brome	Poaceae	yes
BRHOH	Bromus hordeaceus L. ssp. hordeaceus	soft brome	Poaceae	
BRTE	Bromus tectorum L.	cheatgrass	Poaceae	yes
BUAR3	Buglossoides arvensis (L.) I.M. Johnst.	corn gromwell	Boraginaceae	yes
CAMA5	Calochortus macrocarpus Douglas	sagebrush mariposa lily	Liliaceae	
CANUN2	Cardamine nuttallii Greene var. nuttallii	palmate toothwort	Brassicaceae	
CAOLO	Cardamine oligosperma Nutt. var. oligosperma	little western bittercress	Brassicaceae	
CAAT25	Castilleja attenuata (A. Gray) T.I. Chuang & Heckard	attenuate Indian paintbrush	Scrophulariaceae	
CATE26	Castilleja tenuis (A. Heller) T.I. Chuang & Heckard	hairy Indian paintbrush	Scrophulariaceae	
CEANO	Ceanothus L.	ceanothus	Rhamnaceae	
CECY2	Centaurea cyanus L.	garden cornflower	Asteraceae	yes
CEDI3	Centaurea diffusa Lam.	diffuse knapweed	Asteraceae	yes
CESO3	Centaurea solstitialis L.	yellow star-thistle	Asteraceae	yes
CEDU2	Cerastium dubium (Bast.) Guépin	doubtful chickweed	Caryophyllaceae	yes
CEGL2	Cerastium glomeratum Thuill.	sticky chickweed	Caryophyllaceae	yes
CHJU	Chondrilla juncea L.	rush skeletonweed	Asteraceae	yes
CIIN	Cichorium intybus L.	chicory	Asteraceae	yes
CIUN	Cirsium undulatum (Nutt.) Spreng.	wavyleaf thistle	Asteraceae	
CIVU	Cirsium vulgare (Savi) Ten.	bull thistle	Asteraceae	yes

Symbol	Scientific Name with Author	National Common Name	Family	Exotic
CLLA2	Claytonia lanceolata Pall. ex Pursh	lanceleaf springbeauty	Portulacaceae	
CLPE	Claytonia perfoliata Donn ex Willd.	miner's lettuce	Portulacaceae	
CLPEP	Claytonia perfoliata Donn ex Willd. ssp. perfoliata	miner's lettuce	Portulacaceae	
CLLI2	Clematis ligusticifolia Nutt.	western white clematis	Ranunculaceae	
COPA3	Collinsia parviflora Lindl.	maiden blue eyed Mary	Scrophulariaceae	
COUM	Comandra umbellata (L.) Nutt.	bastard toadflax	Santalaceae	
COUMC	Comandra umbellata (L.) Nutt. ssp. californica (Eastw. ex Rydb.) Piehl	California bastard toadflax	Santalaceae	
COAR4	Convolvulus arvensis L.	field bindweed	Convolvulaceae	yes
COCA5	Conyza canadensis (L.) Cronquist	Canadian horseweed	Asteraceae	
COTIA	Coreopsis tinctoria Nutt. var. atkinsoniana (Douglas ex Lindl.) H.M. Parker ex E.B. Sm.	Atkinson's tickseed	Asteraceae	
COCO6	Corylus cornuta Marsh.	beaked hazelnut	Betulaceae	
CRDO2	Crataegus douglasii Lindl.	black hawthorn	Rosaceae	
CRATA	Crataegus L.	hawthorn	Rosaceae	
CREPI	Crepis L.	hawksbeard	Asteraceae	
CRMU	Crocidium multicaule Hook.	common spring-gold	Asteraceae	
CRSE11	Croton setigerus Hook.	dove weed	Euphorbiaceae	
CRIN8	Cryptantha intermedia (A. Gray) Greene	Clearwater cryptantha	Boraginaceae	
CRYPT	Cryptantha Lehm. ex G. Don	cryptantha	Boraginaceae	
CYOF	Cynoglossum officinale L.	gypsyflower	Boraginaceae	yes
CYEC	Cynosurus echinatus L.	bristly dogstail grass	Poaceae	yes
CYFR2	Cystopteris fragilis (L.) Bernh.	brittle bladderfern	Dryopteridaceae	
DAPU3	Daucus pusillus Michx.	American wild carrot	Apiaceae	
DELPH	Delphinium L.	larkspur	Ranunculaceae	
DENU2	Delphinium nuttallianum Pritz. ex Walp.	twolobe larkspur	Ranunculaceae	
DEINI2	Descurainia incana (Bernh. ex Fisch. & C.A. Mey.) Dorn ssp. incisa (Engelm. ex A. Gray) Kartesz & Gandhi	mountain tansymustard	Brassicaceae	
DEPI	Descurainia pinnata (Walter) Britton	western tansymustard	Brassicaceae	
DIPU	Digitalis purpurea L.	purple foxglove	Scrophulariaceae	yes
DIFU2	Dipsacus fullonum L.	Fuller's teasel	Dipsacaceae	yes
DOCO	Dodecatheon conjugens Greene	Bonneville shootingstar	Primulaceae	
DOPO	Dodecatheon poeticum L.F. Hend.	poet's shootingstar	Primulaceae	
DRVE2	Draba verna L.	spring draba	Brassicaceae	yes
ELELE	Elymus elymoides (Raf.) Swezey ssp. elymoides	squirreltail	Poaceae	
ELGL	Elymus glaucus Buckley	blue wildrye	Poaceae	
ELHI	Elymus hirsutus J. Presl	northern ryegrass	Poaceae	
ELYMU	Elymus L.	wildrye	Poaceae	
ELMU3	Elymus multisetus M.E. Jones	big squirreltail	Poaceae	
ELRE4	Elymus repens (L.) Gould	quackgrass	Poaceae	yes
EPMI	Epilobium minutum Lindl. ex Lehm.	chaparral willowherb	Onagraceae	
EPPY4	Epilobium pygmaeum (Speg.) Hoch & P.H. Raven	smooth spike-primrose	Onagraceae	
EQHY	Equisetum hyemale L.	scouringrush horsetail	Equisetaceae	
EQUIS	Equisetum L.	horsetail	Equisetaceae	
EQTE	Equisetum telmateia Ehrh.	giant horsetail	Equisetaceae	
ERRE8	Ericameria resinosa Nutt.	Columbian goldenbush	Asteraceae	
ERCOC8	Eriogonum compositum Douglas ex Benth. var. compositum	arrowleaf buckwheat	Polygonaceae	
EREL5	Eriogonum elatum Douglas ex Benth.	tall woolly buckwheat	Polygonaceae	
ERNI2	Eriogonum niveum Douglas ex Benth.	snow buckwheat	Polygonaceae	
ERST4	Eriogonum strictum Benth.	Blue Mountain buckwheat	Polygonaceae	
ERSTP	Eriogonum strictum Benth. ssp. proliferum (Torr. & A. Gray) S. Stokes	Blue Mountain buckwheat	Polygonaceae	
ERVI5	Eriogonum vimineum Douglas ex Benth.	wickerstem buckwheat	Polygonaceae	
ERLAL3	Eriophyllum lanatum (Pursh) Forbes var. lanatum	common woolly sunflower	Asteraceae	
ERCI6	Erodium cicutarium (L.) L'Hér. ex Aiton	redstem stork's bill	Geraniaceae	yes

Symbol	Scientific Name with Author	National Common Name	Family	Exotic
ESCA2	Eschscholzia californica Cham.	California poppy	Papaveraceae	
FRAL2	Frasera albicaulis Douglas ex Griseb.	whitestem frasera	Gentianaceae	
FRPU2	Fritillaria pudica (Pursh) Spreng.	yellow fritillary	Liliaceae	
GAAR	Gaillardia aristata Pursh	common gaillardia	Asteraceae	
GAAP2	Galium aparine L.	stickywilly	Rubiaceae	
GECO	Geranium columbinum L.	longstalk cranesbill	Geraniaceae	yes
HEMI20	Hemizonella minima (A. Gray) A. Gray	opposite-leaved tarweed	Asteraceae	
HEVIM3	Heterotheca villosa (Pursh) Shinners var. minor (Hook.) Semple	hairy false goldenaster	Asteraceae	
HEVIV	Heterotheca villosa (Pursh) Shinners var. villosa	hairy false goldenaster	Asteraceae	
HODI	Holodiscus discolor (Pursh) Maxim.	oceanspray	Rosaceae	
HOUM	Holosteum umbellatum L.	jagged chickweed	Caryophyllaceae	yes
HOJU	Hordeum jubatum L.	foxtail barley	Poaceae	
HOMAG	Hordeum marinum Huds. ssp. gussonianum (Parl.) Thell.	Mediterranean barley	Poaceae	yes
HYCAT	Hydrophyllum capitatum Douglas ex Benth. var. thompsonii (M. Peck) Constance	Thompson's waterleaf	Hydrophyllaceae	
HYPE	Hypericum perforatum L.	common St. Johnswort	Clusiaceae	yes
IDSC	Idahoa scapigera (Hook.) A. Nelson & J.F. Macbr.	oldstem idahoa	Brassicaceae	
JUBU	Juncus bufonius L.	toad rush	Juncaceae	
JUEF	Juncus effusus L.	common rush	Juncaceae	
JUNCU	Juncus L.	rush	Juncaceae	
KOMA	Koeleria macrantha (Ledeb.) Schult.	prairie Junegrass	Poaceae	
LACTU	Lactuca L.	lettuce	Asteraceae	
LASE	Lactuca serriola L.	prickly lettuce	Asteraceae	yes
LAAM	Lamium amplexicaule L.	henbit deadnettle	Lamiaceae	yes
LATHY	Lathyrus L.	pea	Fabaceae	
LALA4	Lathyrus latifolius L.	perennial pea	Fabaceae	yes
LATI	Lathyrus tingitanus L.	Tangier pea	Fabaceae	yes
LEPID	Lepidium L.	pepperweed	Brassicaceae	
LECI4	Leymus cinereus (Scribn. & Merr.) A. Löve	basin wildrye	Poaceae	
LIDAD	Linaria dalmatica (L.) Mill. ssp. dalmatica	Dalmatian toadflax	Scrophulariaceae	yes
LITHO2	Lithophragma (Nutt.) Torr. & A. Gray	woodland-star	Saxifragaceae	
LIGL2	Lithophragma glabrum Nutt.	bulbous woodland-star	Saxifragaceae	
LIPA5	Lithophragma parviflorum (Hook.) Nutt. ex Torr. & A. Gray	smallflower woodland-star	Saxifragaceae	
LOCA4	Lomatium canbyi (J.M. Coult. & Rose) J.M. Coult. & Rose	Canby's biscuitroot	Apiaceae	
LOCO	Lomatium columbianum Mathias & Constance	purple leptotaenia	Apiaceae	
LOGE2	Lomatium geyeri (S. Watson) J.M. Coult. & Rose	Geyer's biscuitroot	Apiaceae	
LOGO	Lomatium gormanii (Howell) J.M. Coult. & Rose	Gorman's biscuitroot	Apiaceae	
LOGR	Lomatium grayi (J.M. Coult. & Rose) J.M. Coult. & Rose	Gray's biscuitroot	Apiaceae	
LOLA3	Lomatium laevigatum (Nutt.) J.M. Coult. & Rose	Slickrock biscuitroot	Apiaceae	
LOMA3	Lomatium macrocarpum (Nutt. ex Torr. & A. Gray) J.M. Coult. & Rose	bigseed biscuitroot	Apiaceae	
LONU2	Lomatium nudicaule (Pursh) J.M. Coult. & Rose	barestem biscuitroot	Apiaceae	
LOTR2	Lomatium triternatum (Pursh) J.M. Coult. & Rose	nineleaf biscuitroot	Apiaceae	
LOUNU	Lotus unifoliolatus (Hook.) Benth. var. unifoliolatus	American bird's-foot trefoil	Fabaceae	
LUBI	Lupinus bicolor Lindl.	miniature lupine	Fabaceae	
LUBIS	Lupinus bingenensis Suksd. var. subsaccatus Suksd.	Bingen lupine	Fabaceae	
LUPIN	Lupinus L.	lupine	Fabaceae	
LULE3	Lupinus leucophyllus Douglas ex Lindl.	velvet lupine	Fabaceae	
LUSU5	Lupinus sulphureus Douglas ex Hook.	sulphur lupine	Fabaceae	
MAGR3	Madia gracilis (Sm.) D.D. Keck	grassy tarweed	Asteraceae	
MAAQ2	Mahonia aquifolium (Pursh) Nutt.	hollyleaved barberry	Berberidaceae	
MAPU	Malus pumila Mill.	paradise apple	Rosaceae	yes
MAPA5	Malva parviflora L.	cheeseweed mallow	Malvaceae	yes
MAOR3	Marah oreganus (Torr. ex S. Watson) Howell	coastal manroot	Cucurbitaceae	
MADI6	Matricaria discoidea DC.	disc mayweed	Asteraceae	yes

Symbol	Scientific Name with Author	National Common Name	Family	Exotic
MELA2	Mentzelia laevicaulis (Hook.) Torr. & A. Gray	smoothstem blazingstar	Loasaceae	
MILI5	Microseris lindleyi (DC.) A. Gray	Lindley's silverpuffs	Asteraceae	
MIGRH	Microsteris gracilis (Hook.) Greene var. humilior (Hook.) Cronquist	slender phlox	Polemoniaceae	
MIGU	Mimulus guttatus DC.	seep monkeyflower	Scrophulariaceae	
MOFO	Montia fontana L.	annual water minerslettuce	Portulacaceae	
MOAL	Morus alba L.	white mulberry	Moraceae	yes
NEPE	Nemophila pedunculata Douglas ex Benth.	littlefoot nemophila	Hydrophyllaceae	
NOMOM	Noccaea montana (L.) F.K. Mey. var. montana	alpine pennycress	Brassicaceae	
NOTR2	Nothocalais troximoides (A. Gray) Greene	sagebrush false dandelion	Asteraceae	
OEVI	Oenothera villosa Thunb.	hairy evening primrose	Onagraceae	
OLDO	Olsynium douglasii (A. Dietr.) E.P. Bicknell	Douglas' grasswidow	Iridaceae	
OPFR	Opuntia fragilis (Nutt.) Haw.	brittle pricklypear	Cactaceae	
ORUN	Orobanche uniflora L.	oneflowered broomrape	Orobanchaceae	
PERI	Penstemon richardsonii Douglas ex Lindl.	cutleaf beardtongue	Scrophulariaceae	
PHHA	Phacelia hastata Douglas ex Lehm.	silverleaf phacelia	Hydrophyllaceae	
PHHAH	Phacelia hastata Douglas ex Lehm. var. hastata	silverleaf phacelia	Hydrophyllaceae	
PHLI	Phacelia linearis (Pursh) Holz.	threadleaf phacelia	Hydrophyllaceae	
PHLE4	Philadelphus lewisii Pursh	Lewis' mock orange	Hydrangeaceae	
PIPO	Pinus ponderosa C. Lawson	ponderosa pine	Pinaceae	
PLNO	Plagiobothrys nothofulvus (A. Gray) A. Gray	rusty popcornflower	Boraginaceae	
PLTE	Plagiobothrys tenellus (Nutt. ex Hook.) A. Gray	Pacific popcornflower	Boraginaceae	
PLLA	Plantago lanceolata L.	narrowleaf plantain	Plantaginaceae	yes
PLMA4	Plectritis macrocera Torr. & A. Gray	longhorn plectritis	Valerianaceae	
POBU	Poa bulbosa L.	bulbous bluegrass	Poaceae	yes
POLE	Poa leibergii Scribn.	Leiberg's bluegrass	Poaceae	
POSE	Poa secunda J. Presl	Sandberg bluegrass	Poaceae	
POMI2	Polygonum minimum S. Watson	broadleaf knotweed	Polygonaceae	
POHE3	Polypodium hesperium Maxon	western polypody	Polypodiaceae	
POMO5	Polypogon monspeliensis (L.) Desf.	annual rabbitsfoot grass	Poaceae	yes
POTEN	Potentilla L.	cinquefoil	Rosaceae	
PRAR3	Prunus armeniaca L.	apricot	Rosaceae	yes
PRDO	Prunus domestica L.	European plum	Rosaceae	yes
PRVI	Prunus virginiana L.	chokecherry	Rosaceae	
PSSP6	Pseudoroegneria spicata (Pursh) A. Löve	bluebunch wheatgrass	Poaceae	
PTAQ	Pteridium aquilinum (L.) Kuhn	western brackenfern	Dennstaedtiaceae	
PYCO	Pyrus communis L.	common pear	Rosaceae	yes
QUGA4	Quercus garryana Douglas ex Hook.	Oregon white oak	Fagaceae	
RANUN	Ranunculus L.	buttercup	Ranunculaceae	
RAOC	Ranunculus occidentalis Nutt.	western buttercup	Ranunculaceae	
RASC3	Ranunculus sceleratus L.	cursed buttercup	Ranunculaceae	
RHGL	Rhus glabra L.	smooth sumac	Anacardiaceae	
ROSA5	Rosa L.	rose	Rosaceae	
ROWO	Rosa woodsii Lindl.	Woods' rose	Rosaceae	
RUAR9	Rubus armeniacus Focke	Himalayan blackberry	Rosaceae	yes
RUAC2	Rumex acetosa L.	garden sorrel	Polygonaceae	yes
RUCR	Rumex crispus L.	curly dock	Polygonaceae	yes
SABE2	Salix bebbiana Sarg.	Bebb willow	Salicaceae	
SAEX	Salix exigua Nutt.	narrowleaf willow	Salicaceae	
SALIX	Salix L.	willow	Salicaceae	
SALU	Salix lucida Muhl.	shining willow	Salicaceae	
SAKA	Salsola kali L.	Russian thistle	Chenopodiaceae	yes
SANIC5	Sambucus nigra L. ssp. cerulea (Raf.) R. Bolli	blue elderberry	Caprifoliaceae	
SACR2	Sanicula crassicaulis Poepp. ex DC.	Pacific blacksnakeroot	Apiaceae	
SAIN4	Saxifraga integrifolia Hook.	wholeleaf saxifrage	Saxifragaceae	

Symbol	Scientific Name with Author	National Common Name	Family	Exotic
SANIC2	Saxifraga nidifica Greene var. claytoniifolia (Canby ex Small) Elvander	peak saxifrage	Saxifragaceae	
SAOC4	Saxifraga occidentalis S. Watson	Alberta saxifrage	Saxifragaceae	
SELAG	Selaginella P. Beauv.	spikemoss	Selaginellaceae	
SEWA	Selaginella wallacei Hieron.	Wallace's spikemoss	Selaginellaceae	
SEVU	Senecio vulgaris L.	old-man-in-the-Spring	Asteraceae	yes
SISYR	Sisyrinchium L.	blue-eyed grass	Iridaceae	
SODU	Solanum dulcamara L.	climbing nightshade	Solanaceae	yes
SPCR	Sporobolus cryptandrus (Torr.) A. Gray	sand dropseed	Poaceae	
STME2	Stellaria media (L.) Vill.	common chickweed	Caryophyllaceae	yes
STNI	Stellaria nitens Nutt.	shiny chickweed	Caryophyllaceae	
SYAL	Symphoricarpos albus (L.) S.F. Blake	common snowberry	Caprifoliaceae	
SYLAH6	Symphyotrichum lanceolatum (Willd.) G.L. Nesom ssp. hesperium (A. Gray) G.L. Nesom var. hesperium	white panicle aster	Asteraceae	
TACA8	Taeniatherum caput-medusae (L.) Nevski	medusahead	Poaceae	yes
TAOF	Taraxacum officinale F.H. Wigg.	common dandelion	Asteraceae	yes
THLA	Thelypodium laciniatum (Hook.) Endl. ex Walp.	cutleaf thelypody	Brassicaceae	
THIN6	Thinopyrum intermedium (Host) Barkworth & D.R. Dewey	intermediate wheatgrass	Poaceae	yes
THCU	Thysanocarpus curvipes Hook.	sand fringepod	Brassicaceae	
TOTE	Tonella tenella (Benth.) A. Heller	lesser baby innocence	Scrophulariaceae	
TODI	Toxicodendron diversilobum (Torr. & A. Gray) Greene	Pacific poison oak	Anacardiaceae	
TRDU	Tragopogon dubius Scop.	yellow salsify	Asteraceae	yes
TRTE	Tribulus terrestris L.	puncturevine	Zygophyllaceae	yes
TRIFO	Trifolium L.	clover	Fabaceae	
TRMA3	Trifolium macrocephalum (Pursh) Poir.	largehead clover	Fabaceae	
TRMI4	Trifolium microcephalum Pursh	smallhead clover	Fabaceae	
TROL	Trifolium oliganthum Steud.	fewflower clover	Fabaceae	
TRWI3	Trifolium willdenovii Spreng.	tomcat clover	Fabaceae	
TRGRH	Triteleia grandiflora Lindl. var. howellii (S. Watson) Hoover	Howell's triteleia	Liliaceae	
URDI	Urtica dioica L.	stinging nettle	Urticaceae	
VERAT	Veratrum L.	false hellebore	Liliaceae	
VEBL	Verbascum blattaria L.	moth mullein	Scrophulariaceae	yes
VETH	Verbascum thapsus L.	common mullein	Scrophulariaceae	yes
VEAM2	Veronica americana Schwein. ex Benth.	American speedwell	Scrophulariaceae	
VICIA	Vicia L.	vetch	Fabaceae	
VISAN2	Vicia sativa L. ssp. nigra (L.) Ehrh.	garden vetch	Fabaceae	yes
VIVI	Vicia villosa Roth	winter vetch	Fabaceae	yes
VUMY	Vulpia myuros (L.) C.C. Gmel.	rat-tail fescue	Poaceae	yes
WOOR	Woodsia oregana D.C. Eaton	Oregon cliff fern	Dryopteridaceae	
YAMI	Yabea microcarpa (Hook. & Arn.) Koso-Pol.	false carrot	Apiaceae	
ZIPA2	Zigadenus paniculatus (Nutt.) S. Watson	foothill deathcamas	Liliaceae	
ZIVE	Zigadenus venenosus S. Watson	meadow deathcamas	Liliaceae	

Discussion and Recommendations

Noxious Weeds

There are significant occurrences of noxious weeds in the park. The weeds were not mapped as they occur in diffuse patches. The noxious weeds that we observed in each vegetation community polygon are recorded in the corresponding record in the vegetation polygon database for the park, which is included in this report as Appendix D.

A list of the noxious weeds is presented in Table 2. We found seven Class B weeds and four Class C weeds.

Table 2. State listed noxious weeds at Doug's Beach State Park.

Symbol	Scientific Name with Author	National Common Name	State Weed Status
AMFR	*Amorpha fruticosa* L.	desert false indigo	B
CEDI3	*Centaurea diffusa* Lam.	diffuse knapweed	B
CESO3	*Centaurea solstitialis* L.	yellow star-thistle	B
CHJU	*Chondrilla juncea* L.	rush skeletonweed	B
CYOF	*Cynoglossum officinale* L.	gypsyflower	B
LIDAD	*Linaria dalmatica* (L.) Mill. ssp. *dalmatica*	Dalmatian toadflax	B
TRTE	*Tribulus terrestris* L.	puncturevine	B
CIVU	*Cirsium vulgare* (Savi) Ten.	bull thistle	C
COAR4	*Convolvulus arvensis* L.	field bindweed	C
HYPE	*Hypericum perforatum* L.	common St. Johnswort	C
SEVU	*Senecio vulgaris* L.	old-man-in-the-Spring	C

Ecological Condition

The ecological condition of Doug's Beach State Park varies from excellent to poor and developed (see Appendix A for definitions). Most of the park is in fair condition. A map of the primary ecological conditions for each polygon is presented in Figure 8. The long history of human occupation of the Columbia River Gorge, livestock grazing and frequent wildfires have aided the spread of non-native plants. The abundance of non-native annual grasses is the primary reason that much of the steep grassy slopes are rated as fair ecological condition. The Oregon white oak woodlands would be rated as excellent condition, except for the presence of the non-native annual grasses in the understory. Thus, they were rated as only good. The only areas we rated in excellent condition were two polygons dominated by basalt cliffs and talus slopes. These are the least altered areas in the park because they are inaccessible to livestock grazing and human disturbance activities. Also, the rocky substrates in these areas are less prone to weed invasions.

Most of the plant species found in the park are native to Washington State. Although we did not record all the non-native species that we found in the developed portion of the park, we did find 62 non-native species, or 25% of the park flora.

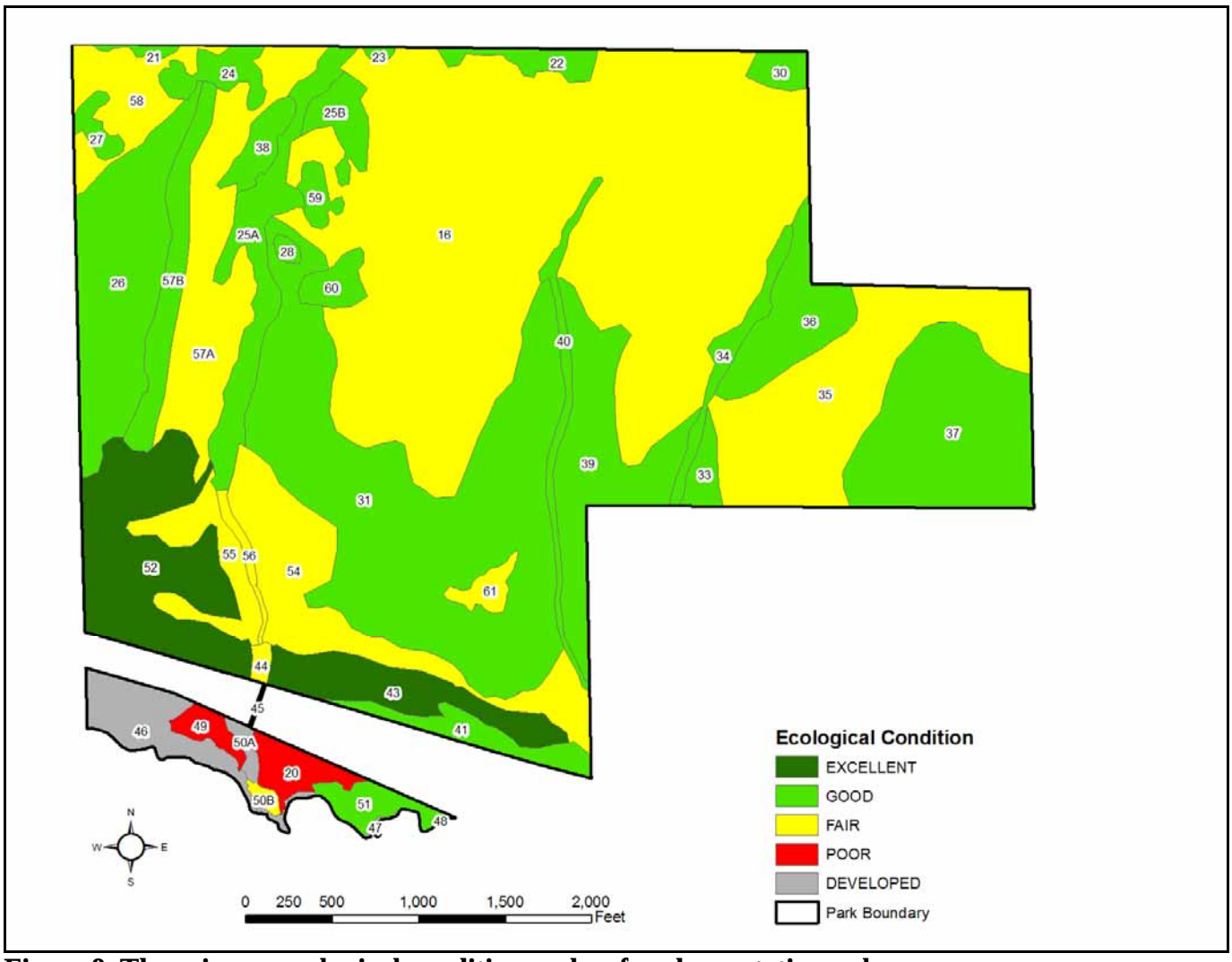

Figure 8. The primary ecological condition ranks of each vegetation polygon.

Restoration Opportunities

There are some restoration opportunities in the section of the park south of Highway 14. This part of the park has been heavily affected by past development and human activities. The dominance of persistent, woody, exotic vegetation will make many areas here difficult to restore to native vegetation. Also, the altered hydrology will make it impossible to restore the original vegetation to the site unless reservoir levels are lowered.

The one polygon that stands out having the highest restoration potential is polygon 51, which currently contains the ripgut brome - velvet lupine - giant horsetail (BRDIR-LULE3-EQTE) community. The grass component of this community could be replaced by planting plugs of basin wildrye, therefore gradually replacing an exotic annual grass with a desirable, perennial native grass. Satisfactory results from this effort would take at least a decade. This restoration effort would probably not be a high priority from a statewide perspective.

Other restoration efforts on the Doug's Beach property are not recommended.

Other Recommendations

The park boundary is not marked or fenced in any manner. This creates an improper land use situation in the upper portion of the park where the adjacent land belongs to private ranchers who graze livestock. In the absence of fences, the livestock freely graze the park. This causes substantial soil disturbance in places, degrades riparian areas and springs, facilitates the spread of noxious weeds and other exotic plants, reduces the cover of native plants and may adversely affect the rare plant populations in the park.

We recommend that fencing the park boundary and maintenance of this fencing be required of adjacent private ranchers with livestock. This recommendation is in accordance with state law. Since it is the responsibility of the adjacent rancher to prevent his livestock from entering the state park, this measure would not negatively affect the state budget.

GIS Products Produced

Associated with this report are polygon layers created by PBI depicting the vegetation community types mapped in the project area of within Doug's Beach State Park. The datasets have been converted into ESRI shapefile formats and provided to the WSPRC. The spatial datasets are complete with metadata meeting FGDC standards. Refer to the associated metadata for descriptions and attribute definitions for each spatial dataset.

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Appendix A – Ecological Condition Ranking System

Ecological Condition Ranks

When assessing conservation priorities and management decisions, it can be useful to rank natural communities into levels of ecological condition. For example, an unfragmented area with high native species diversity, absence of non-native species and little soil erosion often has greater conservation value than another area in the same habitat type that is fragmented, infested with weeds or has erosion problems. Likewise, areas with a lower ecological condition rank may be targets for restoration activities.

The flowing ecological condition ranks were applied to vegetation polygons that were surveyed in this project:

- **Excellent Ecological Condition**

Areas in this class have very few non-native plants. The composition and structure of native vegetation in this condition class correspond to the natural range of variation characteristic to this habitat type. Old-growth conditions often exist. Species diversity of native plants and animals is often high relative to the natural community under consideration. Wildlife habitat conditions are optimal for species of conservation concern. Soil compaction, accelerated erosion and hydrologic alteration are absent. Direct signs of human-induced ecological stress are absent. Many rare plant and animal species may only exist within this condition class.

- **Good Ecological Condition**

Areas in this class have few non-native plants. The composition and structure of native vegetation in this condition class correspond to the natural range of variation characteristic to this habitat type. Old-growth conditions may exist, but have been subject to some human-induced stress. Species diversity of native plants and animals is moderately high relative to the natural community under consideration. Wildlife habitat conditions are adequate for species of conservation concern. Soil compaction, accelerated erosion and hydrologic alteration do not significantly influence the area. Direct signs of human-induced ecological stress are infrequent. Some rare plant and animal species may exist within this condition class.

- **Marginal Ecological Condition**

Areas in this class often have both native and non-native plants. The composition and structure of native vegetation in this condition class is altered from the natural range of variation characteristic to this habitat type. Old-growth conditions are absent. Species diversity of native plants and animals is lower than the two high condition classes. Wildlife habitat conditions may be adequate for some species of conservation concern, but not adequate for many. Soil compaction, accelerated erosion and hydrologic alteration may impact the area. Direct signs of human-induced ecological stress are frequent. Most rare plant and animal species are only infrequently encountered within this condition class.

- **Poor Ecological Condition**

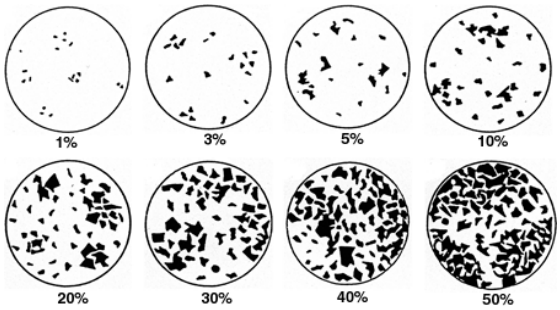
Areas in this class are often dominated by non-native plants. The composition and structure of native vegetation in this condition class is often dramatically altered from the natural range of variation characteristic to this habitat type. Old-growth conditions are absent. Species diversity of native plants and animals is often low. Wildlife habitat conditions are not adequate for most species of conservation concern. Soil compaction, accelerated erosion and hydrologic alteration often influence the area. Direct signs of human-induced ecological stress are frequent. Rare plant and animal species are seldom encountered within this condition class.

Appendix B – Vegetation Survey Codes and Instructions

Site = name of locality of map project **Name/Date** = your name / day-month-year completed polygon survey
Polygon # = number you put on map
Survey intensity
1 = walked or could see most of polygon (high confidence in survey data)
2 = walked or could see part of polygon interior (moderate confidence)
3 = walked perimeter or could see part of polygon interior (low confidence)
4 = photo interpretation or other remote survey

TOTAL VEGETATION COVER includes all vascular plants, mosses, lichens and foliose lichens (crustose lichens excluded they are considered rock); this never exceeds 100%. Space between leaves/branches is included in "cover".

Code	**Cover (%)**	Cover mid-pt
0	0	0
1	<1	0.5
2	1-5	3
3	5-25	15
4	25-60	43
5	60-90	75
6	>90	95



TREES, SHRUBS, GRAMINOIDS, FORBS, EXOTICS cover includes the space between leaves/branches. Each Life form category canopy cover must be 0-100%. Therefore, the sum of all life forms (layers) can exceed 100%. List most abundant species in each life form category; when trees are cored, note DBH, species, length of core, number of rings counted.

EXOTICS = primary species observed; secondary species observed (please pay special attention to noxious weeds). Also, note the relative abundance of exotics in each polygon, using the 1-6 cover codes noted above.

SUBSTRATES estimate to nearest **%** the following, the sum of the categories adds to 100%. Describe in comments if there is wide variation in any category; note % standing water if it is persistent or characteristic of site.
Water = exposed standing or flowing water
Rock Outcrop = exposed bedrock including detached boulders over 1m across
Talus = exposed large, loose rocks
Gravel/Cobble = large fragments between sand and boulder
Bare Ground = exposed mineral soil
Mosses/Lichens = nonvascular plant cover on soil
Litter = includes logs, branches, and basal area of plants
Caves = area covered by caves
Mines = area covered by mines

LAND USE - put 0 (zero) if not applicable to site.
Logging
1 = unlogged, no evidence of past logging or occasional cut stumps not part of systematic harvest of trees, no or very little impact on stand composition
2 = selectively logged: frequent cut stumps but origin of dominant or co-dominant cohort appears to be natural disturbance
3 = heavy logging disturbance with natural regeneration: many cut stumps that predate the dominant or co-dominant cohort with no tree planting
4 = tree plantation: dominant cohort appears to be planted after clearcutting
Stand Age
1 = very young 0-40 yr
2 = young 40-90 yr
3 = mature 90-200 yr
4 = old-growth 200+ yr
5 = young with scattered old trees (2-10 old trees per acre)
6 = mature with scattered old trees
Fire
Note presence of fire (i.e. charcoal, fire scars, etc.) and, if present , estimate time of fire.
Agriculture
1 = active annual cropping
2 = active perennial herbaceous cropping
3 = active woody plant cultivation
4 = fallow, plowed no crops this yr
5 = Federal CRP
6 = other
Livestock
1 = active heavy grazing (most forage used, soil compaction or churning)
2 = active moderate grazing (25-75% forage used)
3 = active light grazing (lots of last yr's litter left)
4 = no current, heavy past grazing
5 = no current, light past grazing
6 = no obvious sign of grazing
Development

1 = actively used facilities
2 = roads
3 = established trails
4 = abandoned facilities
5 = none obvious
6 = multiple types (detail in comments)

Wildlife

1 = heavy ungulate use
2 = moderate ungulate use
3 = light to no ungulate use
4 = burrowing animals
5 = active beaver
6 = active porcupine
7 = other, list animal

Recreation Use Severity

1 = heavy use, abundant soil and vegetation displacement off trail/road
2 = moderate use, frequent soil and vegetation displacement off trail/road
3 = light use, little sign of activity off trail/road

Recreation Use Primary Type

1 = wheeled
2 = hoofed
3 = pedestrian
4 = combination of above
5 = other

Hydrology

1 = unaltered 2 = altered; dams, dikes, ditches, culverts, etc 3 = not assessed

Descriptions of Plant Communities

PLANT ASSOCIATION (PA) = list all PAs encountered in polygon survey, in comments list source of name if not on provided key. NOTE: Contractor is required to consult with the WNHP to obtain the most current classification and condition ranking information available.

Existing Vegetation Community – Write down the major tree/shrub/grass-forb-fern community type. Pay attention to indicator species. Alien species may be included in community description.

Ecological Condition Rank of PA in key or estimate. (The condition of each plant vegetation community polygon shall be rated using the codes listed in Appendix A.)

% of Polygon = your estimate of % of polygon covered by this plant community. (PA1 is the matrix and a greater % than PA2, if there is a PA2; PA2 is a greater % than PA3, if there is a PA3.)

Pattern = how PA is distributed in stand

1 = matrix (most of polygon)	3 = small patches	5 = scattered, more or less evenly repeating	7 = other
2 = large patches	4 = clumped, clustered, contiguous	6 = linear	

Appendix C – Definitions of Vegetation Community Ranks

The following table defines the ranking system for plants and plant communities used by the Washington State Natural Heritage Program.

Code	Definition
G1	Critically imperiled throughout its range; extremely rare with five or fewer occurrences or very few remaining acres.
G2	Imperiled throughout its range; rare with six to 20 occurrences or few remaining acres.
G3	Either very rare and local throughout its range or found locally in a restricted range; uncommon with 21 to 100 occurrences.
G4	Apparently secure throughout its range, though it may be quite rare in some parts of its range, especially at the periphery; many occurrences.
G5	Demonstrably secure in its range, though it may be quite rare in some parts of its range, especially at the periphery; ineradicable under present conditions.
S1	Critically imperiled in Oregon; extremely rare with five or fewer occurrences or very few remaining acres.
S2	Imperiled in Oregon; rare with six to 20 occurrences or few remaining acres.
S3	Either very rare and local in Oregon or found locally in a restricted range; uncommon with 21 to 100 occurrences.
S4	Apparently secure in Oregon, though it may be quite rare in some parts; many occurrences.
S5	Demonstrably secure in Oregon, though it may be quite rare in some parts; ineradicable under present conditions.
U	Unknown
NA	Natural Heritage Rank not available
NR	Not Ranked

Appendix D – Vegetation Survey Polygon Data

Polygon Number 16

ParkName:
Dougs Beach

Survey Intensity	2
Observer	PM
Date	8/4/2008
Total Vegetation	4
Trees Total	2
Dominant Trees	QUGA4
emergent	0
maincanopy	2
subcanopy	2
Shrubs Total	2
Dominant Shrubs	TODI
> 1.5' tall	2
< 1.5' tall	1
Graminoids Total	4
Dominant Graminoids	BRDIR,BRHOH, BRTE, BRDIR, VUMY
Graminoids Perennial	2
Graminoids Annual	4
Forbs Total	3
Dominant Forbs	LOGR, ERCI6, MAOR3, ERCOC8, LONU2, lots of annual forbs
Forbs Perennial	3
Forbs Annual	3
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	3
Exotics Perennial	2
Exotics Annual	3
Water	0
Rock Outcrop	10
Gravel	20
Logging	0
Fire:	0
Stand Age	1
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
BRTE, POBU, VUMY, BRHOH, BRAR5

Water:	0
Rock:	10
Talus:	2
Gravel:	20
Bare Ground:	25
Moss Lichen:	2
Litter:	41

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	steep, grassy slope	100	Matrix	FAIR
Veg Community1:	steep grasslands			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: STEEP, ROCKY, GRASSY SLOPE

Polygon Number 20

ParkName:
Dougs Beach

Survey Intensity	1
Observer	PM
Date	8/4/2008
Total Vegetation	5
Trees Total	3
Dominant Trees	MOAL
emergent	0
maincanopy	3
subcanopy	2
Shrubs Total	5
Dominant Shrubs	ROWO, CRDO2, AMAL2, SAEX, RUAR9
> 1.5' tall	5
< 1.5' tall	2
Graminoids Total	3
Dominant Graminoids	ELHI
Graminoids Perennial	3
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	EQTE, SODU, ASFA
Forbs Perennial	3
Forbs Annual	0
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	4
Exotics Perennial	4
Exotics Annual	0
Water	0
Rock Outcrop	0
Gravel	1
Logging	1
Fire:	0
Stand Age	1
Agriculture	0
Livestock	0
Development	DISTURBED
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	4 WATER TABLE

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
VETH, ELHI, MOAL, SODU

Water:	0
Rock:	0
Talus:	0
Gravel:	1
Bare Ground:	3
Moss Lichen:	0
Litter:	96

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	mixed native and exotic shrubs	100	Matrix	POOR
Veg Community1:	disturbed shrubland			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: Dense ROWO, RUAR9,SAEX with some MOAL disturbed-developed area

Polygon Number 21

ParkName:
Dougs Beach

Survey Intensity	1
Observer	PM
Date	8/4/2008
Total Vegetation	5
Trees Total	4
Dominant Trees	QUGA4
emergent	0
maincanopy	4
subcanopy	3
Shrubs Total	2
Dominant Shrubs	TODI
> 1.5' tall	2
< 1.5' tall	2
Graminoids Total	4
Dominant Graminoids	BRDIR, VUMY, POBU, PSSP6, POSE
Graminoids Perennial	3
Graminoids Annual	4
Forbs Total	3
Dominant Forbs	MAOR3, ERCI6, LUPIN
Forbs Perennial	3
Forbs Annual	2
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	0
Rock Outcrop	0
Gravel	1
Logging	1
Fire:	0
Stand Age	2
Agriculture	0
Livestock	5
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
POBU

Water:	0
Rock:	0
Talus:	1
Gravel:	1
Bare Ground:	10
Moss Lichen:	1
Litter:	87

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	QUGA4/TODI/grasses	100	Matrix	GOOD
Veg Community1:	QUGA4/TODI			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: Steep QUGA4 woodland

Polygon Number 22

ParkName:
Dougs Beach

Survey Intensity	2
Observer	PM
Date	4/11/2008
Total Vegetation	5
Trees Total	4
Dominant Trees	QUGA4, PIPO
emergent	0
maincanopy	4
subcanopy	3
Shrubs Total	2
Dominant Shrubs	TODI
> 1.5' tall	2
< 1.5' tall	2
Graminoids Total	4
Dominant Graminoids	BRDIR, VUMY, POBU, PSSP6, POSE
Graminoids Perennial	3
Graminoids Annual	4
Forbs Total	3
Dominant Forbs	MAOR3, ERCI6, LUPIN, CANUN2, OLDO
Forbs Perennial	3
Forbs Annual	2
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	0
Rock Outcrop	0
Gravel	1
Logging	1
Fire:	0
Stand Age	2
Agriculture	0
Livestock	5
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
POBU

Water:	0
Rock:	0
Talus:	1
Gravel:	1
Bare Ground:	10
Moss Lichen:	1
Litter:	87

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	QUGA4/TODI/grasses	100	Matrix	GOOD
Veg Community1:	QUGA4/TODI			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: Steep QUGA4 woodland

Polygon Number 23

ParkName:
Dougs Beach

Survey Intensity	3
Observer	PM
Date	8/4/2008
Total Vegetation	5
Trees Total	5
Dominant Trees	QUGA4
emergent	0
maincanopy	5
subcanopy	3
Shrubs Total	2
Dominant Shrubs	TODI
> 1.5' tall	2
< 1.5' tall	2
Graminoids Total	4
Dominant Graminoids	BRDIR, VUMY, POBU, PSSP6, POSE
Graminoids Perennial	3
Graminoids Annual	4
Forbs Total	3
Dominant Forbs	MAOR3, ERCI6, LUPIN
Forbs Perennial	3
Forbs Annual	2
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	0
Rock Outcrop	0
Gravel	1
Logging	1
Fire:	0
Stand Age	2
Agriculture	0
Livestock	5
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
POBU

Water:	0
Rock:	0
Talus:	1
Gravel:	1
Bare Ground:	10
Moss Lichen:	1
Litter:	87

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	QUGA4/TODI/grasses	100	Matrix	GOOD
Veg Community1:	QUGA4/TODI			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: Steep QUGA4 woodland

Polygon Number 24

ParkName:
Dougs Beach

Survey Intensity	2
Observer	PM
Date	8/4/2008
Total Vegetation	5
Trees Total	4
Dominant Trees	QUGA4, PIPO
emergent	0
maincanopy	4
subcanopy	2
Shrubs Total	4
Dominant Shrubs	TODI
> 1.5' tall	4
< 1.5' tall	2
Graminoids Total	4
Dominant Graminoids	POBU
Graminoids Perennial	3
Graminoids Annual	4
Forbs Total	3
Dominant Forbs	MAGR3, MAOR3, LONU2, LUPIN, ZIVE, ERCI6, lots of annuals
Forbs Perennial	3
Forbs Annual	3
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	2
Exotics Perennial	2
Exotics Annual	2
Water	0
Rock Outcrop	3
Gravel	10
Logging	0
Fire:	0
Stand Age	6
Agriculture	0
Livestock	3
Development	0
Wildlife	3 (squirrel)
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
POBU, ERCI6

Water:	0
Rock:	3
Talus:	2
Gravel:	10
Bare Ground:	15
Moss Lichen:	2
Litter:	68

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	QUGA4/TODI/grasses	100	Matrix	GOOD
Veg Community1:	QUGA4/TODI			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: QUGA4/TODI/grasses woodland; a couple of old pines here

Polygon Number 25A

ParkName:
Dougs Beach

Survey Intensity	2
Observer	PM
Date	8/4/2008
Total Vegetation	5
Trees Total	5
Dominant Trees	QUGA4, ACMA3
emergent	0
maincanopy	4
subcanopy	3
Shrubs Total	4
Dominant Shrubs	TODI, SYAL
> 1.5' tall	4
< 1.5' tall	3
Graminoids Total	4
Dominant Graminoids	POBU, PSSP6, ELGL, ELRE4, BRHOH
Graminoids Perennial	3
Graminoids Annual	3
Forbs Total	3
Dominant Forbs	MAOR3, ACMI2, RUCR, LUPIN, LONU2, ERCI6, MAGR3
Forbs Perennial	3
Forbs Annual	3
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	3
Exotics Perennial	3
Exotics Annual	3
Water	1
Rock Outcrop	3
Gravel	10
Logging	0
Fire:	0
Stand Age	2
Agriculture	0
Livestock	2
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
POBU, ERCI6, BRHOH

Water:	1
Rock:	3
Talus:	1
Gravel:	10
Bare Ground:	15
Moss Lichen:	1
Litter:	69

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	QUGA4/TODI/grasses	100	Matrix	GOOD
Veg Community1:	QUGA4/TODI			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: QUGA4 forest/woodland along steep valley bottom, lots of cow trails, a cowed out spring, etc.

Polygon Number 25B

ParkName:
Dougs Beach

Survey Intensity	2
Observer	PM
Date	8/4/2008
Total Vegetation	5
Trees Total	4
Dominant Trees	QUGA4
emergent	0
maincanopy	4
subcanopy	2
Shrubs Total	3
Dominant Shrubs	TODI
> 1.5' tall	3
< 1.5' tall	3
Graminoids Total	4
Dominant Graminoids	POBU, BRHOH, ELRE4, PSSP6
Graminoids Perennial	3
Graminoids Annual	4
Forbs Total	3
Dominant Forbs	MAOR3, ACMI2, RUCR, LUPIN, LONU2, ERCI6, MAGR3
Forbs Perennial	3
Forbs Annual	3
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	3
Exotics Perennial	3
Exotics Annual	3
Water	1
Rock Outcrop	3
Gravel	10
Logging	0
Fire:	0
Stand Age	2
Agriculture	0
Livestock	2
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
POBU, ERCI6

Water:	1
Rock:	3
Talus:	1
Gravel:	10
Bare Ground:	15
Moss Lichen:	1
Litter:	69

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	QUGA4/TODI/grasses	100	Matrix	GOOD
Veg Community1:	QUGA4/TODI			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: Like poly 25A, but more open, less TODI, more annual grasses. Steep. QUGA4 woodland.

Polygon Number 26

ParkName:
Dougs Beach

Survey Intensity	3
Observer	PM
Date	8/4/2008
Total Vegetation	4
Trees Total	2
Dominant Trees	QUGA4
emergent	0
maincanopy	2
subcanopy	2
Shrubs Total	2
Dominant Shrubs	TODI
> 1.5' tall	2
< 1.5' tall	2
Graminoids Total	3
Dominant Graminoids	VUMY, BRHOH, PSSP6, POBU, ELELE, BRAR5
Graminoids Perennial	3
Graminoids Annual	3
Forbs Total	3
Dominant Forbs	LUPIN, MAOR3, ERCI6, ZIVE, ASFA
Forbs Perennial	2
Forbs Annual	2
Ferns Total	2
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	3
Exotics Perennial	2
Exotics Annual	3
Water	0
Rock Outcrop	6
Gravel	8
Logging	0
Fire:	0
Stand Age	1
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
BRTE, POBU, BRHOH, BRAR5

Water:	0
Rock:	6
Talus:	15
Gravel:	8
Bare Ground:	25
Moss Lichen:	1
Litter:	45

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	BRHOH-VUMY-PSSP6-BRTE-MAOR3	100	Matrix	GOOD
Veg Community1:	PSSP6-LOCO-BACA			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: LIKE 57 AND 58 EXCEPT STEEPER AND LITTLE MORE QUGA4

Polygon Number 27

ParkName:
Dougs Beach

Survey Intensity	2
Observer	PM
Date	8/2/2008
Total Vegetation	5
Trees Total	3
Dominant Trees	QUGA4
emergent	0
maincanopy	3
subcanopy	3
Shrubs Total	3
Dominant Shrubs	TODI
> 1.5' tall	3
< 1.5' tall	2
Graminoids Total	4
Dominant Graminoids	BRDIR, VUMY, POBU, PSSP6, POSE
Graminoids Perennial	3
Graminoids Annual	4
Forbs Total	3
Dominant Forbs	MAOR3, LUPIN, ERCI6, TRDU, ZIVE
Forbs Perennial	3
Forbs Annual	2
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	3
Exotics Perennial	3
Exotics Annual	3
Water	0
Rock Outcrop	0
Gravel	1
Logging	1
Fire:	0
Stand Age	2
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
POBU, ERCI6, annual exotic grasses

Water:	0
Rock:	0
Talus:	0
Gravel:	1
Bare Ground:	10
Moss Lichen:	1
Litter:	88

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	QUGA4/TODI/grasses	100	Matrix	GOOD
Veg Community1:	QUGA4/TODI			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: STEEP QUGA4 WOODLAND

Polygon Number 28

ParkName:
Dougs Beach

Survey Intensity	3
Observer	PM
Date	8/4/2008
Total Vegetation	5
Trees Total	4
Dominant Trees	QUGA4, PIPO
emergent	3
maincanopy	4
subcanopy	3
Shrubs Total	4
Dominant Shrubs	TODI
> 1.5' tall	4
< 1.5' tall	2
Graminoids Total	4
Dominant Graminoids	BRDIR, VUMY, POBU, PSSP6, POSE
Graminoids Perennial	3
Graminoids Annual	4
Forbs Total	3
Dominant Forbs	MAOR3, ACMI2, RUCR, LUPIN, LONU2, ERCI6, MAGR3, annuals
Forbs Perennial	3
Forbs Annual	2
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	2
Exotics Perennial	2
Exotics Annual	2
Water	0
Rock Outcrop	0
Gravel	3
Logging	0
Fire:	0
Stand Age	6
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
POBU, ERCI6

Water:	0
Rock:	0
Talus:	2
Gravel:	3
Bare Ground:	10
Moss Lichen:	2
Litter:	83

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	QUGA4-PIPO/TODI/grasses	100	Matrix	GOOD
Veg Community1:	QUGA4/TODI			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: One large old PIPO in poly

Polygon Number 30

ParkName:
Dougs Beach

Survey Intensity	2
Observer	PM
Date	8/4/2008
Total Vegetation	5
Trees Total	4
Dominant Trees	QUGA4
emergent	0
maincanopy	4
subcanopy	3
Shrubs Total	2
Dominant Shrubs	TODI
> 1.5' tall	2
< 1.5' tall	2
Graminoids Total	4
Dominant Graminoids	BRDIR, BRHOH, VUMY, ELELE, POBU, PSSP6, POSE
Graminoids Perennial	3
Graminoids Annual	4
Forbs Total	3
Dominant Forbs	MAOR3, ERCI6, LUPIN
Forbs Perennial	3
Forbs Annual	2
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	0
Rock Outcrop	0
Gravel	1
Logging	1
Fire:	0
Stand Age	2
Agriculture	0
Livestock	5
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
POBU

Water:	0
Rock:	0
Talus:	1
Gravel:	1
Bare Ground:	10
Moss Lichen:	1
Litter:	87

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	QUGA4/TODI/grasses	100	Matrix	GOOD
Veg Community1:	QUGA4/TODI			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: Steep QUGA4 woodland

Polygon Number 31

ParkName:
Dougs Beach

Survey Intensity	2
Observer	PM
Date	8/4/2008
Total Vegetation	4
Trees Total	2
Dominant Trees	QUGA4
emergent	0
maincanopy	2
subcanopy	2
Shrubs Total	2
Dominant Shrubs	TODI, ERNI2, PHLE4, PRVI
> 1.5' tall	2
< 1.5' tall	2
Graminoids Total	3
Dominant Graminoids	BRDIR, BRHOH, VUMY, ELELE, POBU, POSE, PSSP6
Graminoids Perennial	2
Graminoids Annual	3
Forbs Total	3
Dominant Forbs	LOCO, ERCI6, annuals, LOGR,
Forbs Perennial	2
Forbs Annual	2
Ferns Total	1
Ferns Evergreen	1
Ferns Deciduous	0
ExoticsTotal	2
Exotics Perennial	2
Exotics Annual	2
Water	0
Rock Outcrop	20
Gravel	5
Logging	1
Fire:	0
Stand Age	1
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
BRTE, POBU, VUMY, BRHOH, BRAR5

Water:	0
Rock:	20
Talus:	30
Gravel:	5
Bare Ground:	5
Moss Lichen:	3
Litter:	37

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	very steep grassy slope	50	Matrix	GOOD
Veg Community1:	PSSP6-LOCO-BACA			
Existing Veg2:	cliffs and talus	40	Large patch	FAIR
Veg Community3:	cliffs and talus with TODI, PHLE4			
Existing Veg3:	QUGA4/TODI woodlands	10	Small patch	EXCELLE
Veg Community3:	QUGA4/TODI			

Notes:

Polygon Number 33

ParkName:
Dougs Beach

Survey Intensity	2
Observer	PM
Date	8/4/2008
Total Vegetation	4
Trees Total	2
Dominant Trees	QUGA4
emergent	0
maincanopy	2
subcanopy	2
Shrubs Total	2
Dominant Shrubs	TODI, ERNI2, PHLE4, PRVI
> 1.5' tall	2
< 1.5' tall	2
Graminoids Total	3
Dominant Graminoids	BRDIR, BRHOH, VUMY, ELELE, POBU, PSSP6, POSE
Graminoids Perennial	2
Graminoids Annual	3
Forbs Total	3
Dominant Forbs	LOCO, ERCI6, annuals, LOGR,
Forbs Perennial	2
Forbs Annual	2
Ferns Total	1
Ferns Evergreen	1
Ferns Deciduous	0
ExoticsTotal	2
Exotics Perennial	2
Exotics Annual	2
Water	0
Rock Outcrop	20
Gravel	5
Logging	1
Fire:	0
Stand Age	1
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
BRTE, POBU, VUMY, BRHOH, BRAR5

Water:	0
Rock:	20
Talus:	30
Gravel:	5
Bare Ground:	5
Moss Lichen:	3
Litter:	37

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	very steep grassy slope	50	Matrix	GOOD
Veg Community1:	PSSP6-LOCO-BACA			
Existing Veg2:	cliffs and talus	40	Large patch	FAIR
Veg Community3:	cliffs and talus with TODI, PHLE4			
Existing Veg3:	QUGA4/TODI woodlands	10	Small patch	EXCELLE
Veg Community3:	QUGA4/TODI			

Notes:

Polygon Number 34

ParkName:
Dougs Beach

Survey Intensity	1
Observer	PM
Date	4/11/2008
Total Vegetation	4
Trees Total	4
Dominant Trees	ACMA3, QUGA4
emergent	0
maincanopy	4
subcanopy	2
Shrubs Total	4
Dominant Shrubs	TODI, PHLE4, ERRE8, RUAR9, SALIX
> 1.5' tall	4
< 1.5' tall	2
Graminoids Total	4
Dominant Graminoids	PSSP6, VUMY, BRDIR, JUNCU
Graminoids Perennial	3
Graminoids Annual	4
Forbs Total	4
Dominant Forbs	LOCO, MAOR3, ASFA, MIGU, ERCOC8, LOGR, ERCI6, RUCR
Forbs Perennial	3
Forbs Annual	3
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	4
Exotics Perennial	2
Exotics Annual	4
Water	0
Rock Outcrop	3
Gravel	7
Logging	0
Fire:	0
Stand Age	1
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
RUAR9, ERCI6, BRDIR, POBU

Water:	0
Rock:	3
Talus:	35
Gravel:	7
Bare Ground:	3
Moss Lichen:	3
Litter:	49

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	ACMA3-QUGA4/TODI-PHLE4-SALIX/grasses	100	Matrix	GOOD
Veg Community1:	ACMA3/TODI-PHLE4			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: steep intermittent stream, scattered patches of QUGA4 & ACMA3

Polygon Number 35

ParkName:
Dougs Beach

Survey Intensity	2
Observer	PM
Date	4/13/2008
Total Vegetation	4
Trees Total	2
Dominant Trees	QUGA4
emergent	0
maincanopy	2
subcanopy	2
Shrubs Total	2
Dominant Shrubs	TODI
> 1.5' tall	2
< 1.5' tall	1
Graminoids Total	4
Dominant Graminoids	BRTE, BRDIR, VUMY, BRHOH, ELELE
Graminoids Perennial	2
Graminoids Annual	4
Forbs Total	3
Dominant Forbs	LOGR, ERCI6, MAOR3, ERCOC8, LONU2, lots of annual forbs
Forbs Perennial	3
Forbs Annual	3
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	3
Exotics Perennial	2
Exotics Annual	3
Water	0
Rock Outcrop	10
Gravel	20
Logging	0
Fire:	0
Stand Age	1
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
BRTE, POBU, VUMY, BRHOH, BRAR5

Water:	0
Rock:	10
Talus:	2
Gravel:	20
Bare Ground:	25
Moss Lichen:	2
Litter:	41

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	steep, grassy slope	100	Matrix	FAIR
Veg Community1:	steep grasslands			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: STEEP, ROCKY, GRASSY SLOPE

Polygon Number 36

ParkName:
Dougs Beach

Survey Intensity	2
Observer	PM
Date	4/11/2008
Total Vegetation	4
Trees Total	2
Dominant Trees	QUGA4
emergent	0
maincanopy	2
subcanopy	2
Shrubs Total	2
Dominant Shrubs	TODI, ERNI2, PHLE4, PRVI
> 1.5' tall	2
< 1.5' tall	2
Graminoids Total	3
Dominant Graminoids	BRDIR, BRHOH, VUMY, ELELE, POBU, PSSP6, POSE
Graminoids Perennial	2
Graminoids Annual	3
Forbs Total	3
Dominant Forbs	LOCO, ERCI6, annuals, LOGR,
Forbs Perennial	2
Forbs Annual	2
Ferns Total	1
Ferns Evergreen	1
Ferns Deciduous	0
ExoticsTotal	2
Exotics Perennial	2
Exotics Annual	2
Water	0
Rock Outcrop	20
Gravel	5
Logging	1
Fire:	0
Stand Age	1
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
BRTE, POBU, VUMY, BRHOH, BRAR5

Water:	0
Rock:	20
Talus:	30
Gravel:	5
Bare Ground:	5
Moss Lichen:	3
Litter:	37

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	steep, grassy slope	50	Matrix	GOOD
Veg Community1:	PSSP6-LOCO-BACA			
Existing Veg2:	cliffs and talus	40	Large patch	FAIR
Veg Community3:	cliffs and talus with TODI, PHLE4			
Existing Veg3:	QUGA4/TODI woodlands	10	Small patch	EXCELLE
Veg Community3:	QUGA4/TODI			

Notes:

Polygon Number 37

ParkName:
Dougs Beach

Survey Intensity	4
Observer	PM
Date	8/4/2008
Total Vegetation	4
Trees Total	2
Dominant Trees	QUGA4
emergent	0
maincanopy	2
subcanopy	2
Shrubs Total	2
Dominant Shrubs	TODI, ERNI2, PHLE4, PRVI
> 1.5' tall	2
< 1.5' tall	2
Graminoids Total	3
Dominant Graminoids	BRDIR, BRHOH, VUMY, ELELE, POBU, PSSP6, POSE
Graminoids Perennial	2
Graminoids Annual	3
Forbs Total	3
Dominant Forbs	LOCO, ERCI6, annuals, LOGR,
Forbs Perennial	2
Forbs Annual	2
Ferns Total	1
Ferns Evergreen	1
Ferns Deciduous	0
ExoticsTotal	2
Exotics Perennial	2
Exotics Annual	2
Water	0
Rock Outcrop	20
Gravel	5
Logging	1
Fire:	0
Stand Age	1
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
BRTE, POBU, VUMY, BRHOH, BRAR5

Water:	0
Rock:	20
Talus:	30
Gravel:	5
Bare Ground:	5
Moss Lichen:	3
Litter:	37

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	steep, grassy slope	50	Matrix	GOOD
Veg Community1:	PSSP6-LOCO-BACA			
Existing Veg2:	cliffs and talus	40	Large patch	FAIR
Veg Community3:	cliffs and talus with TODI, PHLE4			
Existing Veg3:	QUGA4/TODI woodlands	10	Small patch	EXCELLE
Veg Community3:	QUGA4/TODI			

Notes:

Polygon Number 38

ParkName:
Dougs Beach

Survey Intensity	3
Observer	PM
Date	8/4/2008
Total Vegetation	5
Trees Total	3
Dominant Trees	QUGA4, ACMA3
emergent	0
maincanopy	3
subcanopy	2
Shrubs Total	4
Dominant Shrubs	TODI
> 1.5' tall	3
< 1.5' tall	3
Graminoids Total	4
Dominant Graminoids	BRDIR, POBU, VUMY
Graminoids Perennial	3
Graminoids Annual	4
Forbs Total	3
Dominant Forbs	LUPIN, ZIVE, ERCI6, MAOR3
Forbs Perennial	2
Forbs Annual	2
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	3
Exotics Perennial	2
Exotics Annual	2
Water	0
Rock Outcrop	5
Gravel	10
Logging	1
Fire:	0
Stand Age	2
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
POBU, ERCI6

Water:	0
Rock:	5
Talus:	2
Gravel:	10
Bare Ground:	20
Moss Lichen:	5
Litter:	58

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	QUGA4-ACMA3/TODI/grasses	100	Matrix	GOOD
Veg Community1:	QUGA4/TODI			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: steep QUGA4 woodland, lots of TODI

Polygon Number 39

ParkName:
Dougs Beach

Survey Intensity	2
Observer	PM
Date	4/11/2008
Total Vegetation	4
Trees Total	2
Dominant Trees	QUGA4
emergent	0
maincanopy	2
subcanopy	2
Shrubs Total	2
Dominant Shrubs	TODI, ERNI2, PHLE4, PRVI
> 1.5' tall	2
< 1.5' tall	2
Graminoids Total	3
Dominant Graminoids	BRDIR, BRHOH, VUMY, ELELE, POBU, PSSP6, POSE
Graminoids Perennial	2
Graminoids Annual	3
Forbs Total	3
Dominant Forbs	LOCO, ERCI6, annuals, LOGR,
Forbs Perennial	2
Forbs Annual	2
Ferns Total	1
Ferns Evergreen	1
Ferns Deciduous	0
ExoticsTotal	2
Exotics Perennial	2
Exotics Annual	2
Water	0
Rock Outcrop	20
Gravel	5
Logging	1
Fire:	0
Stand Age	1
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants

Water:	0
Rock:	20
Talus:	30
Gravel:	5
Bare Ground:	5
Moss Lichen:	3
Litter:	37

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	steep, grassy slope	50	Matrix	GOOD
Veg Community1:	PSSP6-LOCO-BACA			
Existing Veg2:	cliffs and talus	40	Large patch	FAIR
Veg Community3:	cliffs and talus with TODI, PHLE4			
Existing Veg3:	QUGA4/TODI woodlands	10	Small patch	EXCELLE
Veg Community3:	QUGA4/TODI			

Notes: visited also on 8/4/2008

Polygon Number 40

ParkName:
Dougs Beach

Survey Intensity	3
Observer	PM
Date	4/11/2008
Total Vegetation	5
Trees Total	2
Dominant Trees	ACMA3, MOAL
emergent	2
maincanopy	0
subcanopy	2
Shrubs Total	3
Dominant Shrubs	PHLE4, TODI, ERRE8, RUAR9, SALIX
> 1.5' tall	3
< 1.5' tall	2
Graminoids Total	4
Dominant Graminoids	VUMY, BRDIR, BRHOH, PSSP6, JUNCU
Graminoids Perennial	3
Graminoids Annual	4
Forbs Total	3
Dominant Forbs	RUCR, ASFA, BRODI, MAOR3, MIGU, ERCOC8, LOGR,ERCI6, PERI,
Forbs Perennial	3
Forbs Annual	3
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	4
Exotics Perennial	2
Exotics Annual	4
Water	0
Rock Outcrop	5
Gravel	3
Logging	1
Fire:	0
Stand Age	1
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants
VEBL
Other Exotic Plants
RUAR9, ERCI6

Water:	0
Rock:	5
Talus:	5
Gravel:	3
Bare Ground:	10
Moss Lichen:	5
Litter:	72

Vegetation Types

		Percent	Pattern	Rank	
Existing Veg1:	PHLE4-TODI-SALIX-RUAR9/grasses-VICIA- MAOR3-RUCR		100	Matrix	GOOD
Veg Community1:	ACMA3/TODI-PHLE4				
Existing Veg2:		0			
Veg Community3:					
Existing Veg3:		0			
Veg Community3:					

Notes: riparian draw-intermittent-med. Gradient, visited also on 8/4/2008

Polygon Number 41

ParkName:
Dougs Beach

Survey Intensity	1
Observer	PM
Date	8/4/2008
Total Vegetation	5
Trees Total	4
Dominant Trees	ACMA3, QUGA4
emergent	0
maincanopy	4
subcanopy	3
Shrubs Total	4
Dominant Shrubs	TODI, PHLE4, COCO6, PRVI, ERNI2
> 1.5' tall	3
< 1.5' tall	3
Graminoids Total	3
Dominant Graminoids	BRHOH, VUMY, ELELE, POSE, POBU, BRTE, PSSP6
Graminoids Perennial	2
Graminoids Annual	3
Forbs Total	3
Dominant Forbs	LOGR, LASE, LEPID, MAOR3, PHHA, EREL5, BACA3, ERCOC8,
Forbs Perennial	2
Forbs Annual	2
Ferns Total	1
Ferns Evergreen	0
Ferns Deciduous	1
ExoticsTotal	3
Exotics Perennial	3
Exotics Annual	3
Water	0
Rock Outcrop	10
Gravel	5
Logging	0
Fire:	0
Stand Age	2
Agriculture	0
Livestock	0
Development	6 (powerline
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants
CESO3, VETH
Other Exotic Plants
TRDU, LASE, POBU, BRTE, BRHOH,

Water:	0
Rock:	10
Talus:	20
Gravel:	5
Bare Ground:	6
Moss Lichen:	3
Litter:	56

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	ACMA3/TODI-PHLE4/annual grasses	40	Matrix	GOOD
Veg Community1:	ACMA3/TODI-PHLE4			
Existing Veg2:	cliffs and talus	30	Small patch	GOOD
Veg Community3:	cliffs and talus with TODI, PHLE4			
Existing Veg3:	PRVI-TODI/BRHOH-PSSP6-LOGR-BACA3	30	Small patch	GOOD
Veg Community3:	TODI-PRVI/grasses			

Notes: mixture of ACMA3 forest, annual grasses, TODI patches, talus and rock outcrops, disturbed by powerline swath

Polygon Number 43

ParkName:
Dougs Beach

Survey Intensity	1
Observer	PM
Date	8/4/2008
Total Vegetation	3
Trees Total	2
Dominant Trees	QUGA4, ACMA3
emergent	0
maincanopy	2
subcanopy	2
Shrubs Total	3
Dominant Shrubs	PRVI, PHLE4, TODI, ERRE8
> 1.5' tall	3
< 1.5' tall	2
Graminoids Total	3
Dominant Graminoids	BRDIR, VUMY, BRTE, POBU
Graminoids Perennial	2
Graminoids Annual	3
Forbs Total	2
Dominant Forbs	LOGR, BACA3, ERCI6, MAOR3
Forbs Perennial	2
Forbs Annual	2
Ferns Total	1
Ferns Evergreen	1
Ferns Deciduous	1
ExoticsTotal	3
Exotics Perennial	2
Exotics Annual	2
Water	0
Rock Outcrop	15
Gravel	5
Logging	1
Fire:	0
Stand Age	2
Agriculture	0
Livestock	0
Development	4
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
BRTE, POBU

Water:	0
Rock:	15
Talus:	50
Gravel:	5
Bare Ground:	5
Moss Lichen:	3
Litter:	22

Vegetation Types

		Percent	Pattern	Rank	
Existing Veg1:	cliffs and talus	65	Matrix	EXCELLE	
Veg Community1:	cliffs and talus with TODI, PHLE4				
Existing Veg2:	QUGA4-ACMA3/PHLE4-PRVI-TODI/grasses-shrubby patches	20	Small patch	EXCELLE	
Veg Community3:	QUGA4/TODI				
Existing Veg3:	steep, grassy slope	15	Small patch	GOOD	
Veg Community3:	steep grasslands				

Notes: STEEP MIXTURE OF TALUS, CLIFFS, SMALL BENCHES, WITH QUGA4 AND ACMA3 AND SHRUBBY PATCHES.

Polygon Number 44

ParkName:
Dougs Beach

Survey Intensity	1
Observer	PM
Date	4/8/2008
Total Vegetation	5
Trees Total	3
Dominant Trees	ACMA3
emergent	0
maincanopy	3
subcanopy	1
Shrubs Total	3
Dominant Shrubs	TODI, PRVI, SALIX
> 1.5' tall	3
< 1.5' tall	2
Graminoids Total	4
Dominant Graminoids	PSSP6, BRDIR, POBU
Graminoids Perennial	3
Graminoids Annual	4
Forbs Total	3
Dominant Forbs	LOGR, LOCO, MIGU, PLTE, BACA3
Forbs Perennial	3
Forbs Annual	2
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	4
Exotics Perennial	2
Exotics Annual	4
Water	1
Rock Outcrop	10
Gravel	15
Logging	
Fire:	1
Stand Age	0
Agriculture	0
Livestock	0
Development	2 (road at bottom)
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
BRHOH, POBU

Water:	1
Rock:	10
Talus:	5
Gravel:	15
Bare Ground:	5
Moss Lichen:	10
Litter:	54

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	ACMA3/TODI-PRVI-SALIX	90	Matrix	FAIR
Veg Community1:	ACMA3/TODI-PHLE4			
Existing Veg2:	waterfall/steep wetland	10	Small patch	EXCELLE
Veg Community3:	MIGU wetland			
Existing Veg3:		0		
Veg Community3:				

Notes: more photos: HS 2690-2693. waterfall and seepy area with intermittent stream, riparian area.

Polygon Number 45

ParkName:
Dougs Beach

Survey Intensity	1
Observer	PM
Date	8/4/2008
Total Vegetation	0
Trees Total	0
Dominant Trees	
emergent	0
maincanopy	0
subcanopy	0
Shrubs Total	0
Dominant Shrubs	
> 1.5' tall	0
< 1.5' tall	0
Graminoids Total	0
Dominant Graminoids	
Graminoids Perennial	0
Graminoids Annual	0
Forbs Total	0
Dominant Forbs	
Forbs Perennial	0
Forbs Annual	0
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	0
Rock Outcrop	0
Gravel	0
Logging	
Fire:	
Stand Age	
Agriculture	
Livestock	
Development	
Wildlife	
Recreation Severity	
Recreation Type	
Hydrology	

Exotic Species

Noxious Exotic Plants

Other Exotic Plants

Water:	0
Rock:	0
Talus:	0
Gravel:	0
Bare Ground:	0
Moss Lichen:	0
Litter:	0

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	road crossing	100	Matrix	DEVELO
Veg Community1:	developed			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes:

Polygon Number 46

ParkName:
Dougs Beach

Survey Intensity	1
Observer	PM
Date	8/4/2008
Total Vegetation	0
Trees Total	0
Dominant Trees	
emergent	0
maincanopy	0
subcanopy	0
Shrubs Total	0
Dominant Shrubs	
> 1.5' tall	0
< 1.5' tall	0
Graminoids Total	0
Dominant Graminoids	
Graminoids Perennial	0
Graminoids Annual	0
Forbs Total	0
Dominant Forbs	
Forbs Perennial	0
Forbs Annual	0
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	100
Rock Outcrop	0
Gravel	0
Logging	
Fire:	
Stand Age	
Agriculture	
Livestock	
Development	
Wildlife	
Recreation Severity	
Recreation Type	
Hydrology	2 (reservoir)

Exotic Species

Noxious Exotic Plants

Other Exotic Plants

Water:	100
Rock:	0
Talus:	0
Gravel:	0
Bare Ground:	0
Moss Lichen:	0
Litter:	0

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	water	100	Matrix	DEVELO
Veg Community1:	water			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes:

Polygon Number 47

ParkName:
Dougs Beach

Survey Intensity	1
Observer	PM
Date	8/4/2008
Total Vegetation	0
Trees Total	0
Dominant Trees	
emergent	0
maincanopy	0
subcanopy	0
Shrubs Total	0
Dominant Shrubs	
> 1.5' tall	0
< 1.5' tall	0
Graminoids Total	0
Dominant Graminoids	
Graminoids Perennial	0
Graminoids Annual	0
Forbs Total	0
Dominant Forbs	
Forbs Perennial	0
Forbs Annual	0
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	100
Rock Outcrop	0
Gravel	0
Logging	
Fire:	
Stand Age	
Agriculture	
Livestock	
Development	
Wildlife	
Recreation Severity	
Recreation Type	
Hydrology	2 (reservoir)

Exotic Species

Noxious Exotic Plants

Other Exotic Plants

Water:	100
Rock:	0
Talus:	0
Gravel:	0
Bare Ground:	0
Moss Lichen:	0
Litter:	0

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	water	100	Matrix	DEVELO
Veg Community1:	water			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes:

Polygon Number 48

ParkName:
Dougs Beach

Survey Intensity	1
Observer	PM
Date	8/4/2008
Total Vegetation	0
Trees Total	0
Dominant Trees	
emergent	0
maincanopy	0
subcanopy	0
Shrubs Total	0
Dominant Shrubs	
> 1.5' tall	0
< 1.5' tall	0
Graminoids Total	0
Dominant Graminoids	
Graminoids Perennial	0
Graminoids Annual	0
Forbs Total	0
Dominant Forbs	
Forbs Perennial	0
Forbs Annual	0
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	100
Rock Outcrop	0
Gravel	0
Logging	
Fire:	
Stand Age	
Agriculture	
Livestock	
Development	
Wildlife	
Recreation Severity	
Recreation Type	
Hydrology	2 (reservoir)

Exotic Species

Noxious Exotic Plants

Other Exotic Plants

Water:	100
Rock:	0
Talus:	0
Gravel:	0
Bare Ground:	0
Moss Lichen:	0
Litter:	0

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	water	100	Matrix	DEVELO
Veg Community1:	water			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes:

Polygon Number 49

ParkName:
Dougs Beach

Survey Intensity	2
Observer	PM
Date	8/4/2008
Total Vegetation	5
Trees Total	3
Dominant Trees	
emergent	0
maincanopy	3
subcanopy	2
Shrubs Total	5
Dominant Shrubs	RUAR9, CRDO2
> 1.5' tall	5
< 1.5' tall	2
Graminoids Total	2
Dominant Graminoids	ELYMU
Graminoids Perennial	2
Graminoids Annual	1
Forbs Total	2
Dominant Forbs	ASFA, VETH
Forbs Perennial	2
Forbs Annual	0
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	5
Exotics Perennial	5
Exotics Annual	0
Water	0
Rock Outcrop	0
Gravel	1
Logging	1
Fire:	0
Stand Age	1
Agriculture	0
Livestock	0
Development	3
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants
VETH
Other Exotic Plants
RUAR9

Water:	0
Rock:	0
Talus:	0
Gravel:	1
Bare Ground:	2
Moss Lichen:	0
Litter:	97

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	RUAR9	80	Matrix	POOR
Veg Community1:	RUAR9			
Existing Veg2:	MIXED DISTURBED/EXOTIC VEG	20	Small patch	POOR
Veg Community3:	disturbed shrubland			
Existing Veg3:		0		
Veg Community3:				

Notes: MOSTLY A LARGE IMPENETRABLE PATCH OF RUAR9

Polygon Number 50A

ParkName:
Dougs Beach

Survey Intensity	1
Observer	PM
Date	8/4/2008
Total Vegetation	5
Trees Total	0
Dominant Trees	
emergent	0
maincanopy	0
subcanopy	0
Shrubs Total	0
Dominant Shrubs	
> 1.5' tall	0
< 1.5' tall	0
Graminoids Total	0
Dominant Graminoids	
Graminoids Perennial	0
Graminoids Annual	0
Forbs Total	0
Dominant Forbs	
Forbs Perennial	0
Forbs Annual	0
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	5
Exotics Perennial	5
Exotics Annual	2
Water	0
Rock Outcrop	0
Gravel	0
Logging	
Fire:	
Stand Age	
Agriculture	
Livestock	
Development	4
Wildlife	
Recreation Severity	
Recreation Type	
Hydrology	

Exotic Species

Noxious Exotic Plants

Other Exotic Plants

Water:	0
Rock:	0
Talus:	0
Gravel:	0
Bare Ground:	0
Moss Lichen:	0
Litter:	0

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	DEVELOPED	100	Matrix	DEVELO
Veg Community1:	developed			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: picnic, beach, toilets, mowed, exotic trees

Polygon Number 50B

ParkName:
Dougs Beach

Survey Intensity	1
Observer	PM
Date	8/4/2008
Total Vegetation	3
Trees Total	2
Dominant Trees	MOAL
emergent	0
maincanopy	2
subcanopy	0
Shrubs Total	2
Dominant Shrubs	CRDO2, SAEX, ERRE8
> 1.5' tall	2
< 1.5' tall	1
Graminoids Total	3
Dominant Graminoids	POBU, BRDIR
Graminoids Perennial	3
Graminoids Annual	3
Forbs Total	2
Dominant Forbs	CEDI3, VETH, HEVIM3
Forbs Perennial	2
Forbs Annual	2
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	3
Exotics Perennial	3
Exotics Annual	3
Water	0
Rock Outcrop	50
Gravel	20
Logging	0
Fire:	0
Stand Age	1
Agriculture	0
Livestock	0
Development	3
Wildlife	3
Recreation Severity	1
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants
CEDI3,
Other Exotic Plants
VETH, POBU, BRDIR

Water:	0
Rock:	50
Talus:	0
Gravel:	20
Bare Ground:	5
Moss Lichen:	10
Litter:	15

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	rock outcrop	80	Matrix	FAIR
Veg Community1:	rock outcrop			
Existing Veg2:	mixed disturbed veg	20	Small patch	POOR
Veg Community3:	disturbed vegetation			
Existing Veg3:		0		
Veg Community3:				

Notes: heavily used rocky outcrop area with BRDIR, POBU, moss and a few weeds

Polygon Number 51

ParkName:
Dougs Beach

Survey Intensity	1
Observer	PM
Date	8/4/2008
Total Vegetation	5
Trees Total	2
Dominant Trees	PYCO
emergent	0
maincanopy	2
subcanopy	2
Shrubs Total	3
Dominant Shrubs	ERST4, ERRE8, TODI, AMAL2, RUAR9, ROWO, CLLI2
> 1.5' tall	3
< 1.5' tall	2
Graminoids Total	4
Dominant Graminoids	BRDIR, POBU, LECI4
Graminoids Perennial	3
Graminoids Annual	3
Forbs Total	3
Dominant Forbs	LOGR, ACMI2, HEVIM3, EQTE, LULE3, PLLA, OPFR
Forbs Perennial	2
Forbs Annual	3
Ferns Total	2
Ferns Evergreen	2
Ferns Deciduous	0
ExoticsTotal	3
Exotics Perennial	3
Exotics Annual	3
Water	0
Rock Outcrop	20
Gravel	10
Logging	1
Fire:	0
Stand Age	1
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	2
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants
CEDI3, VETH, COAR4
Other Exotic Plants
POBU, BRDIR, exotic trees

Water:	0
Rock:	20
Talus:	0
Gravel:	10
Bare Ground:	10
Moss Lichen:	5
Litter:	55

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	BRDIR-EQTE-LULE3-LECI4, deep soil	70	Matrix	GOOD
Veg Community1:	BRDIR-LULE3-EQTE			
Existing Veg2:	rocky, annual grasses	20	Large patch	GOOD
Veg Community3:	rock outcrop			
Existing Veg3:	wet coves with exotic shrubs	10	Small patch	POOR
Veg Community3:	disturbed shrubland			

Notes: wet coves along water dominated by exotic shrubs

Polygon Number 52

ParkName:
Dougs Beach

Survey Intensity	2
Observer	PM
Date	8/6/2008
Total Vegetation	3
Trees Total	2
Dominant Trees	ACMA3
emergent	0
maincanopy	2
subcanopy	1
Shrubs Total	3
Dominant Shrubs	TODI PRVI, PHLE4
> 1.5' tall	3
< 1.5' tall	2
Graminoids Total	3
Dominant Graminoids	BRDIR, BRHOH, VUMY, ELELE, POBU, PSSP6, POSE
Graminoids Perennial	2
Graminoids Annual	3
Forbs Total	2
Dominant Forbs	LOGR, ERCI6, MELA2, MAOR3
Forbs Perennial	2
Forbs Annual	2
Ferns Total	1
Ferns Evergreen	1
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	0
Rock Outcrop	10
Gravel	10
Logging	1
Fire:	0
Stand Age	1
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants

Water:	0
Rock:	10
Talus:	45
Gravel:	10
Bare Ground:	5
Moss Lichen:	3
Litter:	27

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	cliffs and talus	70	Matrix	EXCELLE
Veg Community1:	cliffs and talus with TODI, PHLE4			
Existing Veg2:	TODI-PRVI/grasses	30	Small patch	EXCELLE
Veg Community3:	TODI-PRVI/grasses			
Existing Veg3:		0		
Veg Community3:				

Notes: SEE VOC. INFO.

Polygon Number 54

ParkName:
Dougs Beach

Survey Intensity	1
Observer	PM
Date	8/6/2008
Total Vegetation	5
Trees Total	2
Dominant Trees	QUGA4, ACMA3
emergent	0
maincanopy	2
subcanopy	1
Shrubs Total	2
Dominant Shrubs	TODI, AMAL2, ERRE8, PHLE4
> 1.5' tall	2
< 1.5' tall	1
Graminoids Total	4
Dominant Graminoids	BRDIR, BRHOH, ELELE, PSSP6, VUMY
Graminoids Perennial	3
Graminoids Annual	4
Forbs Total	3
Dominant Forbs	BACA3, ERST4, LACTU, EREL5, LOGR, MAOR3, ERCI6, LOCO,
Forbs Perennial	3
Forbs Annual	2
Ferns Total	1
Ferns Evergreen	1
Ferns Deciduous	1
ExoticsTotal	4
Exotics Perennial	2
Exotics Annual	4
Water	0
Rock Outcrop	5
Gravel	12
Logging	1
Fire:	0
Stand Age	1
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
BRTE, POBU, VUMY, BRHOH, BRAR5

Water:	0
Rock:	5
Talus:	10
Gravel:	12
Bare Ground:	10
Moss Lichen:	2
Litter:	61

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	grassy bench and steep grasslands	100	Matrix	FAIR
Veg Community1:	steep grasslands			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: (note add PHLE4, RHGL, PRVI, TODI to #43) This is a grassy bench and more gentle slope, then the rest of DB.

Polygon Number 55

ParkName:
Dougs Beach

Survey Intensity	1
Observer	PM
Date	8/6/2008
Total Vegetation	5
Trees Total	2
Dominant Trees	ACMA3
emergent	0
maincanopy	2
subcanopy	2
Shrubs Total	3
Dominant Shrubs	ERST4, PRVI, TODI, PHLE4
> 1.5' tall	3
< 1.5' tall	2
Graminoids Total	4
Dominant Graminoids	LECI4, POSE
Graminoids Perennial	3
Graminoids Annual	4
Forbs Total	3
Dominant Forbs	MAOR3, ERCI6, LOGR, ERCOC8, OLDO, ZIPA2
Forbs Perennial	3
Forbs Annual	2
Ferns Total	2
Ferns Evergreen	2
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	0
Rock Outcrop	3
Gravel	10
Logging	0
Fire:	0
Stand Age	1
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants

Water:	0
Rock:	3
Talus:	10
Gravel:	10
Bare Ground:	5
Moss Lichen:	5
Litter:	67

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	TODI-PRVI-ERST4/grasses	65	Matrix	FAIR
Veg Community1:	steep grasslands			
Existing Veg2:	rocky slope, sparse veg	35	Small patch	EXCELLE
Veg Community3:	cliffs and talus with TODI, PHLE4			
Existing Veg3:		0		
Veg Community3:				

Notes: BENCHS AND MODERATE SLOPES, FAIRLY WELL VEGATATED WITH PATCHES FO ROCKY SLOPES

Polygon Number 56

ParkName:
Dougs Beach

Survey Intensity	1
Observer	PM
Date	8/6/2008
Total Vegetation	5
Trees Total	2
Dominant Trees	ACMA3, MOAL
emergent	2
maincanopy	0
subcanopy	2
Shrubs Total	3
Dominant Shrubs	PHLE4, TODI, ERRE8, RUAR9, SALIX
> 1.5' tall	3
< 1.5' tall	2
Graminoids Total	4
Dominant Graminoids	VUMY, BRDIR, BRHOH, PSSP6, JUNCU
Graminoids Perennial	3
Graminoids Annual	4
Forbs Total	3
Dominant Forbs	RUCR, ASFA, BRODI, MAOR3, MIGU, ERCOC8, LOGR,ERCI6, PERI,
Forbs Perennial	3
Forbs Annual	3
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	4
Exotics Perennial	2
Exotics Annual	4
Water	0
Rock Outcrop	5
Gravel	3
Logging	1
Fire:	0
Stand Age	1
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants
VEBL
Other Exotic Plants
RUAR9, ERCI6, BRDIR, POBU

Water:	0
Rock:	5
Talus:	5
Gravel:	3
Bare Ground:	10
Moss Lichen:	5
Litter:	72

Vegetation Types

		Percent	Pattern	Rank	
Existing Veg1:	ACMA3/PHLE4-TODI-SALIX/grasses-VICIA- MAOR3-RUCR		100	Matrix	FAIR
Veg Community1:	ACMA3/TODI-PHLE4				
Existing Veg2:		0			
Veg Community3:					
Existing Veg3:		0			
Veg Community3:					

Notes: intermittent stream, medium to steep gradient. Riparian vegetation.

Polygon Number 57A

ParkName:
Dougs Beach

Survey Intensity	2
Observer	PM
Date	8/4/2008
Total Vegetation	5
Trees Total	0
Dominant Trees	0
emergent	0
maincanopy	0
subcanopy	0
Shrubs Total	1
Dominant Shrubs	ERNI2
> 1.5' tall	1
< 1.5' tall	1
Graminoids Total	5
Dominant Graminoids	BRHOH, VUMY, BRAR5, ELELE, POBU, POSE, PSSP6
Graminoids Perennial	3
Graminoids Annual	4
Forbs Total	3
Dominant Forbs	FRAL2, LOTR2, ERCI6, MAGR3, ACMI2, ZIVE, MAOR3, ERCOC8
Forbs Perennial	3
Forbs Annual	3
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	3
Exotics Perennial	2
Exotics Annual	3
Water	0
Rock Outcrop	1
Gravel	1
Logging	1
Fire:	0
Stand Age	1
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
POBU, ERCI6, BRHOH, BRAR5

Water:	0
Rock:	1
Talus:	1
Gravel:	1
Bare Ground:	15
Moss Lichen:	0
Litter:	82

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	BRHOH-ELELE	100	Matrix	FAIR
Veg Community1:	steep grasslands			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: LIKE 58 EXCEPT DEEPER SOIL IN PLACES, MORE GENTLE NO QUGA4

Polygon Number 57B

ParkName:
Dougs Beach

Survey Intensity	1
Observer	PM
Date	8/4/2008
Total Vegetation	4
Trees Total	0
Dominant Trees	
emergent	0
maincanopy	0
subcanopy	0
Shrubs Total	3
Dominant Shrubs	ERRE8, ERNI2
> 1.5' tall	0
< 1.5' tall	3
Graminoids Total	3
Dominant Graminoids	POBU, BRDIR, VUMY, BRTE, PSSP6
Graminoids Perennial	3
Graminoids Annual	3
Forbs Total	2
Dominant Forbs	ERCOC8, LOGR, LUPIN
Forbs Perennial	2
Forbs Annual	2
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	2
Exotics Perennial	2
Exotics Annual	2
Water	0
Rock Outcrop	15
Gravel	10
Logging	1
Fire:	0
Stand Age	1
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
POBU, BRTE

Water:	0
Rock:	15
Talus:	3
Gravel:	10
Bare Ground:	15
Moss Lichen:	15
Litter:	42

Vegetation Types

		Percent	Pattern	Rank	
Existing Veg1:	rocky ridge crest; ERNI2-ERRE8/grasses-	ERCOC8	100	Matrix	GOOD
Veg Community1:	ERNI2/POSE-PSSP6				
Existing Veg2:		0			
Veg Community3:					
Existing Veg3:		0			
Veg Community3:					

Notes:

Polygon Number 58

ParkName:
Dougs Beach

Survey Intensity	2
Observer	PM
Date	8/4/2008
Total Vegetation	4
Trees Total	1
Dominant Trees	QUGA4
emergent	0
maincanopy	1
subcanopy	1
Shrubs Total	2
Dominant Shrubs	TODI
> 1.5' tall	2
< 1.5' tall	2
Graminoids Total	4
Dominant Graminoids	VUMY, BRHOH, BRTE, PSSP6, POBU, ELELE
Graminoids Perennial	3
Graminoids Annual	4
Forbs Total	3
Dominant Forbs	MAOR3, ERCI6, ZIVE, TRDU, ASFA, LUPIN
Forbs Perennial	2
Forbs Annual	3
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	3
Exotics Perennial	2
Exotics Annual	3
Water	0
Rock Outcrop	3
Gravel	5
Logging	1
Fire:	0
Stand Age	1
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
BRTE, POBU, TRDU, BRHOH, BRAR5

Water:	0
Rock:	3
Talus:	10
Gravel:	5
Bare Ground:	20
Moss Lichen:	1
Litter:	62

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	BRHOH-VUMY-PSSP6-BRTE-MAOR3-LUPIN	100	Matrix	FAIR
Veg Community1:	steep grasslands			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: Steep open grassy slope

Polygon Number 59

ParkName:
Dougs Beach

Survey Intensity	3
Observer	PM
Date	8/4/2008
Total Vegetation	4
Trees Total	3
Dominant Trees	QUGA4
emergent	0
maincanopy	3
subcanopy	2
Shrubs Total	2
Dominant Shrubs	TODI
> 1.5' tall	2
< 1.5' tall	2
Graminoids Total	4
Dominant Graminoids	
Graminoids Perennial	3
Graminoids Annual	4
Forbs Total	2
Dominant Forbs	LUPIN, MAOR3
Forbs Perennial	2
Forbs Annual	2
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	2
Exotics Perennial	2
Exotics Annual	2
Water	0
Rock Outcrop	1
Gravel	10
Logging	1
Fire:	0
Stand Age	2
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants

Water:	0
Rock:	1
Talus:	2
Gravel:	10
Bare Ground:	25
Moss Lichen:	1
Litter:	61

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	QUGA4/TODI/grasses	100	Matrix	GOOD
Veg Community1:	QUGA4/TODI			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: OPEN QUGA4 WOODLAND AND STEEP GRASS

Polygon Number 60

ParkName:
Dougs Beach

Survey Intensity	3
Observer	PM
Date	8/4/2008
Total Vegetation	5
Trees Total	5
Dominant Trees	QUGA4
emergent	0
maincanopy	5
subcanopy	3
Shrubs Total	3
Dominant Shrubs	TODI
> 1.5' tall	3
< 1.5' tall	2
Graminoids Total	4
Dominant Graminoids	BRDIR, BRHOH, VUMY, ELELE, POBU, PSSP6, POSE
Graminoids Perennial	3
Graminoids Annual	4
Forbs Total	2
Dominant Forbs	
Forbs Perennial	2
Forbs Annual	2
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	2
Exotics Perennial	2
Exotics Annual	2
Water	0
Rock Outcrop	1
Gravel	5
Logging	0
Fire:	0
Stand Age	2
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants

Water:	0
Rock:	1
Talus:	3
Gravel:	5
Bare Ground:	10
Moss Lichen:	2
Litter:	79

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	QUGA4/TODI/grasses	100	Matrix	GOOD
Veg Community1:	QUGA4/TODI			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: QUGA4/TODI/grasses wood land

Polygon Number 61

ParkName:
Dougs Beach

Survey Intensity	1
Observer	PM
Date	4/9/2008
Total Vegetation	5
Trees Total	0
Dominant Trees	
emergent	0
maincanopy	0
subcanopy	0
Shrubs Total	0
Dominant Shrubs	
> 1.5' tall	0
< 1.5' tall	0
Graminoids Total	5
Dominant Graminoids	BRTE, BRHOH, VUMY, POBU, POSE
Graminoids Perennial	3
Graminoids Annual	4
Forbs Total	4
Dominant Forbs	PLTE, ERCI6, LOGR, LOCO, MIGRH, ZIVE, OLDO, DOPO
Forbs Perennial	3
Forbs Annual	2
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	4
Exotics Perennial	3
Exotics Annual	4
Water	0
Rock Outcrop	0
Gravel	3
Logging	0
Fire:	0
Stand Age	1
Agriculture	0
Livestock	3
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Noxious Exotic Plants

Other Exotic Plants
BRTE, POBU, BRHOH, ERCI6

Water:	0
Rock:	0
Talus:	0
Gravel:	3
Bare Ground:	7
Moss Lichen:	0
Litter:	90

Vegetation Types

		Percent	Pattern	Rank
Existing Veg1:	annual exotic grasses-PLTE-ERCI6-OLDO-ZIVE	100	Matrix	FAIR
Veg Community1:	steep grasslands			
Existing Veg2:		0		
Veg Community3:				
Existing Veg3:		0		
Veg Community3:				

Notes: Moderately lush bench/swale with lots of annual and perennial grasses and diverse forbs.