Rare Plant and Vegetation Surveys of the Hoko-Cowan State Park Properties

Pacific Biodiversity Institute

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December 2006

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Recommended Citation

Visalli, J.D., H.M. Smith IV, and P.H. Morrison. 2006. Rare Plant and Vegetation Surveys of the Hoko-Cowan State Park Properties. Pacific Biodiversity Institute, Winthrop, Washington. 115 p.

Acknowledgements

The photographs in this report are by Dana Visalli, and Hans Smith. Phyllis Murra, a conservation science intern at Pacific Biodiversity Institute, assisted with the first set of field surveys. Juliet Rhodes completed the data entry and worked on checking data integrity. LeChi Huynh, a conservation science intern at Pacific Biodiversity Institute, edited the report.

Project Funding

This project was conducted under a contract with the Washington State Parks and Recreation Commission.

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Introduction

Under contract with the Washington State Parks and Recreation Commission, the Hoko-Cowan State Park Lands, located in Clallam County, were surveyed for rare plant occurrences and mapped according to vegetation communities by Pacific Biodiversity Institute (PBI). Vegetation data was collected for all the mapped vegetation types. This report summarizes the activities and findings of the contracted work.

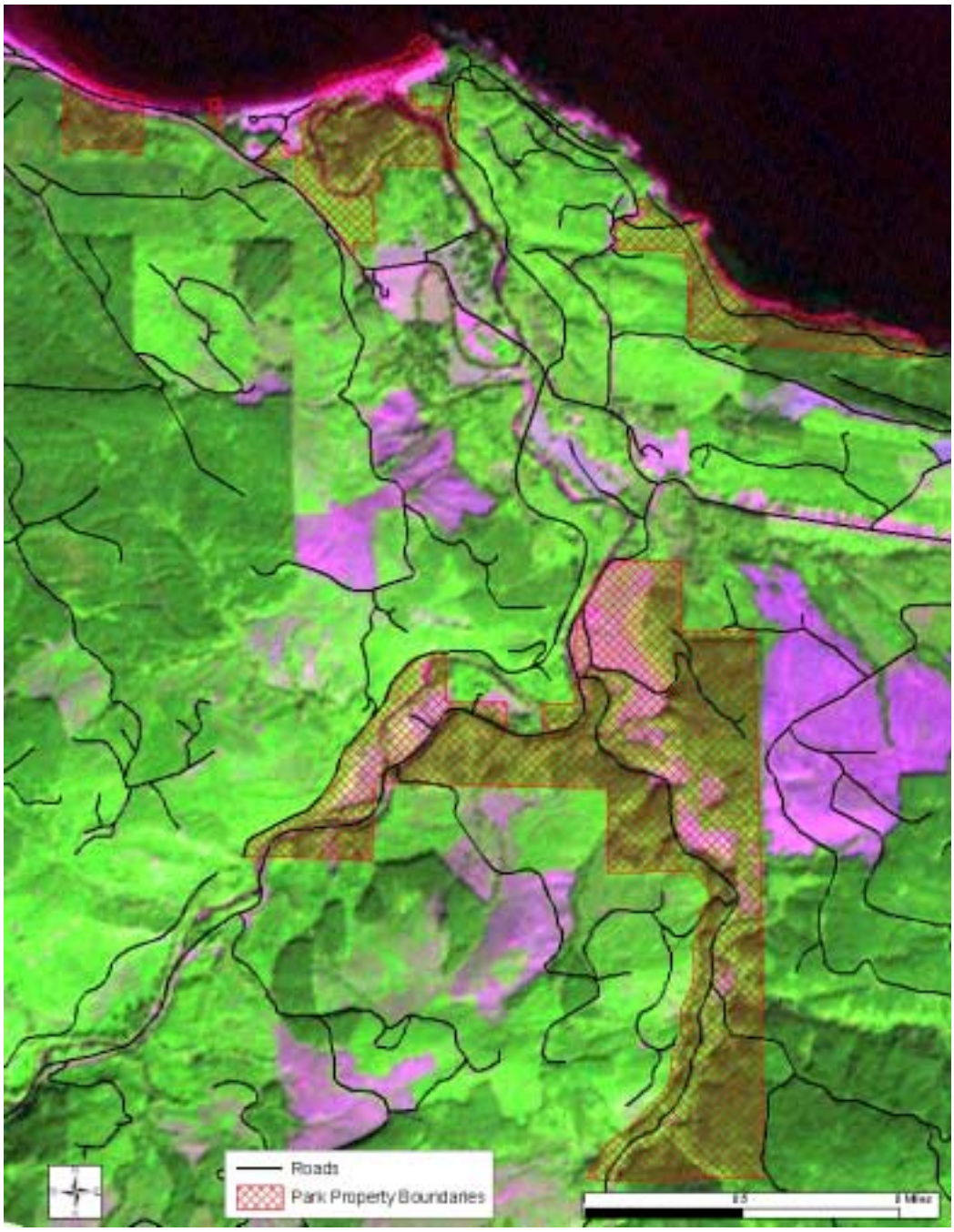

Figure 1: An overview of the project area, which is colored with red crosshatching. There are four discrete units along the coast around the mouth of the Hoko River, and one large unit inland on the old Cowan Ranch properties.

Survey Conditions and Survey Routes

The project area was surveyed by two field workers from April 24-26, 2006, and then revisited by a botanist working alone from August 15-18. Field survey dates are also provided in Appendix A. Our routes from these surveys are illustrated in Figures 2 and 3. Portions of all the units were accessible by maintained roads, however penetrating the interior of some of the units was difficult in places due to thick post-logging brush and second-growth forest conditions. Also, the Hoko River acted as a barrier in accessing some of portions of the unit at the river's mouth.

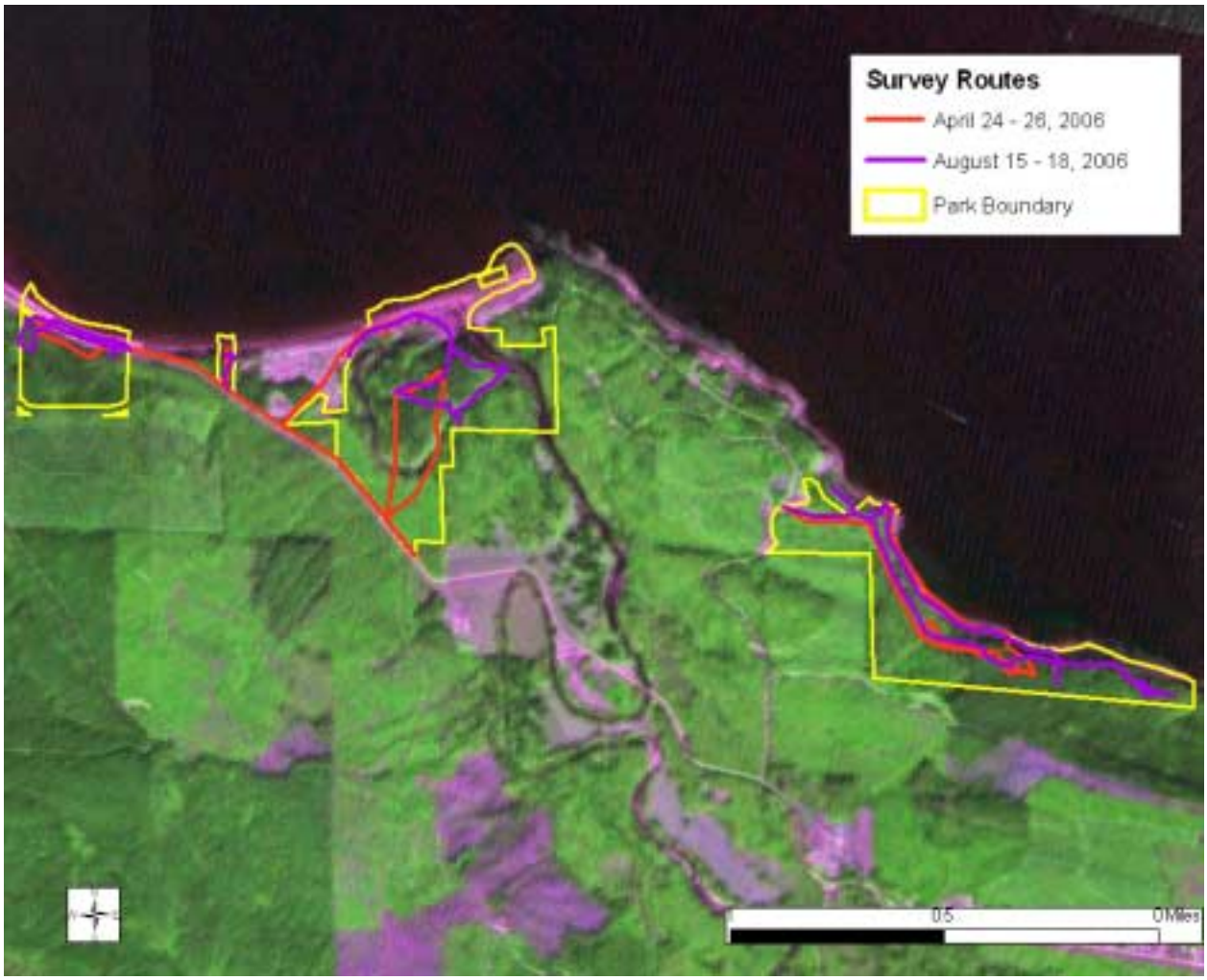

Figure 2: Survey routes in the coast portion of the project area:

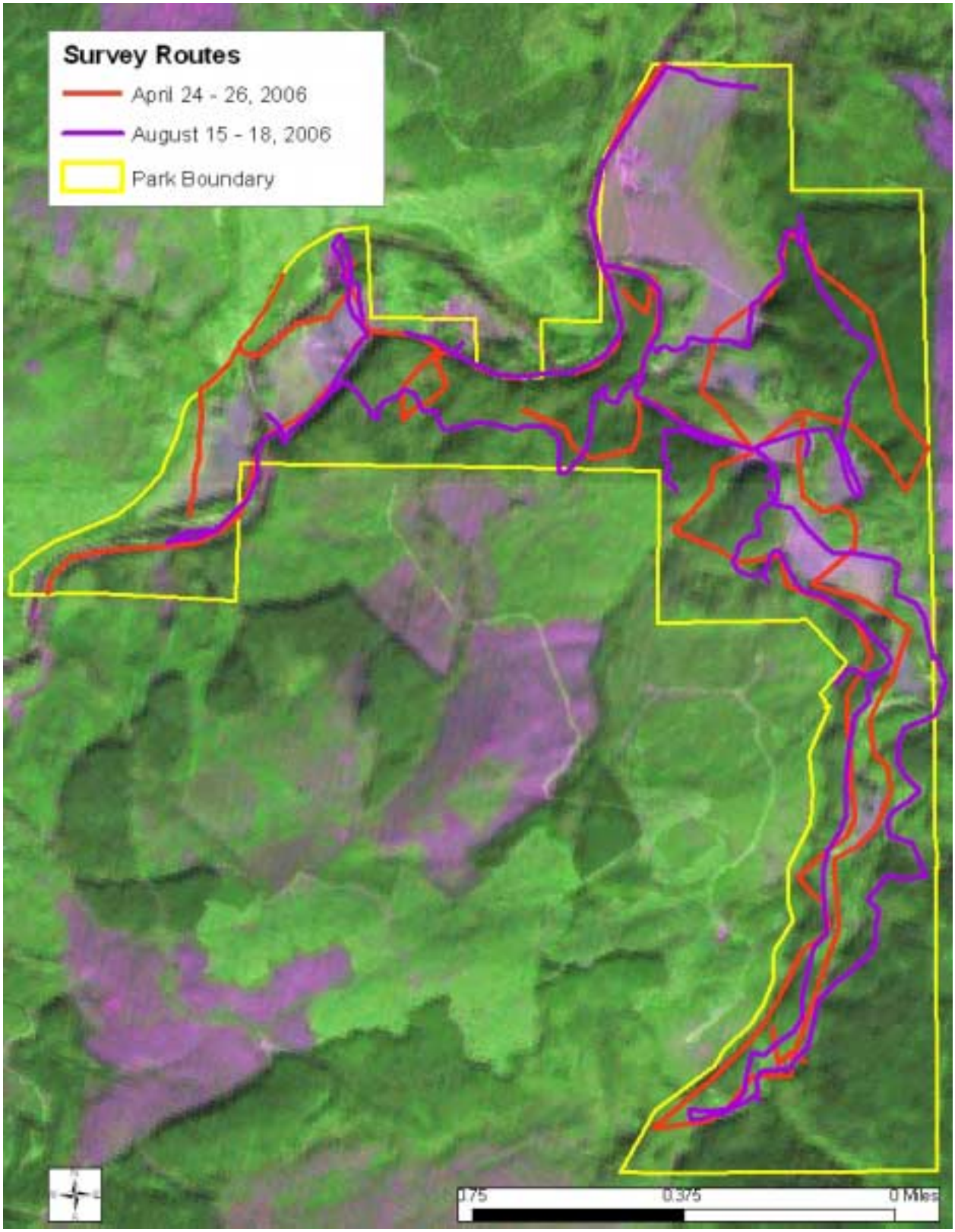

Figure 3: Survey routes on the old Cowan Ranch properties.

Vegetation Communities

Methods

Vegetation communities within the Hoko-Cowan State Park properties were delineated and classified using a combination of field survey and remote sensing techniques. We relied on descriptions from the Draft Guide to Plant Associations on the Olympic Experimental Forest (Bigley and Hull, 1995), Ecological classification of low-elevation riparian vegetation on the Olympic Experimental State Forest (Chappell, 1999), Forested Plant Associations of the Olympic National Forest (Henderson et al., 1985) and Baseline Inventory of Rare, Threatened and Endangered Plant Species/Communities along Washington's Pacific Coast (Kunze and Cornelius, 1982) to make final vegetation community assignments. In some cases, the descriptions provided by these authorities were not adequate in describing existing vegetation associations. In these cases, alternative vegetation communities or plant associations were created by PBI or found in alternative reference material.

Remote sensing techniques consisted of manually delineating plant associations or mosaics of plant associations in a digital environment. We reviewed orthorectified aerial photography from the 1990s and recent ASTER and LANDSAT Thematic Mapper satellite images for discernable vegetation or landform patterns. When available, we also used high resolution true color orthorectified aerial photography. Topographic maps and digital elevation models (DEMs) were also employed to assist the process of vegetation community delineation. The final vegetation polygons were created by hand in a GIS by ocular assessment.

Field surveys consisted of visiting sites located within the vegetation polygons created during the remote sensing process. At representative sites within a polygon, vegetation data and site descriptions were recorded in a fashion consistent with the "plant community polygon" format provided by the Washington State Parks and Recreation Commission. Further refinements and editing of the drafted vegetation polygon layers were done by hand on hardcopy maps in the field, and later edited digitally in a GIS.

Results

We mapped and surveyed 79 vegetation community polygons, comprised of 20 vegetation community types, within Hoko-Cowan State Park Lands. Vegetation community polygons are either stand-alone plant associations or mosaics of multiple plant associations. Table 1 lists the plant associations and/or cover types found on the Hoko-Cowan properties. See Appendix B for interpretation of "Status" codes. Figures 4 through 7 illustrate the location of the vegetation community polygons. Note that Figures 5 and 7 only show the primary plant associations in each polygon (PA1 in the database). A printout of the complete set of data we collected for each polygon is attached in Appendix D. The ecological condition of each polygon was evaluated according to a simple ranking system described in Appendix C.

Table 1. Vegetation Community Types Encountered within the Hoko-Cowan State Park properties.

Abbreviation	Association Name	English Name	Reference	Status
ALRU2/RUSP	*Alnus rubra / Rubus spectabilis*	red alder / salmonberry	Chappell 1999	G4G5
ALRU2/RUSP/CAOB3-LYAM3	*Alnus rubra / Rubus spectabilis / Carex obnupta - Lysichiton americanus*	red alder / salmonberry / slough sedge - skunkcabbage	Chappell 1999	G3G4
CALY3 Community	*Carex lyngbyei* Community	Lyngbye's sedge community	Kunze and Cornelius 1982	G4
DECA18 Community	*Deschampsia caespitosa* Community	tufted hairbrass community	Kunze and Cornelius 1982	G4
ELMO9 Community	*Elymus mollis* Community	American dunegrass community	Kunze and Cornelius 1982	G2?
PISI/ALRU2/LYAM3	*Picea sitchensis / Alnus rubra / Lysichiton americanus*	Sitka spruce / red alder / skunkcabbage	Chappell 1999	??
PISI/BLSP-POMU	*Picea sitchensis / Blechnum spicant / Polysticum munitum*	Sitka spruce / deeerfern / swordfern	Bigley and Hull 1995	??
PISI/CAOB3-LYAM3	*Picea sitchensis / Carex obnupta - Lysichiton americanus*	Sitka spruce / slough sedge - American skunkcabbage	Chappell 1999	G2G3
PISI/GASH	*Picea sitchensis / Gaultheria shallon*	Sitka spruce / salal	Bigley and Hull 1995	G3
PISI/OXOR	*Picea sitchensis / Oxalis oregana*	Sitka spruce / redwood-sorrel	Bigley and Hull 1995	G3
PISI/POMU-TROV2	*Picea sitchensis / Polystichum munitum / Trillium ovatum*	Sitka spruce / swordfern / Pacific trillium	Bigley and Hull 1995	??
SASI/EQAR	*Salix sitchensis / Equisetum arvense*	Sitka willow / field horsetail	Chappell 1999	G4?
Shrub Wetland Community	Shrub wetland community	shrub wetland community	Kunze and Cornelius 1982	G4
THSE/GASH/DISM2	*Tsuga heterophylla / Gaultheria shallon / Disporum smithii*	western hemlock / salal / largeflowered fairybell	Bigley and Hull 1995	??
TSHE/MEFE/BLSP	*Tsuga heterophylla / Menziesia ferruginea / Blechnum spicant*	western hemlock / rusty menziesia / deerfern	Bigley and Hull 1995	G2
TSHE/OXOR/DRAU2	*Tsuga heterophylla / Oxalis orgeana / Dryopteris austriaca*	western hemlock / redwood sorrel / mountain woodfern	Bigley and Hull 1995	G3
TSHE/POMU	*Tsuga heterophylla / Polystichum munitum*	western hemlock / swordfern	Bigley and Hull 1995	G4
Water				
Beach				
Abandoned Pasture				
Developed				

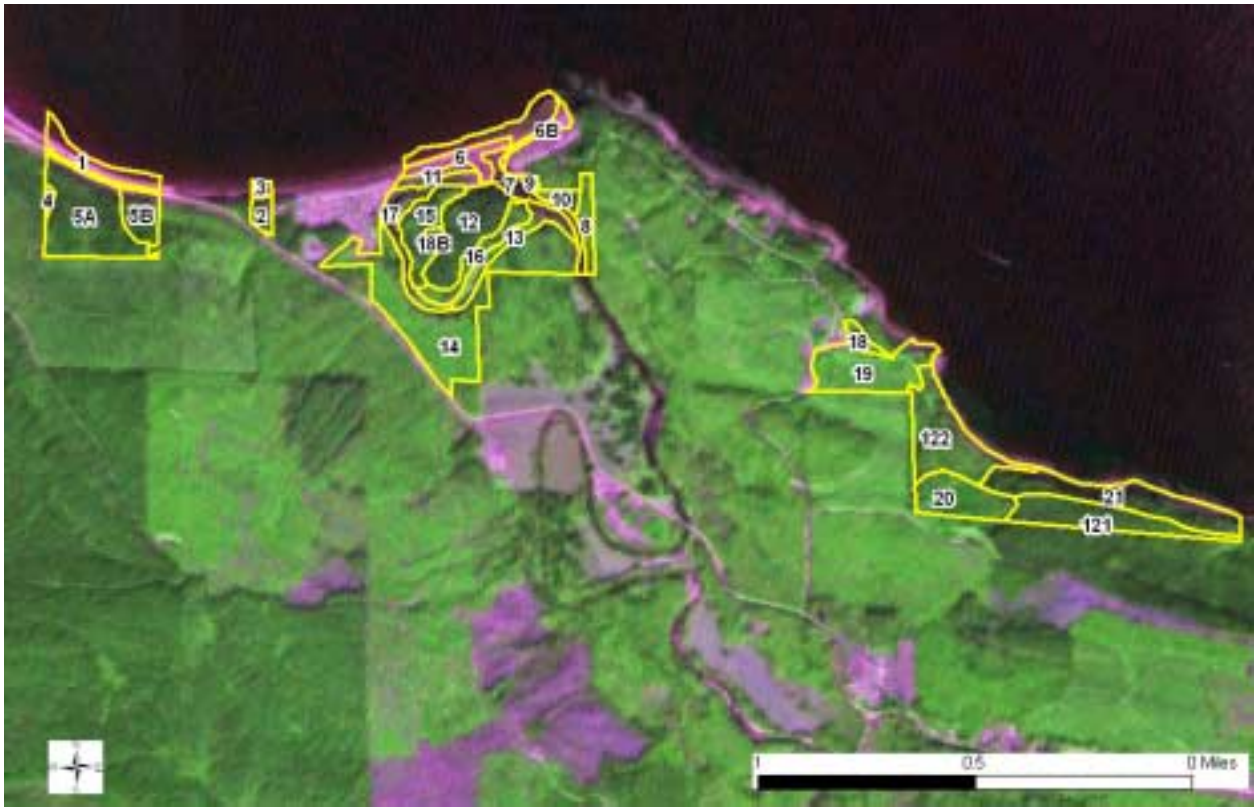

Figure 4. Layout of the vegetation community polygons of the coastal portion of the project area, overlaying a 1998 digital ortho-photo combined with TM7 spectral imagery.

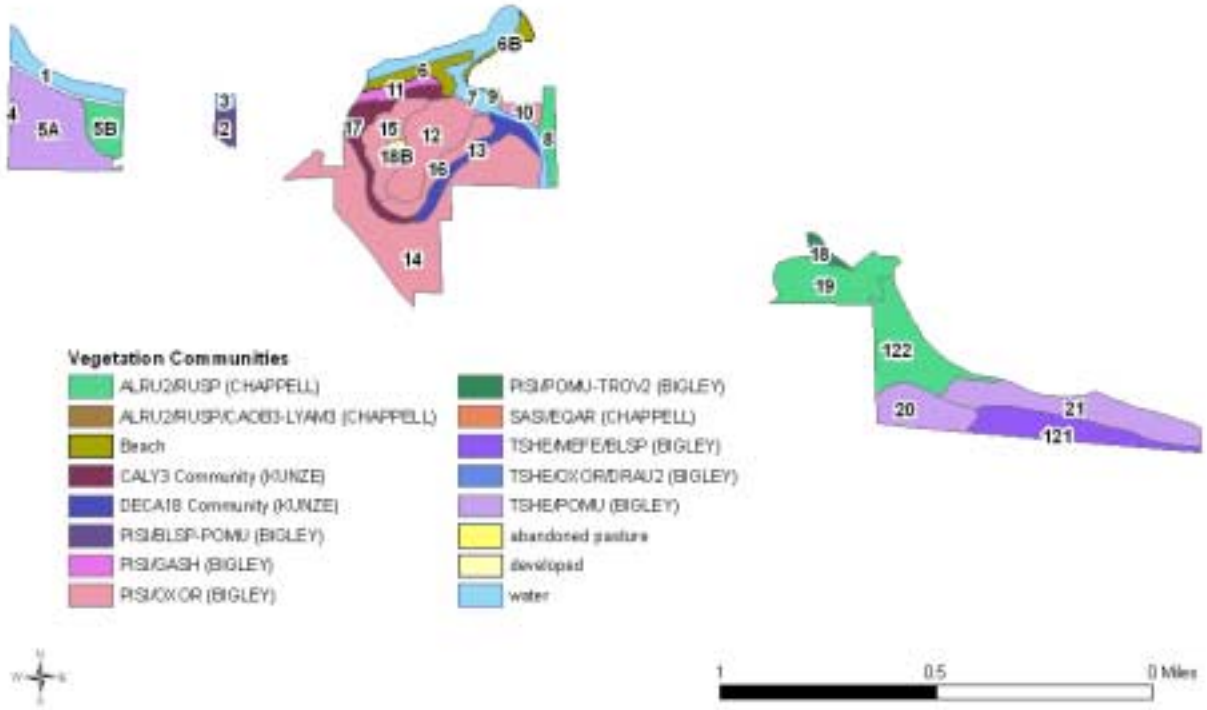

Figure 5. The primary vegetation community types of the coastal portion of the project area.

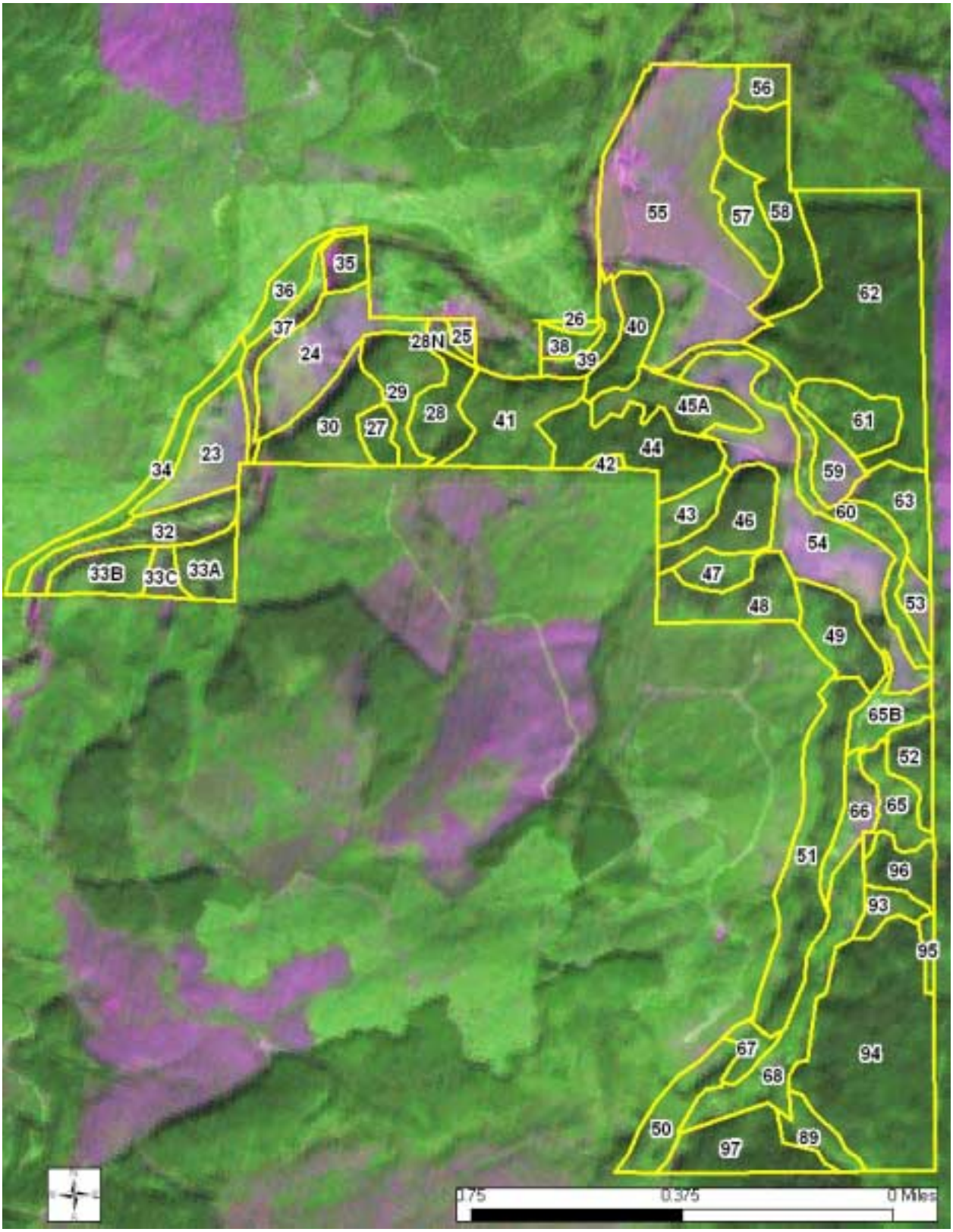

Figure 6. Layout of the vegetation community polygons on the old Cowan Ranch properties, overlaying a 1998 digital ortho-photo combined with TM7 spectral imagery.

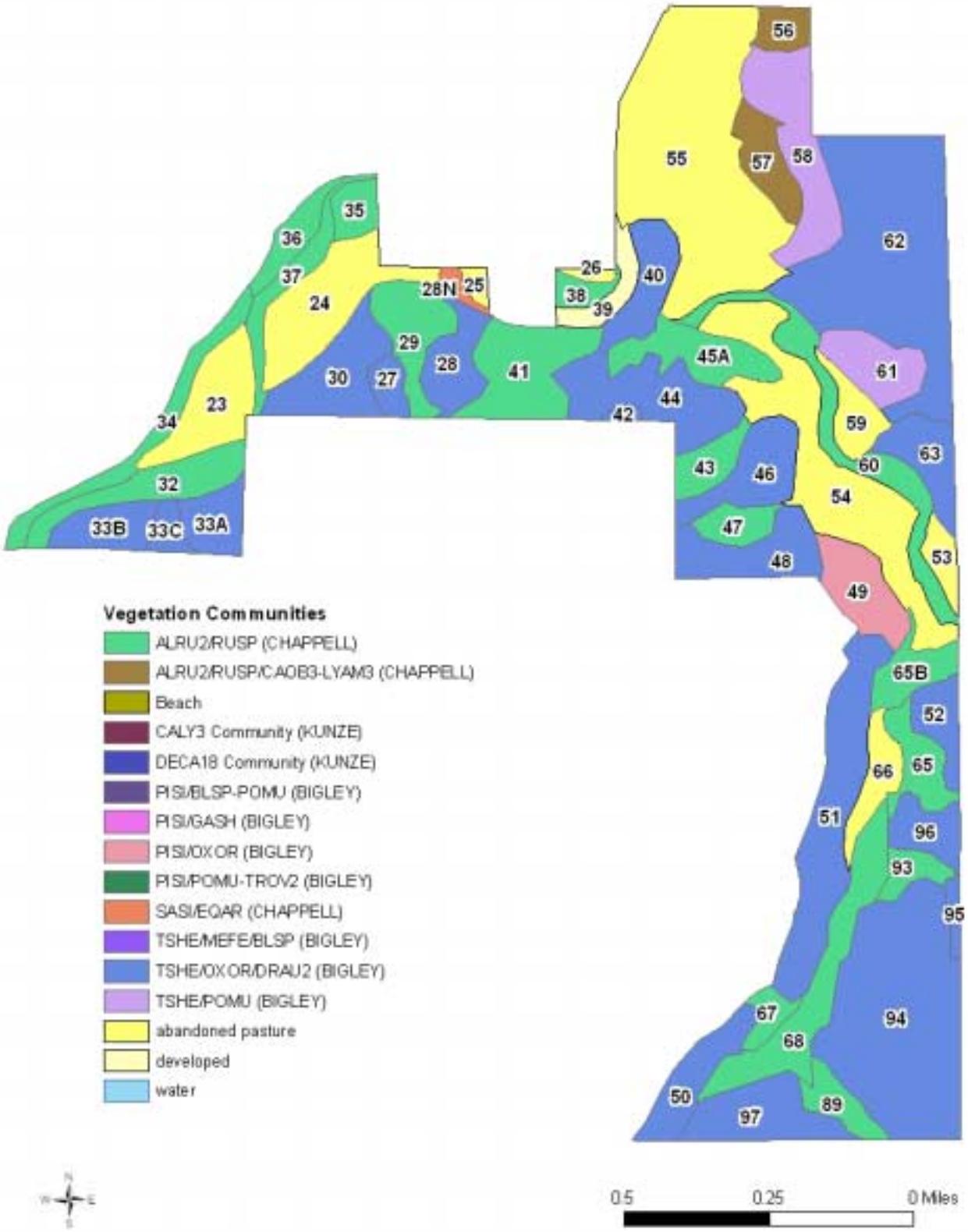

Figure 7. The primary vegetation community types of the old Cowan Ranch properties.

Examples of Vegetation Community Types

Alnus rubra / Rubus spectabilis (ALRU2/RUSP)

Red alder (*Alnus rubra)* is a facultative wetland plant, which means that it usually occurs in wetlands but can be found in non-saturated soils. Salmonberry (*Rubus spectabilis*) is considered a facultative plant, equally likely to occur in wetland and non-wetland environments. The picture above was taken on a low bench above the Little Hoko River, which receives some additional soil moisture because of proximity to the creek, and is down in the river valley between hills, where it gets less sun exposure than south and west-facing slopes. Alders are nitrogen-fixing species that are typically early seral. The presence of alder tends to increase after high-energy disturbances such as floods, fire, and logging.

Alnus rubra / Rubus spectabilis / Carex obnupta - Lysichiton americanus (ALRU2/RUSP/CAOB3-LYAM3)

This association shares two species with the previous one, but has two additional indicator species that are both *obligate wetland plants*; meaning they will not grow outside of an environment that does not have saturated soils for a period of time each spring. Both slough sedge (*Carex obnupta*) and skunk cabbage (*Lysichiton americanum*) are found in areas that have standing or slowly moving water in the spring, although both can survive drying conditions later in the year. Skunk cabbage is protected from herbivores by calcium oxalate crystals that form in the leaves and cause a burning sensation when eaten.

Carex lyngbyei Community (CALY3 Community)

Lyngbye's sedge (*Carex lyngbyei*) is one of the dominant vascular plants in the brackish (water at less than 10% salinity) marshes along the north Pacific coast of North America. As such, it is a major contributor to the photosynthetic producers that form the base of the coastal food chain, supplying organic carbon and other nutrients that make animal life possible. Lyngbye's sedge often grows in association with American bulrush (*Scirpus americanus*), with the bulrush growing closer to shore, in areas of greater daily tidal inundation, and the Lygnbye's sedge dominating a few feet inland, where flooding is less pronounced.

Deschampsia caespitosa Community (DECA18 Community)

Tufted hairgrass (*Deschampsia caespitosa)* has one of the widest ranges of any vascular plant in the world, growing from Tasmania in the Southern Hemisphere to Russia and Canada in the north. It also has a wide elevational range, growing from sea level to alpine ridges. It is often associated with periodically saturated soils, and that is the case here in the Hoko-Cowan area. The swath pictured above is a former channel of the Hoko River that now receives a small amount of brackish water during high tides.

Elymus mollis Community (ELMO9 Community)

American dunegrass (*Elymus mollis*) is a critical member of a small community of plants that are adapted to grow in an environment of shifting sand and salt spray; the foredunes of the beach strand. In fact the nature of American dunegrass's physiology is such that it requires shifting sand to thrive, and will languish away from this environment when dunes are stablilized. Continuous sand burial stimulates new root production, enabling vigorous growth to continue. European beachgrass (*Ammophila arenaria*), which is also present on Hoko-Cowan area beaches, is an introduced species that is capable of outcompeting American dunegrass and displacing it in the dune and beach communities.

***Picea sitchensis / Alnus rubra / Lysichiton americanus* (PISI/ALRU2/LYAM3),**
***Picea sitchensis / Blechnum spicant / Polysticum munitum* (PISI/BLSP-POMU),**
Picea sitchensis / Carex obnupta - Lysichiton americanus (PISI/CAOB3-LYAM3),
***Picea sitchensis / Gaultheria shallon* (PISI/GASH),**
***Picea sitchensis / Oxalis oregana* (PISI/OXOR), and**
***Picea sitchensis / Polystichum munitum / Trillium ovatum* (PISI/POMU/TROV2)**

If you see a Sitka spruce (*Picea sitchensis*) in Washington, you know you are near the coast, as this species only grows a few miles inland in the state, except where it extends its range up river valleys. Its presence is indicative of an annually uniform climate, with minimal temperature variation, and the heat and drought of summer moderated by ocean fog. Sitka spruce is considered a mid-seral species, as it is often preceded by red alder (*Alnus rubra*) after a major disturbance, such as fire or logging, but is eventually succeeded by western hemlock (*Tsuga heterophylla*), which is more shade tolerant. All of the plant associations listed here are closely related and share the geographic and climatic characteristics mentioned above, although the association with salal (*Gaultheria shallon*) tends to occur on less favorable sites, such as steep slopes facing the ocean. The associations with slough sedge (*Carex obnupta*) occur on forested wetland sites, typically where tidal sloughs penetrate into a shoreline forest.

Salix sitchensis / Equisetum arvense (SASI/EQAR), and Shrub Wetland Community

Some wetland locations within the project area are dominated by cover of Sitka willow (*Salix sitchensis*). The SASI/EQAR association occurs on the old Cowan Ranch property in a wetland area that was most likely logged and grazed, resulting in a non-forested wetland community. The Shrub Wetland Community occurs in patches along the largest tidal slough at the mouth of the Hoko River.

***Tsuga heterophylla / Gaultheria shallon / Disporum smithii* (THSE/GASH/DISM2),**
***Tsuga heterophylla / Menziesia ferruginea / Blechnum spicant* (TSHE/MEFE/BLSP),**
***Tsuga heterophylla / Oxalis oregana / Dryopteris austriaca* (TSHE/OXOR/DRAU2), and**
***Tsuga heterophylla / Polystichum munitum* (TSHE/POMU)**

The western hemlock (*Tsuga heterophylla*) zone is the most extensive vegetation zone in western Washington. Like the Sitka spruce (*Picea sitchensis*) zone, western hemlock forests typically grow in a wet, mild maritime climate. Because the western hemlock zone lies further from the ocean, moisture and temperature extremes are greater than for Sitka spruce. All four of these western hemlock plant associations occur in mosaics with one another throughout the study area.

Spreading woodfern (*Dryopteris austriaca*) is an obligate wetland plant, indicating that it only grows in wetlands. The TSHE/OXOR/DRAU2 association is one of the wettest associations within the western hemlock zone. Western hemlock itself is a climax species, being well-adapted to germinate in the shade of competing species and growing up through a pre-existing canopy.

The TSHE/POMU association is a regional climax community in the Oregon and Washington coastal ranges. Both species are classified as *facultative upland* plants, which indicates that they are found primarily in non-wetland environments but can grow in seasonally saturated soils. It is a testament to the wetness of the local climate that there are only 6 polygons in the project area that list this as a primary plant association, while there are 20 polygons listed as the TSHE/OXOR/DRAU2 association, which is found in wetter soils.

Abandoned Pasture

Abandoned pasture land comprises fully 1/3 of the old Cowan Ranch, the inland portion of the project area. Until quite recently this unit was in fact a dairy farm, and the lowland areas along the Little Hoko River (which flows through the unit) were plowed for farm crops or used for pasture. These sites are composed primarily of non-native plants (over 90% non-natives), the most abundant among them being canary reedgrass (*Phalaris arundineacea*), Canada thistle (*Cirsium arvense*) and creeping buttercup (*Ranunculus repens*).

Rare Plant Surveys

Methods

We visited the Hoko-Cowan State Park Lands multiple times during the 2006 field season to conduct a rare plant survey. 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. When a plant from the DNR NHP list was located, we used the standard DNR NHP rare plant sighting form to complete field descriptions for the observation. These forms are attached to the appendix of this report.

Specific dates of field surveys for each park can be found in Appendix A of this report. During the field surveys, we were equipped with reference literature, rare plant lists for the area, maps showing rare plant locations from previous surveys, and a portable plant identification lab. We looked for rare plants in habitats previously identified as being likely occurrence sites. 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 efficiently cover a large proportion of the park's area throughout the field season. We surveyed habitats of the park where we felt rare plants were more likely to occur more intensively. Survey routes for the rare plant inventory and rare plant locations were recorded either by hand, on a hardcopy topographic map, or as GPS waypoints and trackpoints, all of which were later compiled into a single GIS data layer (Figures 1 and 2).

Results

We did not locate any vascular plants currently listed in the WA DNR NHP rare plant list within the Hoko-Cowan State Park Lands. No previous state or federally listed vascular plants had been documented within the park prior to our 2006 surveys.

Vascular Plant List for the Hoko-Cowan State Park Properties

A total of 105 vascular plant species were identified during the 2006 surveys within the Hoko-Cowan State Park properties. Of these, 25 of the plant species are non-native, accounting for 24% of the total.

Key to Vascular Plant Species List

"Code": Four-letter plant code as shown on the USDA PLANTS database.

"Alien?": species that are not native to the park are indicated with an "a"

"Common Name / Accepted Synonym": The species list uses Hitchcock and Cronquist, *Flora of the Pacific Northwest* as the taxonomic authority, as this is still the standard reference for our area. Updated nomenclature or general common names are shown in this column when they exist.

Vascular Plant Species of the Hoko-Cowan State Park Properties

#	Code	Scientific Name	Common Name/Accepted Synonym	Family	Alien
1	ABGR	Abies grandis (Dougl. ex D. Don) Lindl.	grand fir	Pinaceae	
2	ACMA3	Acer macrophyllum Pursh	bigleaf maple	Aceraceae	
3	ACMI2	Achillea millefolium L.	yarrow	Asteraceae	
4	ALRU2	Alnus rubra Bong.	red alder	Betulaceae	
5	AMAR4	Ammophila arenaria (L.) Link	European beachgrass	Poaceae	a
6	ANMA	Anaphalis margaritacea (L.) Benth.	western pearly everlasting	Asteraceae	
7	ARSU4	Artemisia suksdorfii Piper	coastal wormwood	Asteraceae	
8	ARSYA	Aruncus sylvester Kostel. ex Maxim.	>>Aruncus dioicus var. acuminatus	Rosaceae	
9	ATFI	Athyrium filix-femina (L.) Roth	common ladyfern	Dryopteridaceae	
10	BEPE2	Bellis perennis L.	lawn daisy	Asteraceae	a
11	BENE2	Berberis nervosa Pursh	>>Mahonia nervosa	Berberidaceae	
12	BLSP	Blechnum spicant (L.) Sm.	deer fern	Blechnaceae	
13	CAAN5	Cardamine angulata Hook.	seaside bittercress	Brassicaceae	
14	CABR6	Cardamine breweri S. Wats.	Brewer's bittercress	Brassicaceae	
15	CAOL	Cardamine oligosperma Nutt.	little western bittercress	Brassicaceae	
16	CAOB3	Carex obnupta Bailey	slough sedge	Cyperaceae	
17	CEAR4	Cerastium arvense L.	field chickweed	Caryophyllaceae	
18	CHLE80	Chrysanthemum leucanthemum L.	>>Leucanthemum vulgare	Asteraceae	a
19	CIAL	Circaea alpina L.	small enchanter's nightshade	Onagraceae	
20	CIAR4	Cirsium arvense (L.) Scop.	Canada thistle	Asteraceae	a
21	COSC4	Corydalis scouleri Hook.	Scouler's fumewort	Fumariaceae	
22	DAGL	Dactylis glomerata L.	orchardgrass	Poaceae	a
23	DIHOO	Disporum hookeri (Torr.) Nichols.	>>Prosartes hookeri var. oregana	Liliaceae	
24	DISM2	Disporum smithii (Hook.) Piper	>>Prosartes smithii	Liliaceae	
25	DRAUS2	Dryopteris austriaca (Jacq.) Woynar	>>Dryopteris carthusiana	Dryopteridaceae	
26	ELMO9	Elymus mollis Trin.	>>Leymus mollis ssp. mollis	Poaceae	
27	EPAN2	Epilobium angustifolium L.	>>Chamerion angustifolium	Onagraceae	
28	EQAR	Equisetum arvense L.	field horsetail	Equisetaceae	
29	EQTE	Equisetum telmateia Ehrh.	giant horsetail	Equisetaceae	
30	FRCH	Fragaria chiloensis (L.) P. Mill.	beach strawberry	Rosaceae	
31	GAAP2	Galium aparine L.	stickywilly	Rubiaceae	
32	GATR2	Galium trifidum L.	threepetal bedstraw	Rubiaceae	
33	GASH	Gaultheria shallon Pursh	salal	Ericaceae	
34	GERO	Geranium robertianum L.	Robert geranium	Geraniaceae	a
35	GEMA4	Geum macrophyllum Willd.	largeleaf avens	Rosaceae	
36	GLHE2	Glechoma hederacea L.	ground ivy	Lamiaceae	a
37	HEHE	Hedera helix L.	English ivy	Araliaceae	a
38	HELA4	Heracleum lanatum Michx.	>>Heracleum maximum	Apiaceae	
39	HEMI7	Heuchera micrantha Dougl. ex Lindl.	crevice alumroot	Saxifragaceae	
40	HOPE	Honkenya peploides (L.) Ehrh.	seaside sandplant	Caryophyllaceae	
41	HYTE	Hydrophyllum tenuipes Heller	Pacific waterleaf	Hydrophyllaceae	
42	HYRA3	Hypochaeris radicata L.	hairy cat's ear	Asteraceae	a
43	ILAQ80	Ilex aquifolium L.	English holly	Aquifoliaceae	a
44	JUBA	Juncus balticus Willd.	Baltic rush	Juncaceae	
45	JUEF	Juncus effusus L.	common rush	Juncaceae	
46	LAMU	Lactuca muralis (L.) Fresen.	>>Mycelis muralis	Asteraceae	a
47	LAPU2	Lamium purpureum L.	purple deadnettle	Lamiaceae	a
48	LALI2	Lathyrus littoralis (Nutt.) Endl.	silky beach pea	Fabaceae	
49	LOIN5	Lonicera involucrata (Richards.) Banks	twinberry honeysuckle	Caprifoliaceae	
50	LUCA*	Luzula campestris (L.) DC.	field woodrush	Juncaceae	
51	LYAM3	Lysichiton americanus Hultén & St. John	American skunkcabbage	Araceae	
52	MADI	Maianthemum dilatatum (Wood) A. Nels.	false lily of the valley	Liliaceae	

53	MIOV	Mitella ovalis Greene	coastal miterwort	Saxifragaceae	
54	MOPE3	Montia perfoliata T.J. Howell	>>Claytonia perfoliata ssp. perfoliata	Caryophyllaceae	
55	MOSI2	Montia sibirica (L.) T.J. Howell	>>Claytonia sibirica var. sibirica	Portulacaceae	
56	OECE	Oemleria cerasiformis C97 Landon	Indian plum	Rosaceae	
57	OESA	Oenanthe sarmentosa K. Presl ex DC.	water parsely	Apiaceae	
58	OPHO	Oplopanax horridus Miq.	devilsclub	Araliaceae	
59	ORVU	Origanum vulgare L.	oregano	Lamiaceae	a
60	OSCH	Osmorhiza chilensis Hook. & Arn.	>>Osmorhiza berteroi	Apiaceae	
61	OXOR	Oxalis oregana Nutt.	redwood-sorrel	Oxalidaceae	
62	PEFRP2	Petasites frigidus L.ssp. palmatus Cody	>>Petasites frigidus var. palmatus	Asteraceae	
63	PHAR3	Phalaris arundinacea L.	reed canarygrass	Poaceae	a
64	PHPR3	Phleum pratense L.	timothy	Poaceae	a
65	PISI	Picea sitchensis (Bong.) Carr.	Sitka spruce	Pinaceae	
66	PLLA	Plantago lanceolata L.	narrowleaf plantain	Plantaginaceae	a
67	PLMA2	Plantago major L.	common plantain	Plantaginaceae	a
68	POAN	Poa annua L.	annual bluegrass	Poaceae	a
69	POPR	Poa pratensis L.	Kentucky bluegrass	Poaceae	a
70	POGL8	Polypodium glycyrrhiza D.C. Eat.	licorice fern	Polypodiaceae	
71	POMU	Polystichum munitum (Kaulfuss) K. Presl	swordfern	Polypodiaceae	
72	POPA23	Potentilla pacifica T.J. Howell	>>Argentina egedii ssp. egedii	Rosaceae	
73	PRVU	Prunella vulgaris L.	common selfheal	Lamiaceae	
74	PSME	Pseudotsuga menziesii (Mirbel) Franco	Douglas-fir	Pinaceae	
75	PTAQ	Pteridium aquilinum (L.) Kuhn	bracken fern	Dennstaedtiaceae	
76	PYFU	Pyrus fusca Raf.	>>Malus fusca	Rosaceae	
77	RARE3	Ranunculus repens L.	creeping buttercup	Ranunculaceae	a
78	RIBR	Ribes bracteosum Dougl. ex Hook.	stink currant	Grossulariaceae	
79	ROGY	Rosa gymnocarpa Nutt.	dwarf rose	Rosaceae	
80	RONU	Rosa nutkana K. Presl	Nootka rose	Asteraceae	
81	RUDI2	Rubus discolor Weihe & Nees	>>Rubus armeniacus	Rosaceae	a
82	RULA	Rubus laciniatus Willd.	cutleaf blackberry	Rosaceae	a
83	RUPA	Rubus parviflorus Nutt.	thimbleberry	Rosaceae	
84	RUSP	Rubus spectabilis Pursh	salmonberry	Rosaceae	
85	RUUR	Rubus ursinus Cham. & Schlecht.	California blackberry	Rosaceae	
86	RUAC3	Rumex acetosella L.	common sheep sorrel	Polygonaceae	
87	RUCR	Rumex crispus L.	curly dock	Polygonaceae	a
88	SAPI	Salix piperi Bebb	>>Salix hookeriana	Salicaceae	
89	SASC	Salix scouleriana Barratt ex Hook.	Scouler's willow	Salicaceae	
90	SARA2	Sambucus racemosa L.	red elderberry	Caprifoliaceae	
91	STCO14	Stachys cooleyae Heller	>>Stachys chamissonis var. cooleyae	Lamiaceae	
92	STCR2	Stellaria crispa Cham. & Schlecht.	curled starwort	Caryophyllaceae	
93	STAM2	Streptopus amplexifolius (L.) DC.	claspleaf twistedstalk	Liliaceae	
94	SYAL	Symphoricarpos albus (L.) Blake	common snowberry	Caprifoliaceae	
95	TAOF	Taraxacum officinale G.H. Weber	dandelion	Asteraceae	a
96	TEGR2	Tellima grandiflora (Pursh) Dougl. C60	bigflower tellima	Saxifragaceae	
97	THPL	Thuja plicata Donn ex D. Don	western red cedar	Cupressaceae	
98	TITR	Tiarella trifoliata L.	threeleaf foamflower	Saxifragaceae	
99	TOME	Tolmiea menziesii (Pursh) Torr. & Gray	youth on age	Saxifragaceae	
100	TRRE3	Trifolium repens L.	white clover	Fabaceae	a
101	TROV2	Trillium ovatum Pursh	Pacific trillium	Liliaceae	
102	TSHE	Tsuga heterophylla (Raf.) Sarg.	western hemlock	Pinaceae	
103	URDI	Urtica dioica L.	nettle	Urticaceae	
104	VAPA	Vaccinium parvifolium Sm.	red huckleberry	Ericaceae	
105	VIGL	Viola glabella Nutt.	pioneer violet	Violaceae	

Non-native Vascular Plant Species of the Hoko-Cowan State Park Properties

#	Code	Scientific Name	Common Name/Accepted Synonym	Family	Alien
1	AMAR4	Ammophila arenaria (L.) Link	European beachgrass	Poaceae	a
2	ATFI	Athyrium filix-femina (L.) Roth	common ladyfern	Dryopteridaceae	a
3	CHLE80	Chrysanthemum leucanthemum L.	>>Leucanthemum vulgare	Asteraceae	a
4	CIAR4	Cirsium arvense (L.) Scop.	Canada thistle	Asteraceae	a
5	DAGL	Dactylis glomerata L.	orchardgrass	Poaceae	a
6	GERO	Geranium robertianum L.	Robert geranium	Geraniaceae	a
7	GLHE2	Glechoma hederacea L.	ground ivy	Lamiaceae	a
8	HEHE	Hedera helix L.	English ivy	Araliaceae	a
9	HYRA3	Hypochaeris radicata L.	hairy cat's ear	Asteraceae	a
10	ILAQ80	Ilex aquifolium L.	English holly	Aquifoliaceae	a
11	LAMU	Lactuca muralis (L.) Fresen.	>>Mycelis muralis	Asteraceae	a
12	LAPU2	Lamium purpureum L.	purple deadnettle	Lamiaceae	a
13	ORVU	Origanum vulgare L.	oregano	Lamiaceae	a
14	PHAR3	Phalaris arundinacea L.	reed canarygrass	Poaceae	a
15	PHPR3	Phleum pratense L.	timothy	Poaceae	a
16	PLLA	Plantago lanceolata L.	narrowleaf plantain	Plantaginaceae	a
17	PLMA2	Plantago major L.	common plantain	Plantaginaceae	a
18	POAN	Poa annua L.	annual bluegrass	Poaceae	a
19	POPR	Poa pratensis L.	Kentucky bluegrass	Poaceae	a
20	RARE3	Ranunculus repens L.	creeping buttercup	Ranunculaceae	a
21	RUDI2	Rubus discolor Weihe & Nees	>>Rubus armeniacus	Rosaceae	a
22	RULA	Rubus laciniatus Willd.	cutleaf blackberry	Rosaceae	a
23	RUCR	Rumex crispus L.	curly dock	Polygonaceae	a
24	TAOF	Taraxacum officinale G.H. Weber	dandelion	Asteraceae	a
25	TRRE3	Trifolium repens L.	white clover	Fabaceae	a

Ecological Condition of the Hoko-Cowan State Park Properties

While the Hoko-Cowan State Park properties have been heavily impacted by human activities over the past 150 years, they retain a high potential for ecologically coherent and healthy habitat in the future. Elk and deer were both encountered multiple times during the surveys, and pileated woodpeckers where heard in the forest. This is a species that requires large-diameter trees in which to build its nesting cavity, and is therefore loosely associated with old growth forest. In addition, there were salmon redds evident in the substrate of the Little Hoko River, and river otters and whales were seen using the mixing zone between the mouth of Hoko River and the Straight of Juan de Fuca.

The two primary impacts on the State Park properties over the past century and a half have been the removal of almost 100% of the original old growth forest, and farming of the bottomlands along the Little Hoko River. We did not encounter any portion of habitat in the project area that did not appear to have lost its original forest cover. However, the growing conditions in the area are so favorable, with moderate annual temperatures and high rainfall, that all areas not historically subject to persistent human disturbance are now covered with second or third-growth native forest types (Figure 8).

Figure 8. Secondary forests in the Eagle Point State Park's unit.

Estuarine and beachfront areas among the coastal units still provide quality habitats that appear mostly undisturbed and of native species composition. The one exception is the Hoyt Beach unit, where road building has completely altered the natural substrates and displaced the upland vegetation along the beach. Forests of these coastal units are mostly recovering from logging but have preserved in general a native species composition. Some forest stands have lost their coniferous component and are now dominated by alder. Native conifer planting may be necessary in some of these sites to ensure healthy forest regeneration.

The extensive farm fields and pastures along the Hoko and Little Hoko Rivers at the old Cowan Ranch must have been home to thousands of large-diameter Sitka spruce, western hemlock and Douglas-fir prior to being logged and cleared. The use of the river bottom throughout the years of the 20th century as a dairy farm assured that the laboriously cleared fields would stay non-forested. These abandoned pastures now play host to a large herd of Roosevelt elk resident in the area (Figure 9).

Figure 9. Roosevelt elk seen in the pastures on the old Cowan Ranch properties.

Non-native species dominate the old ranch pastures, in some areas comprising 100% of the plant population. The pastureland on the Cowan Ranch was no doubt planted with a variety of horticultural species adapted for grazing. Such species are still in evidence, such as Orchard grass (*Dactylis glomerata*) and Kentucky bluegrass (*Poa pratensis*). But this land is now dominated by aggressive non-native perennial species accidentally imported from Eurasia, among them canary reedgrass (*Phalaris arundinacea*), Canada thistle (*Cirsium arvense*) and creeping buttercup (*Ranunculus repens*). Eradicating non-native species from the pasture land will not be possible without converting the pasture back to native forest conditions (a process that is taking place on limited amounts of area within the ranch). The continued presence of these large areas of exotic seed source pose future threats of infestation spread in areas now exotic species free, if disturbances such as logging and road development remove overstory canopies and disturb the soil bed. Diminution or cessation of human-caused disturbance in the forested environments on State Park's lands, and on adjacent lands will be the best strategy of improving the overall ecological condition of the landscape and limiting the spread of exotic species.

The affects of prior land use (logging and grazing) coupled with the continued chronic trampling of wetland and streamside environments by Roosevelt elk seem to be perpetuating exotic species infestations in some of the valley bottom wetland environments on the old Cowan Ranch properties. It is possible that the absence of traditional predators of the elk is allowing larger herd numbers to remain in one location for extended periods of time, negatively affecting the native vegetation

communities that aren't adapted to higher levels of elk herbivory or trampling. This relationship should be further studied to assess the effects of the elk on critical wetland environments important to salmon, invertebrates, and amphibians.

GIS Products Produced

Associated with this report is a polygon layer created by PBI depicting the vegetation community types mapped in the Hoko-Cowan State Park Lands. The dataset has been converted into ESRI shapefile format and provided to the Washington State Parks and Recreation Commission. 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 – Field Survey Schedule

April 24, 25 and 26, 2006

Field Staff: Dana Visalli, Phyllis Murra

August 15, 16, 17 and 18, 2006

Field Staff: Hans Smith

Appendix B – Descriptionof Rare Element Status Codes

Global Rank (GRank)

Global Rank characterizes the relative rarity or endangerment of the element world-wide. Two codes (e.g. G1G2) represent an intermediate rank.

G1 = Critically imperiled globally (5 or fewer occurrences).
G2 = Imperiled globally (6 to 20 occurrences).
G3 = Either very rare and local throughout its range or found locally in a restricted range (21 to 100 occurrences).
G4 = Apparently secure globally.
G5 = Demonstrably secure globally.
GH = Of historical occurrence throughout its range.
GU = Possibly in peril range-wide but status uncertain.
GX = Believed to be extinct throughout former range.
GNR = Not yet ranked.
Tn = Rarity of an infraspecific taxon. Numbers and codes similar to those for Gn ranks above.
Q = Questionable.

State Rank (SRank)

State Rank characterizes the relative rarity or endangerment within the state of Washington. Two codes (e.g. S1S2) represents an intermediate rank.

S1 = Critically imperiled (5 or fewer occurrences).
S2 = Imperiled (6 to 20 occurrences), very vulnerable to extirpation.
S3 = Rare or uncommon (21 to 100 occurrences).
S4 = Apparently secure, with many occurrences.
S5 = Demonstrably secure in state.
SA = Accidental in state.
SE = An exotic established in state.
SH = Historical occurrences only but still expected to occur.
SN = Regularly occurring, usually migratory, nonbreeding animals.
SU = Unrankable; need more information.
SX = Apparently extirpated from the state.
SP = Likely to occur or to have occurred but without documentation.
SZ = Not of conservation concern (not SE or SA).
SNR = Not yet ranked.
"B" and "N" qualifiers are used to indicate breeding and nonbreeding status, respectively, of migrant species whose nonbreeding status (rank) may be quite different from their breeding status in the state (e.g. S1B, S4N for a very rare breeder that is a common winter resident).

State Status (StStat)

State Status of plant species is determined by the Washington Natural Heritage Program. Factors considered include abundance, occurrence patterns, vulnerability, threats, existing protection, and taxonomic distinctness. Values include:

E = Endangered. In danger of becoming extinct or extirpated from Washington.
T = Threatened. Likely to become Endangered in Washington.
S = Sensitive. Vulnerable or declining and could become Endangered or Threatened in the state.
X = Possibly extinct or Extirpated from Washington.
P1 = Priority 1. Rare nonvascular plant but with insufficient information to assign another rank.
P2 = Priority 2. Nonvascular plant of concern but with insufficient information to assign another rank.
R1 = Review group 1. Of potential concern but needs more field work to assign another rank.
R2 = Review group 2. Of potential concern but with unresolved taxonomic questions.
W = Watch. More abundant and/or less threatened than previously thought.

Federal Status

Federal Status under the U.S. Endangered Species Act (USESA) as published in the Federal Register:

LE = Listed Endangered. In danger of extinction.
LT = Listed Threatened. Likely to become endangered.
PE = Proposed Endangered.
PT = Proposed Threatened.
C = Candidate species. Sufficient information exists to support listing as Endangered or Threatened.
SC = Species of Concern. An unofficial status, the species appears to be in jeopardy, but insufficient information to support listing.
NL = Not Listed. Used when two portions of a taxon have different federal status.

Appendix C – 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:

Condition Rank 1. This condition class represents areas that have been altered to the point where the ecological condition often deviates dramatically from baseline conditions found in areas where stressors are much less prevalent. Areas characterized by Condition Class 1 often have high amounts of bare ground and/or non-native plant cover. The structure is often significantly altered from baseline conditions. Often one or more of the structural layers (trees, shrubs, herbs, grasses, mosses & lichens, biotic crust) may be significantly altered or even missing from the community. The composition of native vegetation is skewed toward species that can survive despite regular disturbance. Species diversity of native plants is usually low and native grass species are usually absent or in very low abundance (for a given community type). Evidence of accelerated erosion and soil compaction may be present. Hydrologic alteration may also be present. Significant direct evidence of various stress factors is usually abundant. Rare plant and animal species generally do not occur in this condition class.

Condition Rank 2. This condition class represents areas that show a fairly broad range of stress ranging from high to moderately low impact from a variety of stressors. Areas characterized by Condition Class 2 usually have moderate levels of non-native plant cover. The structure of the natural community present in Condition Class 2 areas is often relatively intact when compared to baseline conditions. Usually all structural layers are present, but form and stature may be altered from baseline conditions. Soil surface conditions are often intermediate between those in Condition Class 1 and Condition Class 3. Species diversity of native plants is often moderate for that community. Non-native species are usually present, but not as common or abundant as in Condition Class 1. Native grass species are often present, but usually in low abundance for that community type. Diversity of native grass species is relatively low when compared to baseline conditions. Evidence of accelerated erosion and soil compaction may be present in isolated areas, but is not dramatic or widespread. Hydrologic alteration is absent. Direct signs of stressors may be present, but not widespread or abundant. Rare plant and animal species may be found in this condition class, but are not common. Rare species that are found in this condition class are relatively tolerant of the stressors that are present.

Condition Rank 3. This condition class represents areas that show the least stress in the project area and are the closest to representing baseline conditions. Areas characterized by Condition Class 3 have little evidence of non-native plant invasion. The composition and

structure of native vegetation in this condition class correspond to the natural ranges of variation characteristic to this habitat type. Old-growth conditions may exist. Species diversity of native plants is often high relative to the community under consideration. Native grass species are usually present and often fairly abundant for the community type. Species diversity of native grass species is also often high. Soil compaction, accelerated erosion and hydrologic alteration are absent. Direct signs of stressors are usually absent. Certain rare species may only exist within this condition class and rare species are generally more common than in the lower condition classes.

Appendix D – Vegetation Survey Data

Legend:

Site = name of locality of map project

Polygon = number you put on map

Name/Date = your name / day-month-year completed polygon survey

Photo roll/number = number of roll (on canister) and number of shot

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

VEGETATION COVER
This is canopy cover, i.e. the space between leaves/branches is included in "cover". 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.

TOTAL VEGETATION COVER includes all vascular plants, mosses, lichens and foliose lichens (crustose lichens excluded they are considered rock); this never exceeds 100%.

SOIL SURFACE estimate to nearest **%** the following, the sum of the categories adds to 100%
Rock outcrop = exposed bedrock including detached boulders over 1m across
Gravel/cobble = large fragments between sand and boulder
Bareground = exposed mineral soil
Mosses/lichens = nonvascular plant cover on soil
Litter = includes logs, branches, and basal area of plants
Describe in comments if there is wide variation in any category; note % standing water if it is persistent or characteristic of site.

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

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 to ground soil compaction or churning)
2 = active moderate grazing (25-75% forage used)
3 = active light grazing (lots of last year'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

Plant Association (PA) = list all PAs encountered in polygon survey, in comments list source of name if not on provided key.

Condition Rank of PA in key or estimate

% of Polygon = your estimate

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

Exotic = primary species observed; secondary species observed.

Plot Number = number of any plots established for EO (element occurrence), or other more detail sheets within polygon.

Vegetation Polygon Data

Polygon Number	**1**
Survey Intensity	2
Observer	HS
Date	8/16/2006
Specific Location	
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	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	0
Litter	0
Logging	
Stand Age	
Agriculture	
Livestock	
Development	
Wildlife	
Recreation Severity	
Recreation Type	
Hydrology	

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. water	100	Matrix	3
2.	0		0
3.	0		0

Notes:

Polygon Number	**10**
Survey Intensity	4
Observer	HS
Date	11/8/2006
Specific Location	
Total Vegetation	5
Trees Total	5
Dominant Trees	PISI
emergent	2
maincanopy	5
subcanopy	1
Shrubs Total	2
Dominant Shrubs	SARA2
> 1.5' tall	2
< 1.5' tall	1
Graminoids Total	2
Dominant Graminoids	
Graminoids Perennial	2
Graminoids Annual	0
Forbs Total	2
Dominant Forbs	POMU
Forbs Perennial	2
Forbs Annual	0
Ferns Total	2
Ferns Evergreen	2
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	5
Litter	95
Logging	2
Stand Age	3
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. PISI/OXOR (BIGLEY)	70	Matrix	2
2. ALRU2/RUSP (CHAPPELL)	30	Large	2
3.	0		0

Notes: A few old growth PISI.

Polygon Number	**11**
Survey Intensity	1
Observer	HS
Date	8/15/2006
Specific Location	Along beach just W of river's mouth.
Total Vegetation	5
Trees Total	4
Dominant Trees	PISI, ALRU2
emergent	2
maincanopy	4
subcanopy	2
Shrubs Total	5
Dominant Shrubs	GASH, RUSP, LOIN5, PYFU
> 1.5' tall	5
< 1.5' tall	2
Graminoids Total	4
Dominant Graminoids	ELMO9
Graminoids Perennial	4
Graminoids Annual	1
Forbs Total	2
Dominant Forbs	HOPE
Forbs Perennial	2
Forbs Annual	1
Ferns Total	1
Ferns Evergreen	1
Ferns Deciduous	1
ExoticsTotal	1
Exotics Perennial	1
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	10
Moss Lichen	0
Litter	90
Logging	1
Stand Age	3
Agriculture	0
Livestock	0
Development	0
Wildlife	0
Recreation Severity	2
Recreation Type	4
Hydrology	1

Exotic Species

Primary Exotic
VIGI
Secondary Exotic
PHAR3
Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. PISI/GASH (BIGLEY)	60	Matrix	2
2. ELMO9 Community (KUNZE)	40	Large	2
3.	0		0

Notes:

Polygon Number	**12**
Survey Intensity	2
Observer	DV
Date	4/25/2006
Specific Location	
Total Vegetation	6
Trees Total	5
Dominant Trees	PISI, TSHE, ALRU2
emergent	2
maincanopy	5
subcanopy	2
Shrubs Total	2
Dominant Shrubs	SARA2, RUSP
> 1.5' tall	2
< 1.5' tall	1
Graminoids Total	2
Dominant Graminoids	CAOB3
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	4
Dominant Forbs	OXOR, MADI, POMU, ATFI
Forbs Perennial	4
Forbs Annual	0
Ferns Total	4
Ferns Evergreen	2
Ferns Deciduous	3
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	1
Litter	99
Logging	2
Stand Age	3
Agriculture	0
Livestock	0
Development	0
Wildlife	2
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. PISI/OXOR (BIGLEY)	80	Matrix	2
2. ALRU2/RUSP (CHAPPELL)	15	Small	2
3. CALY3 Community (KUNZE)	5	Small	3

Notes: A few old growth PISI. Attractive, ecologically intact. FURFIT predominant. Elk herd uses area for cover.

Polygon Number	**121**
Survey Intensity	1
Observer	HS
Date	8/17/2006
Specific Location	
Total Vegetation	6
Trees Total	6
Dominant Trees	TSHE, PISI
emergent	0
maincanopy	6
subcanopy	1
Shrubs Total	1
Dominant Shrubs	
> 1.5' tall	1
< 1.5' tall	1
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	2
Dominant Forbs	
Forbs Perennial	2
Forbs Annual	0
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	1
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	10
Litter	90
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	3
Wildlife	3
Recreation Severity	3
Recreation Type	4
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/MEFE/BLSP (BIGLEY)	70	Matrix	2
2. TSHE/POMU (BIGLEY)	20	Small	2
3. ALRU2/RUSP (CHAPPELL)	10	Small	2

Notes: Ferns: POMU, BLSP.

Polygon Number	**122**
Survey Intensity	1
Observer	HS, SS
Date	8/17/2006
Specific Location	
Total Vegetation	6
Trees Total	5
Dominant Trees	ALRU2, PISI, TSHE
emergent	1
maincanopy	5
subcanopy	3
Shrubs Total	5
Dominant Shrubs	RUSP, SARA2, RIBR
> 1.5' tall	5
< 1.5' tall	2
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	4
Dominant Forbs	TOME
Forbs Perennial	4
Forbs Annual	1
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	2
ExoticsTotal	1
Exotics Perennial	1
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	3
Litter	97
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	3
Wildlife	3
Recreation Severity	3
Recreation Type	4
Hydrology	1

Exotic Species

Primary Exotic
DIPU
Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	90	Matrix	2
2. PISI/POMU-TROV2 (BIGLEY)	10	Small	2
3.	0		0

Notes: Ferns: POMU, ATFI. Road slumping/wash-out.

Polygon Number	**13**
Survey Intensity	1
Observer	HS
Date	8/15/2006
Specific Location	Near mouth of river.
Total Vegetation	6
Trees Total	3
Dominant Trees	ALRU2
emergent	0
maincanopy	3
subcanopy	0
Shrubs Total	0
Dominant Shrubs	
> 1.5' tall	0
< 1.5' tall	0
Graminoids Total	6
Dominant Graminoids	FEAR3, AGAL, DECA18
Graminoids Perennial	6
Graminoids Annual	2
Forbs Total	3
Dominant Forbs	POPA23, PLLA
Forbs Perennial	3
Forbs Annual	1
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	5
Exotics Perennial	5
Exotics Annual	1
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	0
Litter	100
Logging	0
Stand Age	0
Agriculture	0
Livestock	0
Development	0
Wildlife	2
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Primary Exotic
FEAR3
Secondary Exotic
AGAL
Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. DECA18 Community (KUNZE)	90	Matrix	2
2. CALY3 Community (KUNZE)	10	Small	2
3.	0		0

Notes:

Polygon Number	**14**
Survey Intensity	2
Observer	PRM
Date	4/24/2006
Specific Location	
Total Vegetation	5
Trees Total	5
Dominant Trees	ALRU2, PISI, TSHE
emergent	1
maincanopy	3
subcanopy	4
Shrubs Total	3
Dominant Shrubs	OECE, RUSP, SARA2
> 1.5' tall	3
< 1.5' tall	1
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	5
Dominant Forbs	MADI, OXOR
Forbs Perennial	5
Forbs Annual	1
Ferns Total	3
Ferns Evergreen	3
Ferns Deciduous	0
ExoticsTotal	2
Exotics Perennial	2
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	1
Litter	99
Logging	3
Stand Age	1
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Primary Exotic
HEHE
Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. PISI/OXOR (BIGLEY)	70	Matrix	2
2. ALRU2/RUSP (CHAPPELL)	30	Large	2
3.	0		0

Notes:

Polygon Number	**15**
Survey Intensity	2
Observer	DV
Date	4/25/2006
Specific Location	
Total Vegetation	5
Trees Total	5
Dominant Trees	PISI
emergent	2
maincanopy	5
subcanopy	1
Shrubs Total	2
Dominant Shrubs	SARA2
> 1.5' tall	2
< 1.5' tall	1
Graminoids Total	2
Dominant Graminoids	
Graminoids Perennial	2
Graminoids Annual	0
Forbs Total	2
Dominant Forbs	POMU
Forbs Perennial	2
Forbs Annual	0
Ferns Total	2
Ferns Evergreen	2
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	5
Litter	95
Logging	2
Stand Age	3
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. PISI/OXOR (BIGLEY)	70	Matrix	2
2. ALRU2/RUSP (CHAPPELL)	30	Large	2
3.	0		0

Notes: A few old growth PISI.

Polygon Number	**16**
Survey Intensity	2
Observer	DV
Date	4/25/2006
Specific Location	
Total Vegetation	6
Trees Total	5
Dominant Trees	PISI, ALRU2, TSHE
emergent	2
maincanopy	4
subcanopy	2
Shrubs Total	2
Dominant Shrubs	
> 1.5' tall	2
< 1.5' tall	2
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	5
Dominant Forbs	OXOR, MADI
Forbs Perennial	2
Forbs Annual	5
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	1
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	1
Moss Lichen	3
Litter	96
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	2
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. PISI/OXOR (BIGLEY)	60	Matrix	2
2. ALRU2/RUSP (CHAPPELL)	40	Large	2
3.	0		0

Notes:

Polygon Number	**17**
Survey Intensity	1
Observer	DV
Date	4/25/2006
Specific Location	former river channel, now a sedge meadow and slough
Total Vegetation	5
Trees Total	0
Dominant Trees	
emergent	0
maincanopy	0
subcanopy	0
Shrubs Total	1
Dominant Shrubs	PYFU
> 1.5' tall	1
< 1.5' tall	0
Graminoids Total	5
Dominant Graminoids	CALY3, DECA?
Graminoids Perennial	5
Graminoids Annual	0
Forbs Total	2
Dominant Forbs	POPA23
Forbs Perennial	2
Forbs Annual	0
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	25
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	0
Litter	75
Logging	0
Stand Age	0
Agriculture	0
Livestock	0
Development	0
Wildlife	1
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. CALY3 Community (KUNZE)	80	Matrix	3
2. Shrub Wetland Community (KUNZE)	20	Small	3
3.	0		0

Notes:

Polygon Number	**18**
Survey Intensity	1
Observer	PRM
Date	4/24/2006
Specific Location	
Total Vegetation	6
Trees Total	6
Dominant Trees	TSHE, PISI, ALRU2
emergent	4
maincanopy	4
subcanopy	1
Shrubs Total	4
Dominant Shrubs	RUSP, OPHO, SARA2
> 1.5' tall	4
< 1.5' tall	2
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	POMU, PTAQ, TOME, TEGR2
Forbs Perennial	3
Forbs Annual	1
Ferns Total	3
Ferns Evergreen	3
Ferns Deciduous	1
ExoticsTotal	1
Exotics Perennial	1
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	5
Litter	95
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	2

Exotic Species

Primary Exotic
RARE3
Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. PISI/POMU-TROV2 (BIGLEY)	60	Matrix	2
2. ALRU2/RUSP (CHAPPELL)	40	Large	0
3.	0		0

Notes:

Polygon Number	**18B**
Survey Intensity	1
Observer	DV
Date	4/25/2006
Specific Location	New polygon, see map, site is a meadow inside poly 5
Total Vegetation	6
Trees Total	1
Dominant Trees	TSHE
emergent	0
maincanopy	1
subcanopy	0
Shrubs Total	1
Dominant Shrubs	
> 1.5' tall	1
< 1.5' tall	0
Graminoids Total	6
Dominant Graminoids	GRASS SP.
Graminoids Perennial	6
Graminoids Annual	0
Forbs Total	2
Dominant Forbs	POPA23, POMU
Forbs Perennial	2
Forbs Annual	0
Ferns Total	1
Ferns Evergreen	1
Ferns Deciduous	0
ExoticsTotal	1
Exotics Perennial	1
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	2
Litter	98
Logging	3
Stand Age	1
Agriculture	6
Livestock	0
Development	0
Wildlife	2
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic	
ILAQ80	
Secondary Exotic	
RARE3	
Noxious Exotic	

Plant Associations

	Percent	Pattern	Rank
1. developed	100	Matrix	1
2.	0		0
3.	0		0

Notes: ABANDONED GARDEN

Polygon Number	**19**
Survey Intensity	1
Observer	PRM
Date	4/24/2006
Specific Location	
Total Vegetation	6
Trees Total	6
Dominant Trees	ALRU2, PISI, THPL
emergent	0
maincanopy	6
subcanopy	1
Shrubs Total	5
Dominant Shrubs	RUSP, RIBR
> 1.5' tall	5
< 1.5' tall	1
Graminoids Total	2
Dominant Graminoids	
Graminoids Perennial	2
Graminoids Annual	0
Forbs Total	1
Dominant Forbs	
Forbs Perennial	1
Forbs Annual	0
Ferns Total	3
Ferns Evergreen	3
Ferns Deciduous	1
ExoticsTotal	1
Exotics Perennial	1
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	2
Litter	98
Logging	3
Stand Age	1
Agriculture	0
Livestock	0
Development	1
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic
RARE3
Secondary Exotic
RUDI2
Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	100	Matrix	1
2.	0		0
3.	0		0

Notes: This looks like an area that has been cut in the last 20 years. Very wet soil.

Polygon Number	**2**
Survey Intensity	1
Observer	PRM
Date	4/25/2006
Specific Location	Forested area between highway, beach and houses.
Total Vegetation	6
Trees Total	5
Dominant Trees	TSHE, ALRU2, PISI
emergent	3
maincanopy	5
subcanopy	2
Shrubs Total	4
Dominant Shrubs	RUSP, OECE, MEFE, GASH
> 1.5' tall	4
< 1.5' tall	2
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	MADI
Forbs Perennial	3
Forbs Annual	0
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	3
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	5
Litter	95
Logging	2
Stand Age	6
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. PISI/BLSP-POMU (BIGLEY)	50	Matrix	2
2. TSHE/MEFE/BLSP (BIGLEY)	40	Large	2
3. PISI/GASH-MEFE (BIGLEY)	10	Small	3

Notes:

Polygon Number	**20**
Survey Intensity	1
Observer	DV
Date	4/25/2006
Specific Location	
Total Vegetation	6
Trees Total	6
Dominant Trees	TSHE
emergent	0
maincanopy	6
subcanopy	0
Shrubs Total	3
Dominant Shrubs	RUSP
> 1.5' tall	3
< 1.5' tall	0
Graminoids Total	0
Dominant Graminoids	
Graminoids Perennial	0
Graminoids Annual	0
Forbs Total	2
Dominant Forbs	
Forbs Perennial	2
Forbs Annual	0
Ferns Total	1
Ferns Evergreen	1
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	0
Litter	100
Logging	2
Stand Age	1
Agriculture	0
Livestock	0
Development	0
Wildlife	0
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/POMU (BIGLEY)	100	Matrix	1
2.	0		0
3.	0		0

Notes: FAIRLY RECENT (20YR?) REGEN FROM CLEARCUT (DENSE GROWTH).

Polygon Number	**21**
Survey Intensity	1
Observer	DV
Date	4/24/2006
Specific Location	Big tree portion, n of rd and E end
Total Vegetation	6
Trees Total	5
Dominant Trees	TSHE, PISI, ALRU2
emergent	3
maincanopy	5
subcanopy	2
Shrubs Total	3
Dominant Shrubs	VAPA, RUSP, GASH, MEFE
> 1.5' tall	3
< 1.5' tall	2
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	1
Dominant Forbs	POMU
Forbs Perennial	1
Forbs Annual	0
Ferns Total	2
Ferns Evergreen	2
Ferns Deciduous	1
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	5
Litter	95
Logging	2
Stand Age	6
Agriculture	0
Livestock	0
Development	3
Wildlife	3
Recreation Severity	3
Recreation Type	4
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/POMU (BIGLEY)	55	Matrix	2
2. TSHE/GASH (BIGLEY)	25	Large	2
3. PISI/POMU-TROV2 (BIGLEY)	20	Large	2

Notes:

Polygon Number	**23**
Survey Intensity	3
Observer	HS
Date	8/16/2006
Specific Location	
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	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	0
Litter	0
Logging	
Stand Age	
Agriculture	
Livestock	
Development	
Wildlife	
Recreation Severity	
Recreation Type	
Hydrology	

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. abandoned pasture	100	Matrix	1
2.	0		0
3.	0		0

Notes:

Polygon Number	**24**
Survey Intensity	1
Observer	HS
Date	8/16/2006
Specific Location	
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	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	0
Litter	0
Logging	
Stand Age	
Agriculture	
Livestock	
Development	
Wildlife	
Recreation Severity	
Recreation Type	
Hydrology	

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. abandoned pasture	100	Matrix	1
2.	0		0
3.	0		0

Notes:

Polygon Number	**25**
Survey Intensity	1
Observer	HS
Date	8/16/2006
Specific Location	N of highway
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	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	0
Litter	0
Logging	
Stand Age	
Agriculture	
Livestock	
Development	
Wildlife	
Recreation Severity	
Recreation Type	
Hydrology	

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. abandoned pasture	100	Matrix	1
2.	0		0
3.	0		0

Notes:

Polygon Number	**26**
Survey Intensity	1
Observer	HS
Date	8/17/2006
Specific Location	DISTURBED.
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	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	0
Litter	0
Logging	
Stand Age	
Agriculture	
Livestock	
Development	
Wildlife	
Recreation Severity	
Recreation Type	
Hydrology	

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. abandoned pasture	100	Matrix	1
2.	0		0
3.	0		0

Notes:

Polygon Number	**27**
Survey Intensity	1
Observer	PRM
Date	4/26/2006
Specific Location	Small area south of highway.
Total Vegetation	6
Trees Total	6
Dominant Trees	TSHE, ALRU2
emergent	2
maincanopy	6
subcanopy	3
Shrubs Total	2
Dominant Shrubs	VAPA, MEFE
> 1.5' tall	2
< 1.5' tall	0
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	POMU, OXOR
Forbs Perennial	3
Forbs Annual	0
Ferns Total	2
Ferns Evergreen	2
Ferns Deciduous	2
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	1
Litter	99
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	2
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/OXOR/DRAU2 (BIGLEY)	100	Matrix	2
2.	0		0
3.	0		0

Notes: The RUSP and LYAM3 is in a small wet area. There are a few mature PISI and TSHE trees.

Polygon Number	**28**
Survey Intensity	1
Observer	PRM
Date	4/26/2006
Specific Location	
Total Vegetation	6
Trees Total	6
Dominant Trees	ALRU2, TSHE
emergent	1
maincanopy	6
subcanopy	3
Shrubs Total	4
Dominant Shrubs	RUSP, OPHO, VAPA
> 1.5' tall	4
< 1.5' tall	2
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	4
Dominant Forbs	OXOR, TOME, POMU, BLSP
Forbs Perennial	4
Forbs Annual	1
Ferns Total	4
Ferns Evergreen	3
Ferns Deciduous	2
ExoticsTotal	1
Exotics Perennial	1
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	4
Litter	96
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	2
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic
DIPU
Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/OXOR/DRAU2 (BIGLEY)	60	Matrix	2
2. ALRU2/RUSP (CHAPPELL)	40	Large	2
3.	0		0

Notes: Steep ravine with creek along bottom

Polygon Number	**28N**
Survey Intensity	1
Observer	HS
Date	8/16/2006
Specific Location	N of highway
Total Vegetation	5
Trees Total	2
Dominant Trees	ALRU2
emergent	0
maincanopy	2
subcanopy	0
Shrubs Total	5
Dominant Shrubs	Salix sp.
> 1.5' tall	5
< 1.5' tall	0
Graminoids Total	3
Dominant Graminoids	PHAR3, CAOB3
Graminoids Perennial	3
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	POPA23
Forbs Perennial	3
Forbs Annual	0
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	3
Exotics Perennial	3
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	5
Moss Lichen	2
Litter	93
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	1
Wildlife	2
Recreation Severity	0
Recreation Type	0
Hydrology	2

Exotic Species

Primary Exotic
PHAR3
Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. SASI/EQAR (CHAPPELL)	100	Matrix	1
2.	0		0
3.	0		0

Notes:

Polygon Number	**29**
Survey Intensity	1
Observer	PRM
Date	4/26/2006
Specific Location	South of highway beginning of west 1/3 of the Park.
Total Vegetation	6
Trees Total	5
Dominant Trees	TSHE, ALRU2, PISI
emergent	2
maincanopy	5
subcanopy	3
Shrubs Total	4
Dominant Shrubs	RUSP, MEFE, ACCI
> 1.5' tall	4
< 1.5' tall	2
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	4
Dominant Forbs	OXOR, MADI, POMU, BLSP, TITR
Forbs Perennial	4
Forbs Annual	1
Ferns Total	3
Ferns Evergreen	3
Ferns Deciduous	2
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	4
Litter	96
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	70	Matrix	2
2. TSHE/OXOR/DRAU2 (BIGLEY)	30	Large	2
3.	0		0

Notes:

Polygon Number	**3**
Survey Intensity	1
Observer	PRM
Date	4/25/2006
Specific Location	Beach along CB4

Total Vegetation
Trees Total
Dominant Trees
emergent
maincanopy
subcanopy
Shrubs Total
Dominant Shrubs
> 1.5' tall
< 1.5' tall
Graminoids Total
Dominant Graminoids
Graminoids Perennial
Graminoids Annual
Forbs Total
Dominant Forbs
Forbs Perennial
Forbs Annual
Ferns Total

Exotic Species

Ferns Evergreen
Ferns Deciduous
ExoticsTotal
Exotics Perennial
Exotics Annual
Water
Rock Outcrop
Gravel
Bare Ground
Moss Lichen
Litter
Logging
Stand Age
Agriculture
Livestock
Development
Wildlife
Recreation Severity
Recreation Type
Hydrology

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

		Percent	Pattern	Rank
1.	water	100	Matrix	3
2.		0		0
3.		0		0

Notes:

Polygon Number	**30**
Survey Intensity	1
Observer	PRM
Date	4/26/2006
Specific Location	
Total Vegetation	6
Trees Total	6
Dominant Trees	TSHE, ALRU2, PISI
emergent	2
maincanopy	6
subcanopy	3
Shrubs Total	3
Dominant Shrubs	VAPA, RUSP
> 1.5' tall	3
< 1.5' tall	1
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	OXOR, POMU
Forbs Perennial	3
Forbs Annual	0
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	2
ExoticsTotal	1
Exotics Perennial	1
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	3
Litter	97
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	1
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	2

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/OXOR/DRAU2 (BIGLEY)	90	Matrix	2
2. ALRU2/RUSP (CHAPPELL)	10	Small	2
3.	0		0

Notes: Elk trails in this area.

Polygon Number	**32**
Survey Intensity	1
Observer	PRM
Date	4/26/2006
Specific Location	Between highway and river west end of Park.
Total Vegetation	5
Trees Total	5
Dominant Trees	ALRU2, THPL, PISI
emergent	2
maincanopy	5
subcanopy	2
Shrubs Total	5
Dominant Shrubs	RUSP, RIBR, SARA2
> 1.5' tall	5
< 1.5' tall	1
Graminoids Total	3
Dominant Graminoids	Weed grasses
Graminoids Perennial	3
Graminoids Annual	0
Forbs Total	2
Dominant Forbs	POMU, PTAQ, TEGR2
Forbs Perennial	2
Forbs Annual	0
Ferns Total	2
Ferns Evergreen	2
Ferns Deciduous	2
ExoticsTotal	3
Exotics Perennial	3
Exotics Annual	1
Water	
Rock Outcrop	0
Gravel	10
Bare Ground	0
Moss Lichen	2
Litter	88
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	1
Wildlife	2
Recreation Severity	3
Recreation Type	3
Hydrology	2

Exotic Species

Primary Exotic
PHAR3
Secondary Exotic
RARE3
Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	70	Matrix	1
2. water	20	Large	2
3. PISI/OXOR (BIGLEY)	10	Small	1

Notes:

Polygon Number	**33A**
Survey Intensity	1
Observer	PRM
Date	4/26/2006
Specific Location	West end of park, South of Highway.
Total Vegetation	6
Trees Total	6
Dominant Trees	TSHE, ALRU2, PISI
emergent	2
maincanopy	6
subcanopy	3
Shrubs Total	3
Dominant Shrubs	RUSP, VAPA, SARA2, OPHO
> 1.5' tall	3
< 1.5' tall	2
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	0
Graminoids Annual	0
Forbs Total	4
Dominant Forbs	OXOR, POMU, BLSP
Forbs Perennial	4
Forbs Annual	0
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	2
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	5
Litter	95
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	2
Recreation Severity	0
Recreation Type	0
Hydrology	2

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/OXOR/DRAU2 (BIGLEY)	65	Matrix	2
2. ALRU2/RUSP (CHAPPELL)	35	Large	2
3.	0		0

Notes:

Polygon Number	**33B**
Survey Intensity	1
Observer	PRM
Date	4/26/2006
Specific Location	West end of park, South of Highway.
Total Vegetation	6
Trees Total	6
Dominant Trees	TSHE, ALRU2, PISI
emergent	2
maincanopy	6
subcanopy	3
Shrubs Total	3
Dominant Shrubs	RUSP, VAPA, SARA2, OPHO
> 1.5' tall	3
< 1.5' tall	2
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	0
Graminoids Annual	0
Forbs Total	4
Dominant Forbs	OXOR, POMU, BLSP
Forbs Perennial	4
Forbs Annual	0
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	2
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	5
Litter	95
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	2
Recreation Severity	0
Recreation Type	0
Hydrology	2

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/OXOR/DRAU2 (BIGLEY)	65	Matrix	2
2. ALRU2/RUSP (CHAPPELL)	35	Large	2
3.	0		0

Notes:

Polygon Number	**33C**
Survey Intensity	1
Observer	PRM
Date	4/26/2006
Specific Location	West end of park, South of Highway.
Total Vegetation	6
Trees Total	5
Dominant Trees	TSHE, ALRU2
emergent	0
maincanopy	5
subcanopy	0
Shrubs Total	3
Dominant Shrubs	RUSP, VAPA,
> 1.5' tall	3
< 1.5' tall	2
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	0
Graminoids Annual	0
Forbs Total	2
Dominant Forbs	
Forbs Perennial	2
Forbs Annual	0
Ferns Total	3
Ferns Evergreen	3
Ferns Deciduous	2
ExoticsTotal	2
Exotics Perennial	2
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	2
Litter	98
Logging	3
Stand Age	1
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	2

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/OXOR/DRAU2 (BIGLEY)	100	Matrix	1
2.	0		0
3.	0		0

Notes:

Polygon Number	**34**
Survey Intensity	2
Observer	PRM
Date	4/26/2006
Specific Location	Forest on northwest edge of park.
Total Vegetation	5
Trees Total	5
Dominant Trees	PISI, ALRU2, ACMA3
emergent	2
maincanopy	5
subcanopy	2
Shrubs Total	4
Dominant Shrubs	RUSP, OECE, RUPA
> 1.5' tall	4
< 1.5' tall	1
Graminoids Total	3
Dominant Graminoids	PHAR3
Graminoids Perennial	3
Graminoids Annual	0
Forbs Total	5
Dominant Forbs	OXOR, POMU
Forbs Perennial	5
Forbs Annual	0
Ferns Total	3
Ferns Evergreen	3
Ferns Deciduous	0
ExoticsTotal	3
Exotics Perennial	3
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	3
Litter	97
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	1
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Primary Exotic
PHAR3
Secondary Exotic
CIAR4
Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	80	Matrix	2
2. PISI/OXOR (BIGLEY)	20	Small	2
3.	0		0

Notes:

Polygon Number	**35**
Survey Intensity	1
Observer	PRM
Date	4/26/2006
Specific Location	Most northern forested area in west part of park along the river.
Total Vegetation	6
Trees Total	5
Dominant Trees	PISI, ALRU2, TSHE, THPL
emergent	2
maincanopy	5
subcanopy	3
Shrubs Total	5
Dominant Shrubs	RUSP, SYAL
> 1.5' tall	5
< 1.5' tall	0
Graminoids Total	3
Dominant Graminoids	DAGL, FEAR?
Graminoids Perennial	2
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	OXOR, POMU
Forbs Perennial	3
Forbs Annual	0
Ferns Total	3
Ferns Evergreen	3
Ferns Deciduous	0
ExoticsTotal	1
Exotics Perennial	1
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	3
Litter	97
Logging	2
Stand Age	3
Agriculture	0
Livestock	0
Development	0
Wildlife	2
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Primary Exotic	
RARE3	
Secondary Exotic	
DAGL	
Noxious Exotic	

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	50	Large	1
2. PISI/OXOR (BIGLEY)	50	Large	2
3.	0		0

Notes: There are several mature PISI trees here.

Polygon Number	**36**
Survey Intensity	1
Observer	PRM
Date	4/26/2006
Specific Location	North side of river.
Total Vegetation	6
Trees Total	5
Dominant Trees	ALRU2, THPL
emergent	0
maincanopy	5
subcanopy	2
Shrubs Total	5
Dominant Shrubs	RUSP
> 1.5' tall	5
< 1.5' tall	2
Graminoids Total	2
Dominant Graminoids	
Graminoids Perennial	2
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	TEGR2, POMU
Forbs Perennial	3
Forbs Annual	0
Ferns Total	3
Ferns Evergreen	3
Ferns Deciduous	1
ExoticsTotal	2
Exotics Perennial	2
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	2
Litter	98
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	1
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic
RUDI2
Secondary Exotic
PHAR3
Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	100	Matrix	2
2.	0		0
3.	0		0

Notes:

Polygon Number	**37**
Survey Intensity	1
Observer	PRM
Date	4/26/2006
Specific Location	
Total Vegetation	5
Trees Total	3
Dominant Trees	ALRU2, PISI
emergent	1
maincanopy	3
subcanopy	2
Shrubs Total	4
Dominant Shrubs	RUSP, SYAL, RUPA
> 1.5' tall	4
< 1.5' tall	2
Graminoids Total	4
Dominant Graminoids	DAGL, POPR?, PHAR3
Graminoids Perennial	4
Graminoids Annual	1
Forbs Total	3
Dominant Forbs	RARE3
Forbs Perennial	3
Forbs Annual	0
Ferns Total	2
Ferns Evergreen	2
Ferns Deciduous	1
ExoticsTotal	4
Exotics Perennial	4
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	25
Bare Ground	0
Moss Lichen	0
Litter	75
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	2
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic
PHAR3
Secondary Exotic
DAGL
Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	50	Matrix	1
2. abandoned pasture	25	Large	1
3. water	25	Large	2

Notes:

Polygon Number	**38**
Survey Intensity	2
Observer	HS
Date	8/17/2006
Specific Location	N side of big polygon.
Total Vegetation	6
Trees Total	5
Dominant Trees	ALRU2, PISI
emergent	2
maincanopy	5
subcanopy	2
Shrubs Total	5
Dominant Shrubs	RUSP
> 1.5' tall	5
< 1.5' tall	2
Graminoids Total	2
Dominant Graminoids	PHAR3
Graminoids Perennial	2
Graminoids Annual	1
Forbs Total	3
Dominant Forbs	TOME, OXOR
Forbs Perennial	3
Forbs Annual	1
Ferns Total	2
Ferns Evergreen	2
Ferns Deciduous	2
ExoticsTotal	2
Exotics Perennial	2
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	2
Litter	98
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic
RUDI2
Secondary Exotic
PHAR3
Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	100	Matrix	2
2.	0		0
3.	0		0

Notes:

Polygon Number	**39**
Survey Intensity	1
Observer	PRM
Date	4/26/2006
Specific Location	Along the road in the north middle edge of park.
Total Vegetation	5
Trees Total	5
Dominant Trees	ALRU2, TSHE, PISI
emergent	2
maincanopy	5
subcanopy	2
Shrubs Total	3
Dominant Shrubs	RUSP, RUPA
> 1.5' tall	3
< 1.5' tall	0
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	OXOR
Forbs Perennial	3
Forbs Annual	0
Ferns Total	3
Ferns Evergreen	3
Ferns Deciduous	0
ExoticsTotal	4
Exotics Perennial	4
Exotics Annual	1
Water	
Rock Outcrop	0
Gravel	40
Bare Ground	0
Moss Lichen	2
Litter	58
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	1
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic
HOMO
Secondary Exotic
DAGL
Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. developed	60	Matrix	1
2. water	30	Large	2
3. ALRU2/RUSP (CHAPPELL)	10	Small	2

Notes:

Polygon Number	**4**
Survey Intensity	2
Observer	HS
Date	8/16/2006
Specific Location	NW side of park
Total Vegetation	6
Trees Total	5
Dominant Trees	TSHE, ALRU2
emergent	0
maincanopy	5
subcanopy	0
Shrubs Total	2
Dominant Shrubs	
> 1.5' tall	2
< 1.5' tall	2
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	POMU
Forbs Perennial	3
Forbs Annual	0
Ferns Total	3
Ferns Evergreen	3
Ferns Deciduous	1
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	0
Litter	100
Logging	3
Stand Age	1
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

		Percent	Pattern	Rank
1.	TSHE/POMU (BIGLEY)	100	Matrix	1
2.		0		0
3.		0		0

Notes: recently logged

Polygon Number	**40**
Survey Intensity	1
Observer	PRM
Date	4/25/2006
Specific Location	Forested area south of ranch buildings between river and a closed road.
Total Vegetation	6
Trees Total	5
Dominant Trees	ALRU2, TSHE, PISI
emergent	1
maincanopy	5
subcanopy	1
Shrubs Total	4
Dominant Shrubs	RUSP, GASH
> 1.5' tall	4
< 1.5' tall	1
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	OXOR
Forbs Perennial	3
Forbs Annual	0
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	2
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	3
Litter	97
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/OXOR/DRAU2 (BIGLEY)	75	Matrix	2
2. TSHE/POMU (BIGLEY)	20	Small	2
3. ALRU2/RUSP (CHAPPELL)	5	Small	2

Notes:

Polygon Number	**41**
Survey Intensity	1
Observer	PRM
Date	4/26/2006
Specific Location	Just south of the main highway in the skinnyest part of the park.
Total Vegetation	6
Trees Total	6
Dominant Trees	ALRU2, TSHE
emergent	2
maincanopy	6
subcanopy	3
Shrubs Total	4
Dominant Shrubs	RUSP
> 1.5' tall	4
< 1.5' tall	1
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	4
Dominant Forbs	OXOR, POMU
Forbs Perennial	4
Forbs Annual	0
Ferns Total	3
Ferns Evergreen	3
Ferns Deciduous	2
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	2
Litter	98
Logging	2
Stand Age	1
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	70	Matrix	2
2. TSHE/OXOR/DRAU2 (BIGLEY)	30	Large	2
3.	0		0

Notes:

Polygon Number	**42**
Survey Intensity	1
Observer	PRM
Date	4/26/2006
Specific Location	
Total Vegetation	6
Trees Total	5
Dominant Trees	TSHE, ALRU2
emergent	0
maincanopy	5
subcanopy	0
Shrubs Total	4
Dominant Shrubs	VAPA, RUSP, MEFE
> 1.5' tall	3
< 1.5' tall	3
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	2
Dominant Forbs	OXOR, BISP, POMU
Forbs Perennial	2
Forbs Annual	0
Ferns Total	3
Ferns Evergreen	3
Ferns Deciduous	2
ExoticsTotal	1
Exotics Perennial	1
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	2
Litter	98
Logging	3
Stand Age	1
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic
AGAL
Secondary Exotic
DAGL
Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/OXOR/DRAU2 (BIGLEY)	80	Matrix	1
2. TSHE/GASH (BIGLEY)	20	Large	1
3.	0		0

Notes:

Polygon Number	**43**
Survey Intensity	2
Observer	DV
Date	4/26/2006
Specific Location	
Total Vegetation	6
Trees Total	5
Dominant Trees	TSHE, ALRU2
emergent	0
maincanopy	5
subcanopy	2
Shrubs Total	3
Dominant Shrubs	RUSP
> 1.5' tall	3
< 1.5' tall	1
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	4
Dominant Forbs	OXOR, POMU
Forbs Perennial	4
Forbs Annual	0
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	2
Litter	98
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	50	Matrix	2
2. TSHE/OXOR/DRAU2 (BIGLEY)	30	Large	2
3. TSHE/POMU (BIGLEY)	20	Large	2

Notes: BIG STUMPS PRESENT.

Polygon Number	**44**
Survey Intensity	1
Observer	PRM
Date	4/26/2006
Specific Location	Southwest of side road. Lower 1/3 of park.
Total Vegetation	6
Trees Total	6
Dominant Trees	TSHE, PISI, ALRU2
emergent	3
maincanopy	5
subcanopy	2
Shrubs Total	2
Dominant Shrubs	VAPA
> 1.5' tall	2
< 1.5' tall	0
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	OXOR, BLSP, POMU
Forbs Perennial	3
Forbs Annual	0
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	3
Litter	97
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/OXOR/DRAU2 (BIGLEY)	70	Matrix	2
2. TSHE/MEFE/BLSP (BIGLEY)	20	Large	2
3. TSHE/POMU (BIGLEY)	10	Small	2

Notes: Lots of TSHE seedlings as well as mature trees.

Polygon Number	**45A**
Survey Intensity	1
Observer	PRM
Date	4/26/2006
Specific Location	Forested finger jutting into meadow south of the ranch
Total Vegetation	6
Trees Total	5
Dominant Trees	ALRU2, THPL, PISI
emergent	2
maincanopy	5
subcanopy	2
Shrubs Total	4
Dominant Shrubs	RUSP
> 1.5' tall	4
< 1.5' tall	1
Graminoids Total	1
Dominant Graminoids	CAOB3
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	5
Dominant Forbs	LYAM3, OXOR, POMU
Forbs Perennial	5
Forbs Annual	1
Ferns Total	2
Ferns Evergreen	2
Ferns Deciduous	0
ExoticsTotal	2
Exotics Perennial	2
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	3
Litter	97
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	1
Wildlife	2
Recreation Severity	3
Recreation Type	3
Hydrology	2

Exotic Species

Primary Exotic
ILAQ80
Secondary Exotic
RARE3
Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	80	Matrix	2
2. PISI/OXOR (BIGLEY)	10	Small	2
3. TSHE/OXOR/DRAU2 (BIGLEY)	10	Small	2

Notes:

Polygon Number	**46**
Survey Intensity	1
Observer	DV
Date	4/26/2006
Specific Location	
Total Vegetation	6
Trees Total	5
Dominant Trees	TSHE, ALRU2
emergent	1
maincanopy	5
subcanopy	2
Shrubs Total	3
Dominant Shrubs	VAPA, MANE2, MEFE
> 1.5' tall	3
< 1.5' tall	2
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	4
Dominant Forbs	OXOR, POMU
Forbs Perennial	4
Forbs Annual	0
Ferns Total	4
Ferns Evergreen	3
Ferns Deciduous	3
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	3
Litter	97
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/OXOR/DRAU2 (BIGLEY)	80	Matrix	2
2. TSHE/GASH (BIGLEY)	10	Small	2
3. TSHE/MEFE/BLSP (BIGLEY)	10	Small	2

Notes:

Polygon Number	**47**
Survey Intensity	1
Observer	DV
Date	4/26/2006
Specific Location	
Total Vegetation	5
Trees Total	4
Dominant Trees	ALRU2
emergent	0
maincanopy	4
subcanopy	2
Shrubs Total	4
Dominant Shrubs	RUSP, OPHO
> 1.5' tall	4
< 1.5' tall	3
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	4
Dominant Forbs	TOLMEN, OXOR
Forbs Perennial	4
Forbs Annual	0
Ferns Total	3
Ferns Evergreen	2
Ferns Deciduous	2
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	5
Litter	95
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	80	Matrix	2
2. TSHE/OXOR/DRAU2 (BIGLEY)	20	Small	2
3.	0		0

Notes:

Polygon Number	**48**
Survey Intensity	2
Observer	DV
Date	4/26/2006
Specific Location	
Total Vegetation	6
Trees Total	5
Dominant Trees	ALRU2, TSHE
emergent	1
maincanopy	4
subcanopy	4
Shrubs Total	4
Dominant Shrubs	RUSP, OPHO, SARA2, VAPA
> 1.5' tall	4
< 1.5' tall	2
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	POMU, OXOR
Forbs Perennial	3
Forbs Annual	0
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	2
Litter	98
Logging	3
Stand Age	1
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/OXOR/DRAU2 (BIGLEY)	60	Matrix	1
2. ALRU2/RUSP (CHAPPELL)	40	Large	2
3.	0		0

Notes: Recently cut. Big blowdown in part of polygon

Polygon Number	**49**
Survey Intensity	2
Observer	DV
Date	4/26/2006
Specific Location	
Total Vegetation	6
Trees Total	5
Dominant Trees	TSHE, ALRU2, PISI, THPL
emergent	1
maincanopy	5
subcanopy	3
Shrubs Total	3
Dominant Shrubs	RUSP, VAPA, OPHO
> 1.5' tall	3
< 1.5' tall	2
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	5
Dominant Forbs	OXOR, TITR
Forbs Perennial	5
Forbs Annual	0
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	2
ExoticsTotal	2
Exotics Perennial	2
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	5
Litter	95
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic
RARE3
Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. PISI/OXOR (BIGLEY)	85	Matrix	2
2. PISI/ALRU2/LYAM3 (CHAPPELL)	10	Small	2
3. ALRU2/RUSP (CHAPPELL)	5	Samll	2

Notes:

Polygon Number	**50**
Survey Intensity	2
Observer	DV
Date	4/26/2006
Specific Location	
Total Vegetation	6
Trees Total	5
Dominant Trees	ALRU2, TSHE
emergent	1
maincanopy	5
subcanopy	3
Shrubs Total	4
Dominant Shrubs	RUSP
> 1.5' tall	4
< 1.5' tall	1
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	4
Dominant Forbs	OXOR, POMU
Forbs Perennial	4
Forbs Annual	0
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	3
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	5
Litter	95
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/OXOR/DRAU2 (BIGLEY)	70	Matrix	3
2. TSHE/POMU (BIGLEY)	30	Large	2
3.	0		0

Notes:

Polygon Number	**51**
Survey Intensity	2
Observer	DV
Date	4/26/2006
Specific Location	
Total Vegetation	5
Trees Total	5
Dominant Trees	TSHE
emergent	0
maincanopy	5
subcanopy	4
Shrubs Total	3
Dominant Shrubs	VAPA
> 1.5' tall	3
< 1.5' tall	1
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	OXOR
Forbs Perennial	3
Forbs Annual	0
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	5
Litter	95
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/OXOR/DRAU2 (BIGLEY)	80	Matrix	2
2. PISI/OXOR (BIGLEY)	15	Small	2
3. ALRU2/RUSP (CHAPPELL)	5	Small	2

Notes:

Polygon Number	**52**
Survey Intensity	1
Observer	HS
Date	8/16/2006
Specific Location	SE side of park.
Total Vegetation	6
Trees Total	6
Dominant Trees	TSHE, ALRU2
emergent	2
maincanopy	6
subcanopy	3
Shrubs Total	3
Dominant Shrubs	VAPA, MEFE
> 1.5' tall	3
< 1.5' tall	1
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	OXOR
Forbs Perennial	3
Forbs Annual	1
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	1
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	2
Litter	98
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

		Percent	Pattern	Rank
1.	TSHE/OXOR/DRAU2 (BIGLEY)	80	Matrix	2
2.	TSHE/GASH (BIGLEY)	20	Small	2
3.		0		0

Notes: Ferns: POMU.

Polygon Number	**53**
Survey Intensity	3
Observer	HS
Date	8/16/2006
Specific Location	
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	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	0
Litter	0
Logging	
Stand Age	
Agriculture	
Livestock	
Development	
Wildlife	
Recreation Severity	
Recreation Type	
Hydrology	

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. abandoned pasture	100	Matrix	1
2.	0		0
3.	0		0

Notes:

Polygon Number	**54**
Survey Intensity	1
Observer	HS
Date	8/16/2006
Specific Location	
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	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	0
Litter	0
Logging	
Stand Age	
Agriculture	
Livestock	
Development	
Wildlife	
Recreation Severity	
Recreation Type	
Hydrology	

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. abandoned pasture	100	Matrix	1
2.	0		0
3.	0		0

Notes:

Polygon Number	**55**
Survey Intensity	1
Observer	HS
Date	8/16/2006
Specific Location	
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	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	0
Litter	0
Logging	
Stand Age	
Agriculture	
Livestock	
Development	
Wildlife	
Recreation Severity	
Recreation Type	
Hydrology	

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. abandoned pasture	100	Matrix	1
2.	0		0
3.	0		0

Notes:

Polygon Number	**56**
Survey Intensity	1
Observer	HS
Date	8/18/2006
Specific Location	N side of big polygon.
Total Vegetation	6
Trees Total	4
Dominant Trees	ALRU2, PISI
emergent	1
maincanopy	4
subcanopy	3
Shrubs Total	4
Dominant Shrubs	RUSP, SARI, LOIN5
> 1.5' tall	4
< 1.5' tall	1
Graminoids Total	5
Dominant Graminoids	CAOB3, PHAR3
Graminoids Perennial	5
Graminoids Annual	1
Forbs Total	4
Dominant Forbs	RARE3, LYAM3
Forbs Perennial	4
Forbs Annual	0
Ferns Total	2
Ferns Evergreen	2
Ferns Deciduous	2
ExoticsTotal	5
Exotics Perennial	5
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	8
Moss Lichen	2
Litter	90
Logging	1
Stand Age	2
Agriculture	0
Livestock	6
Development	0
Wildlife	2
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic
RARE3
Secondary Exotic
PHAR3
Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP/CAOB3-LYAM3 (CHAPPELL)	100	Matrix	1
2.	0		0
3.	0		0

Notes:

Polygon Number	**57**
Survey Intensity	1
Observer	DV
Date	4/26/2006
Specific Location	New boundary drawn on Dana's map.
Total Vegetation	6
Trees Total	5
Dominant Trees	ALRU2, PISI, TSHE
emergent	2
maincanopy	5
subcanopy	2
Shrubs Total	4
Dominant Shrubs	RUSP, OPHO
> 1.5' tall	4
< 1.5' tall	2
Graminoids Total	2
Dominant Graminoids	
Graminoids Perennial	2
Graminoids Annual	0
Forbs Total	4
Dominant Forbs	LYAM3, OXOR
Forbs Perennial	4
Forbs Annual	0
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	3
ExoticsTotal	2
Exotics Perennial	2
Exotics Annual	0
Water	5
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	5
Litter	90
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	3

Exotic Species

Primary Exotic
RARE3
Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP/CAOB3-LYAM3 (CHAPPELL)	80	Matrix	2
2. PISI/OXOR (BIGLEY)	20	Small	2
3.	0		0

Notes:

Polygon Number	**58**
Survey Intensity	1
Observer	DV
Date	4/26/2006
Specific Location	
Total Vegetation	6
Trees Total	6
Dominant Trees	TSHE, THPL, ABGR, ALRU2
emergent	2
maincanopy	6
subcanopy	2
Shrubs Total	4
Dominant Shrubs	RUSP
> 1.5' tall	4
< 1.5' tall	1
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	POMU, OXOR
Forbs Perennial	3
Forbs Annual	0
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	2
ExoticsTotal	2
Exotics Perennial	2
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	5
Moss Lichen	3
Litter	92
Logging	3
Stand Age	6
Agriculture	0
Livestock	0
Development	1
Wildlife	0
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic	
ILAQ80	
Secondary Exotic	
RARE3	
Noxious Exotic	

Plant Associations

	Percent	Pattern	Rank
1. TSHE/POMU (BIGLEY)	70	Matrix	2
2. TSHE/OXOR/DRAU2 (BIGLEY)	30	Large	2
3.	0		0

Notes: Big Cedars

Polygon Number	**59**
Survey Intensity	1
Observer	HS
Date	8/16/2006
Specific Location	
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	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	0
Litter	0
Logging	
Stand Age	
Agriculture	
Livestock	
Development	
Wildlife	
Recreation Severity	
Recreation Type	
Hydrology	

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. abandoned pasture	100	Matrix	1
2.	0		0
3.	0		0

Notes:

Polygon Number	**5A**
Survey Intensity	2
Observer	PRM
Date	4/25/2006
Specific Location	
Total Vegetation	5
Trees Total	5
Dominant Trees	ALRU2, PISI, TSHE
emergent	1
maincanopy	4
subcanopy	2
Shrubs Total	4
Dominant Shrubs	RIBR, RUSP, OPHO
> 1.5' tall	4
< 1.5' tall	1
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	MADI, TITR
Forbs Perennial	3
Forbs Annual	0
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	5
Litter	95
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	2

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/POMU (BIGLEY)	90	Matrix	2
2. THSE/GASH/DISM (BIGLEY)	10	Small	2
3.	0		0

Notes:

Polygon Number	**5B**
Survey Intensity	1
Observer	PRM
Date	4/25/2006
Specific Location	On flat area south of highway 101.
Total Vegetation	6
Trees Total	5
Dominant Trees	ALRU2, PISI, TSHE
emergent	2
maincanopy	5
subcanopy	1
Shrubs Total	6
Dominant Shrubs	RUSP, SARA2, VAPA
> 1.5' tall	6
< 1.5' tall	1
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	4
Dominant Forbs	OXOR
Forbs Perennial	4
Forbs Annual	0
Ferns Total	3
Ferns Evergreen	3
Ferns Deciduous	0
ExoticsTotal	1
Exotics Perennial	1
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	10
Litter	90
Logging	2
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic
DIPU
Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	60	Matrix	2
2. PISI/GASH (BIGLEY)	20	Small	2
3. PISI/OXOR (BIGLEY)	20	Small	2

Notes:

Polygon Number	**6**
Survey Intensity	1
Observer	DV
Date	4/25/2006
Specific Location	beach
Total Vegetation	2
Trees Total	1
Dominant Trees	ALRU2
emergent	0
maincanopy	1
subcanopy	0
Shrubs Total	0
Dominant Shrubs	
> 1.5' tall	0
< 1.5' tall	0
Graminoids Total	2
Dominant Graminoids	ELMO9
Graminoids Perennial	2
Graminoids Annual	0
Forbs Total	2
Dominant Forbs	HOPE
Forbs Perennial	2
Forbs Annual	0
Ferns Total	0
Ferns Evergreen	0
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	90
Bare Ground	0
Moss Lichen	0
Litter	10
Logging	0
Stand Age	0
Agriculture	0
Livestock	0
Development	0
Wildlife	7
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. Beach	100	Matrix	3
2.	0		0
3.	0		0

Notes:

Polygon Number	**60**
Survey Intensity	1
Observer	HS
Date	8/16/2006
Specific Location	E side (big parcel).
Total Vegetation	5
Trees Total	5
Dominant Trees	ALRU2, PISI, TSHE
emergent	1
maincanopy	5
subcanopy	2
Shrubs Total	4
Dominant Shrubs	RUSP
> 1.5' tall	4
< 1.5' tall	2
Graminoids Total	5
Dominant Graminoids	WEED GRASSES
Graminoids Perennial	5
Graminoids Annual	1
Forbs Total	3
Dominant Forbs	WEEDY FORBS
Forbs Perennial	3
Forbs Annual	1
Ferns Total	2
Ferns Evergreen	2
Ferns Deciduous	2
ExoticsTotal	5
Exotics Perennial	5
Exotics Annual	1
Water	
Rock Outcrop	0
Gravel	20
Bare Ground	0
Moss Lichen	2
Litter	78
Logging	3
Stand Age	1
Agriculture	0
Livestock	6
Development	1
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Primary Exotic	
RARE3	
Secondary Exotic	
DAGL	
Noxious Exotic	

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	80	Matrix	1
2. abandoned pasture	20	Large	1
3.	0		0

Notes: Riparian restoration project active, w/ tree plantings, log jams & wildlife trees.

Polygon Number	**61**
Survey Intensity	1
Observer	DV
Date	4/26/2006
Specific Location	
Total Vegetation	6
Trees Total	6
Dominant Trees	TSHE, PSME, THPL
emergent	2
maincanopy	6
subcanopy	3
Shrubs Total	2
Dominant Shrubs	RUSP
> 1.5' tall	2
< 1.5' tall	1
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	2
Dominant Forbs	POMU
Forbs Perennial	2
Forbs Annual	0
Ferns Total	3
Ferns Evergreen	3
Ferns Deciduous	2
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	2
Litter	98
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/POMU (BIGLEY)	100	Matrix	2
2.	0		0
3.	0		0

Notes: fire evidence

Polygon Number	**62**
Survey Intensity	2
Observer	DV
Date	4/26/2006
Specific Location	
Total Vegetation	6
Trees Total	6
Dominant Trees	TSHE, THPL, PISI
emergent	2
maincanopy	6
subcanopy	2
Shrubs Total	3
Dominant Shrubs	VAPA, RUSP
> 1.5' tall	3
< 1.5' tall	1
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	POMU, OXOR, TOME
Forbs Perennial	3
Forbs Annual	0
Ferns Total	3
Ferns Evergreen	3
Ferns Deciduous	2
ExoticsTotal	1
Exotics Perennial	1
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	2
Litter	98
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	1
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic
RARE3
Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/OXOR/DRAU2 (BIGLEY)	70	Matrix	2
2. TSHE/POMU (BIGLEY)	30	Large	2
3.	0		0

Notes:

Polygon Number	**63**
Survey Intensity	1
Observer	HS
Date	8/16/2006
Specific Location	E side of big polygon.
Total Vegetation	6
Trees Total	6
Dominant Trees	TSHE, PISI, ALRU2
emergent	1
maincanopy	6
subcanopy	2
Shrubs Total	3
Dominant Shrubs	RUSP
> 1.5' tall	3
< 1.5' tall	2
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	OXOR
Forbs Perennial	3
Forbs Annual	1
Ferns Total	3
Ferns Evergreen	3
Ferns Deciduous	1
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	2
Litter	98
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/OXOR/DRAU2 (BIGLEY)	85	Matrix	2
2. ALRU2/RUSP (CHAPPELL)	15	Small	2
3.	0		0

Notes: Ferns: POMU

Polygon Number	**65**
Survey Intensity	1
Observer	DV
Date	4/26/2006
Specific Location	
Total Vegetation	6
Trees Total	4
Dominant Trees	ALRU2, PISI, TSHE
emergent	0
maincanopy	4
subcanopy	3
Shrubs Total	4
Dominant Shrubs	RUSP
> 1.5' tall	4
< 1.5' tall	1
Graminoids Total	3
Dominant Graminoids	
Graminoids Perennial	3
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	POMU, OXOR, MADI
Forbs Perennial	3
Forbs Annual	0
Ferns Total	2
Ferns Evergreen	2
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	1
Litter	99
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	80	Matrix	2
2. PISI/OXOR (BIGLEY)	20	Small	2
3.	0		0

Notes:

Polygon Number	**65B**
Survey Intensity	1
Observer	HS
Date	8/16/2006
Specific Location	S part of park.
Total Vegetation	6
Trees Total	5
Dominant Trees	ALRU2, PISI, TSHE
emergent	1
maincanopy	5
subcanopy	2
Shrubs Total	5
Dominant Shrubs	RUSP, OPHO
> 1.5' tall	5
< 1.5' tall	2
Graminoids Total	3
Dominant Graminoids	AGAL, ELGL
Graminoids Perennial	3
Graminoids Annual	1
Forbs Total	4
Dominant Forbs	TOME, RARE3
Forbs Perennial	4
Forbs Annual	1
Ferns Total	3
Ferns Evergreen	3
Ferns Deciduous	2
ExoticsTotal	3
Exotics Perennial	3
Exotics Annual	1
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	2
Litter	98
Logging	3
Stand Age	2
Agriculture	0
Livestock	6
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Primary Exotic
RARE3
Secondary Exotic
AGAL
Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	70	Matrix	1
2. abandoned pasture	20	Large	1
3. PISI/OXOR (BIGLEY)	10	Small	2

Notes: Ferns: POMU, ATFI.

Polygon Number	**66**
Survey Intensity	1
Observer	DV
Date	4/26/2006
Specific Location	
Total Vegetation	6
Trees Total	2
Dominant Trees	
emergent	0
maincanopy	2
subcanopy	1
Shrubs Total	2
Dominant Shrubs	
> 1.5' tall	2
< 1.5' tall	1
Graminoids Total	6
Dominant Graminoids	PASTURE GRASS PROB. DAGL & POPR?, ALSO PHAR3, JUEF
Graminoids Perennial	6
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	RARE3
Forbs Perennial	3
Forbs Annual	0
Ferns Total	1
Ferns Evergreen	1
Ferns Deciduous	1
ExoticsTotal	5
Exotics Perennial	5
Exotics Annual	1
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	0
Litter	100
Logging	3
Stand Age	1
Agriculture	1
Livestock	1
Development	2
Wildlife	2
Recreation Severity	3
Recreation Type	3
Hydrology	2

Exotic Species

Primary Exotic
RARE3
Secondary Exotic
NON-NATIVE
Noxious Exotic
CIAR4 (1%)

Plant Associations

	Percent	Pattern	Rank
1. abandoned pasture	100	Matrix	1
2.	0		0
3.	0		0

Notes:

Polygon Number	**67**
Survey Intensity	1
Observer	HS
Date	8/16/2006
Specific Location	S part of park, W of river.
Total Vegetation	6
Trees Total	6
Dominant Trees	ALRU2, TSHE, PISI
emergent	1
maincanopy	6
subcanopy	2
Shrubs Total	5
Dominant Shrubs	RUSP, RUUR
> 1.5' tall	5
< 1.5' tall	2
Graminoids Total	2
Dominant Graminoids	CAOB3
Graminoids Perennial	2
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	TOME, OXOR
Forbs Perennial	3
Forbs Annual	1
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	2
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	5
Litter	95
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	80	Matrix	2
2. PISI/CAOB3-LYAM3 (CHAPPELL)	20	Large	2
3.	0		0

Notes: Ferns: POMU.

Polygon Number	**68**
Survey Intensity	1
Observer	HS
Date	8/16/2006
Specific Location	S part of park, along river.
Total Vegetation	5
Trees Total	4
Dominant Trees	ALRU2, THPL, TSHE
emergent	0
maincanopy	4
subcanopy	2
Shrubs Total	4
Dominant Shrubs	RUSP, RUUR
> 1.5' tall	4
< 1.5' tall	1
Graminoids Total	3
Dominant Graminoids	
Graminoids Perennial	3
Graminoids Annual	1
Forbs Total	4
Dominant Forbs	RARE3, TOME
Forbs Perennial	4
Forbs Annual	1
Ferns Total	2
Ferns Evergreen	2
Ferns Deciduous	2
ExoticsTotal	3
Exotics Perennial	3
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	10
Bare Ground	5
Moss Lichen	2
Litter	83
Logging	3
Stand Age	2
Agriculture	0
Livestock	6
Development	0
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Primary Exotic
RARE3
Secondary Exotic
RUDI2
Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	80	Matrix	2
2. abandoned pasture	20	Large	1
3.	0		0

Notes:

Polygon Number	**6B**
Survey Intensity	2
Observer	HS
Date	8/16/2006
Specific Location	
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	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	0
Litter	0
Logging	
Stand Age	
Agriculture	
Livestock	
Development	
Wildlife	
Recreation Severity	
Recreation Type	
Hydrology	

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. Beach	100	Matrix	3
2.	0		0
3.	0		0

Notes:

Polygon Number	**7**
Survey Intensity	2
Observer	HS
Date	8/16/2006
Specific Location	
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	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	0
Litter	0
Logging	
Stand Age	
Agriculture	
Livestock	
Development	
Wildlife	
Recreation Severity	
Recreation Type	
Hydrology	

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. water	100	Matrix	3
2.	0		0
3.	0		0

Notes:

Polygon Number	**8**
Survey Intensity	4
Observer	HS
Date	11/8/2006
Specific Location	
Total Vegetation	5
Trees Total	5
Dominant Trees	ALRU2, PISI, TSHE
emergent	2
maincanopy	5
subcanopy	2
Shrubs Total	4
Dominant Shrubs	RUSP, VAPA, SARA2, GASH
> 1.5' tall	4
< 1.5' tall	2
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	
Forbs Perennial	3
Forbs Annual	0
Ferns Total	3
Ferns Evergreen	3
Ferns Deciduous	0
ExoticsTotal	2
Exotics Perennial	2
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	10
Moss Lichen	3
Litter	87
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	1
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	2

Exotic Species

Primary Exotic
RUDI2
Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	50	Large	1
2. PISI/GASH (BIGLEY)	50	Large	2
3.	0		0

Notes:

Polygon Number	**89**
Survey Intensity	2
Observer	HS
Date	8/16/2006
Specific Location	S side of park.
Total Vegetation	6
Trees Total	6
Dominant Trees	ALRU2, TSHE
emergent	0
maincanopy	6
subcanopy	2
Shrubs Total	5
Dominant Shrubs	RUSP, SARA2, RIBR
> 1.5' tall	5
< 1.5' tall	2
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	OXOR
Forbs Perennial	3
Forbs Annual	1
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	2
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	5
Bare Ground	0
Moss Lichen	10
Litter	85
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	100	Matrix	2
2.	0		0
3.	0		0

Notes: Ferns: POMU.

Polygon Number	**9**
Survey Intensity	4
Observer	HS
Date	11/8/2006
Specific Location	
Total Vegetation	6
Trees Total	5
Dominant Trees	ALRU2
emergent	0
maincanopy	5
subcanopy	0
Shrubs Total	4
Dominant Shrubs	RUSP
> 1.5' tall	4
< 1.5' tall	2
Graminoids Total	3
Dominant Graminoids	CAOB3
Graminoids Perennial	3
Graminoids Annual	0
Forbs Total	3
Dominant Forbs	OXOR
Forbs Perennial	3
Forbs Annual	0
Ferns Total	1
Ferns Evergreen	1
Ferns Deciduous	1
ExoticsTotal	1
Exotics Perennial	0
Exotics Annual	0
Water	2
Rock Outcrop	0
Gravel	0
Bare Ground	3
Moss Lichen	2
Litter	93
Logging	1
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. ALRU2/RUSP (CHAPPELL)	100	Matrix	2
2.	0		0
3.	0		0

Notes:

Polygon Number	**93**
Survey Intensity	1
Observer	HS
Date	8/16/2006
Specific Location	S part of park.
Total Vegetation	6
Trees Total	6
Dominant Trees	ALRU2, ACMA3, PISI
emergent	0
maincanopy	6
subcanopy	2
Shrubs Total	5
Dominant Shrubs	RUSP
> 1.5' tall	5
< 1.5' tall	2
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	4
Dominant Forbs	OXOR, TOME
Forbs Perennial	4
Forbs Annual	1
Ferns Total	3
Ferns Evergreen	3
Ferns Deciduous	2
ExoticsTotal	1
Exotics Perennial	1
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	3
Litter	97
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	1
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Primary Exotic
RARE3
Secondary Exotic

Noxious Exotic

Plant Associations

		Percent	Pattern	Rank
1.	ALRU2/RUSP (CHAPPELL)	100	Matrix	2
2.		0		0
3.		0		0

Notes: Ferns: POMU.

Polygon Number	**94**
Survey Intensity	1
Observer	HS
Date	8/16/2006
Specific Location	S part of park.
Total Vegetation	6
Trees Total	5
Dominant Trees	TSHE, ALRU2, PISI
emergent	1
maincanopy	5
subcanopy	2
Shrubs Total	3
Dominant Shrubs	VAPA, SARA2, RUSP
> 1.5' tall	3
< 1.5' tall	1
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	4
Dominant Forbs	OXOR, TITR
Forbs Perennial	4
Forbs Annual	2
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	1
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	15
Litter	85
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/OXOR/DRAU2 (BIGLEY)	70	Matrix	2
2. TSHE/POMU (BIGLEY)	25	Small	2
3. TSHE/GASH/OXOR (BIGLEY)	5	Small	2

Notes: Ferns: POMU.

Polygon Number	**95**
Survey Intensity	4
Observer	HS
Date	11/8/2006
Specific Location	
Total Vegetation	6
Trees Total	5
Dominant Trees	TSHE, ALRU2
emergent	0
maincanopy	5
subcanopy	0
Shrubs Total	4
Dominant Shrubs	RUSP
> 1.5' tall	4
< 1.5' tall	0
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	2
Dominant Forbs	
Forbs Perennial	2
Forbs Annual	0
Ferns Total	2
Ferns Evergreen	2
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	3
Litter	97
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	1
Wildlife	3
Recreation Severity	3
Recreation Type	3
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/OXOR/DRAU2 (BIGLEY)	80	Matrix	1
2. ALRU2/RUSP (CHAPPELL)	20	Small	1
3.	0		0

Notes:

Polygon Number	**96**
Survey Intensity	1
Observer	HS
Date	8/16/2006
Specific Location	SE part of park.
Total Vegetation	6
Trees Total	5
Dominant Trees	PISI, TSHE, ALRU2, PSME
emergent	3
maincanopy	5
subcanopy	2
Shrubs Total	5
Dominant Shrubs	RUSP, VAPA, OPHO
> 1.5' tall	5
< 1.5' tall	2
Graminoids Total	1
Dominant Graminoids	
Graminoids Perennial	1
Graminoids Annual	0
Forbs Total	4
Dominant Forbs	OXOR
Forbs Perennial	4
Forbs Annual	1
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	1
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	25
Litter	75
Logging	2
Stand Age	3
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/OXOR/DRAU2 (BIGLEY)	60	Matrix	2
2. PISI/GASH (BIGLEY)	40	Large	3
3.	0		0

Notes: Ferns: POMU.

Polygon Number	**97**
Survey Intensity	2
Observer	HS
Date	8/16/2006
Specific Location	S side of park.
Total Vegetation	6
Trees Total	6
Dominant Trees	TSHE, PISI, ALRU2
emergent	2
maincanopy	5
subcanopy	3
Shrubs Total	4
Dominant Shrubs	RUSP, VAPA
> 1.5' tall	4
< 1.5' tall	2
Graminoids Total	2
Dominant Graminoids	
Graminoids Perennial	2
Graminoids Annual	0
Forbs Total	4
Dominant Forbs	OXOR
Forbs Perennial	4
Forbs Annual	1
Ferns Total	4
Ferns Evergreen	4
Ferns Deciduous	0
ExoticsTotal	0
Exotics Perennial	0
Exotics Annual	0
Water	
Rock Outcrop	0
Gravel	0
Bare Ground	0
Moss Lichen	5
Litter	95
Logging	3
Stand Age	2
Agriculture	0
Livestock	0
Development	0
Wildlife	3
Recreation Severity	0
Recreation Type	0
Hydrology	1

Exotic Species

Primary Exotic

Secondary Exotic

Noxious Exotic

Plant Associations

	Percent	Pattern	Rank
1. TSHE/OXOR/DRAU2 (BIGLEY)	90	Matrix	2
2. ALRU2/RUSP (CHAPPELL)	10	Small	2
3.	0		0

Notes: Ferns: POMU.