BIOLOGICAL ASSESSMENT FOR LISTED AND PROPOSED THREATENED AND ENDANGERED WILDLIFE AND PLANT SPECIES

WEST HAYDEN ISLAND PORT FACILITIES DEVELOPMENT PORT OF PORTLAND, OREGON

Prepared for:

US Army Corps of Engineers
Portland District
333 SW First Avenue
Portland, Oregon

Prepared by:

Maurita Smyth
Wildlife Biologist
6261 SW 47th Place
Portland, Oregon 97221

and

URS
111 SW Columbia, Suite 900
Portland, Oregon 97201

October 6, 2000

BIOLOGICAL ASSESSMENT
WEST HAYDEN ISLAND
October 6, 2000

TABLE OF CONTENTS

1.0 INTRODUCTION

Section 7 of the Endangered Species Act (ESA) of 1973, as amended, requires federal agencies to ensure that their actions do not jeopardize endangered or threatened species or their critical habitats. In letters dated January 2, 1988(sic) and May 23, 2000 (Appendix I) the US Fish and Wildlife Service (USFWS) provided information on listed, proposed, candidate, or species of concern that occur or may occur on the Hayden Island project site. The Oregon Natural Heritage Program (ONHP) also provided a letter, dated March 2, 1998, listing wildlife and plant species that may occur on the project site or vicinity (Appendix I).

This Biological Assessment (BA) was developed to examine how the Port of Portland's proposed development of marine terminals on West Hayden Island may affect the species listed below. This BA evaluates potential impacts to these species from project implementation based upon existing information on the site's existing habitat conditions and suitability for providing the life history requirements of these species. The USFWS identified the following listed, proposed, and candidate species.

Listed Species

Birds: Aleutian Canada goose (Threatened) and bald eagle (Threatened/Proposed for Delisting)

Mammals: Columbian White-tailed Deer (Endangered)

Fish: Snake River Sockeye Salmon (*Oncorhynchus nerka*) (Endangered), Upper Columbia River Steelhead (*Oncorhynchus mykiss*) (Endangered), Upper Columbia River Spring Chinook Salmon (*Oncorhynchus tshawytscha*) (Endangered), Snake River Spring/Summer Chinook Salmon (*Oncorhynchus tshawytscha*) (Threatened), Snake River Fall Chinook Salmon (*Oncorhynchus tshawytscha*) (Threatened), Snake River Basin Steelhead (*Oncorhynchus mykiss*) (Threatened), Lower Columbia River Steelhead (*Oncorhynchus mykiss*) (Threatened), Lower Columbia River Chinook Salmon (*Oncorhynchus tshawytscha*) (Threatened), Columbia River Chum Salmon (*Oncorhynchus gorbuscha*) (Threatened), Middle Columbia River Steelhead Trout (*Oncorhynchus mykiss*) (Threatened), Upper Willamette River Steelhead Trout (*Oncorhynchus mykiss*) (Threatened), Upper Willamette River Chinook Salmon (*Oncorhynchus tshawytscha*) (Threatened)

In addition to the ESUs listed above, the following were included in the analyses of potential impacts:

- Southwestern Washington/Columbia River Cutthroat Trout (*Oncorhynchus clarki clarki*)
- Lower Columbia River/Southwest Washington Coastal Coho Salmon (*Oncorhynchus kisutch*)

Southwestern Washington/Columbia River Cutthroat Trout was proposed for threatened status by the NMFS in April 1999. In December 1999, jurisdiction for the Southwestern Washington/Columbia River Cutthroat Trout was transferred from the NMFS to the USFWS. The USFWS was granted an extension of six months (until October 5, 2000) for determining the appropriate status for this group of cutthroat trout. Lower Columbia River/Southwest Washington Coastal Coho Salmon is listed as a federal candidate species and a State of Oregon threatened species. Since both of these ESUs could potentially be federally listed within the time frame of the proposed Project, they were included in the analysis.

The Columbia River Bull Trout (*Salvelinus confluentus*) distinct population segment has been listed as a threatened species by the USFWS. The boundaries of the distinct population segment include the entire lower Columbia River. The USFWS did not include bull trout in their May 19, 2000 letter to the Corps (Appendix I) regarding listed species that could potentially occur in the vicinity of the Project. Although we believe the potential for bull trout occurring in the vicinity of the proposed Project is extremely low, we have included it in our analyses.

Green sturgeon (*Acipenser medirostris*), white sturgeon (*Acipenser transmontanus*), and Pacific lamprey (*Lampetra tridentata*) are categorized as "species of concern" by the USFWS and occur in the Project area (USFWS letter, Appendix I). It is anticipated that the steps taken to avoid, minimize, and mitigate for impacts to the listed species also would provide benefits to these species of concern.

Plants: *Howellia aquatilis* (Threatened), Willamette daisy (Endangered), Bradshaw's lomatium (Endangered), golden paintbrush (Threatened), Kincaid's lupine (Threatened), and Nelson's checkermallow (Threatened)

Proposed Species

Birds: None identified for the project area

Mammals: None identified for the project area

Fish: Western Washington/Lower Columbia River Coastal Cutthroat Trout (Threatened)

Plants: None identified for the project area

2.0 PROJECT LOCATION AND AFFECTED ENVIRONMENT

Hayden Island is a sand bar that is approximately 2 square miles and located in the Columbia River. (Figure 1 Site Location Map) The maximum ground surface elevation is 50 feet above mean sea level, which has an equivalent vertical reference to the National Geodetic Vertical Datum (NGVD). The island is roughly bisected east to west by the Burlington Northern Santa Fe Railroad (BNSF) mainline tracks. To the east of the tracks, the island is occupied by mixed residential, commercial, industrial and transportation land uses, including the Jantzen Beach retail center and Interstate Highway 5 (I-5). I-5 provides the only road access to the island.

The proposed project site has an area of 831 acres as measured landward from contour 6.0 feet NGVD and lies to the west of the railroad track and is referred to as West Hayden Island (WHI). Although somewhat undeveloped, WHI has been extensively altered by human activities. In 1851, a farm was established on the west end of the island by Gay and Mary Hayden. Since that time, the site has been used continuously for agriculture. Cattle grazing continues today. In the 1890s the Corps of Engineers (Corps) constructed several pile dikes to trap sediment moving along the shoreline and in the 1920s began using the site to dispose of dredged materials. These activities have altered the island's shoreline and topography from its pre-Euro-american settlement condition. The greater part of WHI is occupied by an upland/riparian forest (488 acres), upland meadow (127 acres), beach or shoreline habitat (38 acres), and wetlands (41 acres) consisting of emergent and forested wetlands. In addition, there are 137 acres of stockpiled dredged material, railroad, and other existing fill (Figure 2 WHI Wildlife Habitat Map).

3.0 PROJECT DESCRIPTION

The proposed project would develop marine cargo facilities at WHI with a total development footprint of 426 acres and three berths on the Columbia River along the north shore of WHI. The project would be built in several phases. The timing of construction for each phase would be dependent on the rate of demand for marine facilities in the Portland metropolitan area, but it is expected that the first phase of construction would be completed by 2006 and that all phases would be completed by 2031.

The first phase of the project would likely consist of an agricultural bulk or a mineral bulk terminal and associated road and rail facilities (Figure 3). The improvements could include a second road bridge linking WHI to the mainland. Later phases would consist of general cargo facilities (e.g., autos) and an intermodal yard, including additional railroad spur tracks. A recommended plan of all phases is shown in Figure 4.

3.1 Purpose and Need for the Proposed Action

The purpose for the WHI project is to provide suitable waterfront marine cargo facilities for the Portland metropolitan area served by the Port of Portland to meet the identified future market demand for international export and import cargo originating from or destined for Portland and its regional hinterland, including agricultural and mineral-producing Midwest and mountain states. The Port has a mandated responsibility to respond to the region's immediate and future development needs for marine industrial property. This future need has been identified based upon a 30-year horizon. The proposed facilities at WHI are intended to meet the identified need within that planning horizon.

The volume of cargo passing through the Port marine facilities tripled between 1970 and 1998. By 2040 Portland's international trade volume is projected to triple again (Metro 1998). The market demand for marine cargo facilities expands as trade expands. Market trends also indicate that the amount of land needed for marine terminals and to service cargo handled at them will grow. On average, 210 acres of new marine facilities have been needed each decade to keep pace with the volume of trade passing through Portland even after redevelopment and joint venture strategies are considered. Marine terminals are getting bigger and each new terminal will require 100 to 200 acres of rail-served waterfront property to accommodate the bigger ships and longer unit-trains planned for the future. To meet the tripling in Portland trade anticipated by 2030, to meet its responsibility of assuring that Oregon continues its economic success and vitality, and to serve critical sectors of the national economy, the Port proposes to develop a 500-acre marine cargo complex on WHI.

In addition, the Port anticipates that world demand for cargo originating from or moving through Portland to remain strong based upon the diversity of products and shipment methods and the anticipated demand for those products within the Pacific Rim.

WHI was chosen for the development of marine terminals for several reasons. First of all, Multonomah County, the city of Portland, and Metro all approved a change in the county's comprehensive plan to accommodate Portland General Electric's (PGE) proposed development for WHI in the mid-1980s. During that time WHI was brought into the Urban Growth Boundary, a move that opened up WHI for commercial development, including marine terminals. As part of the Corps evaluation process at that time, PGE evaluated four sites as alternatives to WHI. These sites included Ross Island, Government Island, Sauvie Island, and Vancouver, Washington. The Corps

EIS concluded that there was no alternative site (to WHI) within the Portland-Vancouver area that could meet the need for future marine industrial development. The Corps will again address this issue in the EIS that it is preparing for the Port's WHI project.

4.0 METHODS

No new studies were conducted in preparation of the Biological Assessment. Several biological studies have been completed within the project site from 1985 through 1998. These include: PGE's EIS baseline study and HEP analysis, the 1985 Goal 5 Inventory (Lev and Jennings); the 1995 Goal 5 Inventory and Assessment (Smyth), and the 1997/98 Baseline Study which included wildlife surveys, habitat typification, and the 1999 rare plant surveys (Appendix II).

Information used to determine potential use of the project site by species listed in the USFWS letters referenced above include a search of existing literature and consultation with resource agency personnel and private biologists who have knowledge of the area.

5.0 RESULTS - LISTED WILDLIFE

5.1 Aleutian Canada Goose (*Branta canadensis leucoparia*)

5.1.1 Life History and Use of the Project Site

Aleutian Canada geese breed in Alaska and migrate to their wintering ground in late September returning northward as early as late February. Most of the overwintering geese stage in large numbers in Crescent City, California before moving on to the Central Valley sites and southern California. Approximately 100 - 200 Aleutian Canada geese overwinter on Semidi Island off the Oregon Coast near Pacific City. A few individuals have been observed in the area of Forest Grove, Hillsboro, and Gaston in Washington County, Oregon. Occasionally individual Aleutians are observed at Ridgefield or at the east end of Sauvie Island. In rare instances, Aleutian Canada geese have been observed at Steigerwald Lake. Only 2 or 3 individuals were observed in this area in 1999. (Marty Drut, personal communication 1999). Very rare sightings have also been made of Aleutian geese on Sauvie Island (Jim Rempel, personal communication 2000). Typically, less than 100 Aleutian Canada geese are observed in western Oregon and Washington. No sightings of Aleutian Canada geese have been recorded for WHI.

Aleutian Canada geese traditionally bred in the outer two-thirds of the Aleutian Islands as well as in the Commander and Kurile islands in Alaska. It is believed that the introduction of the arctic fox into most of the Aleutian Islands resulted in high nest losses. The Aleutian Canada goose was listed as endangered in 1967 when its population dropped below 800 individuals, the result of overhunting (Marty Drut, personal communication 1999). In 1991 this species was downlisted to Threatened and is currently listed as a Candidate species under consideration for delisting in USFWS Regions 1 and 7. Population estimates for the Aleutian Canada Goose in 1998 range from 27,000 to almost 29,000 birds. The Aleutian Canada Goose Recovery Team has turned over its management responsibility of this species to the Pacific Flyway Council and is now awaiting a final decision on delisting from Washington, D.C. (Marty Drut, personal communication 1999).

5.1.2 Determination of Effects

Suitable habitat exists for the Aleutian Canada goose within the project area. Canada geese and other waterfowl (bufflehead, mallard, etc.) have been observed on WHI with peak numbers

occurring from November through April. Waterfowl use pasture lands, hay meadows, ephemeral and permanent wetlands and adjacent grassy areas, and sloughs for resting and foraging (Bellrose, 1980; USDA and Port of Portland, 1996). Limited nest cover is available for Canada geese within the project site near waterbodies. Canada geese generally concentrate on the larger wetlands within the site which are adjacent to open grassy areas using these areas as resting and feeding sites. Short, new growth grasses and forbs are a preferred food source for geese, as well as some species of ducks.

Aleutian Canada goose individuals may occur at the project site during their fall and spring migrations. However, based upon data collected by US Fish and Wildlife Service biologists that indicate that Aleutian geese observed east of Sauvie Island are at the limit of their range, very few, if any, birds would occur on the project site. While project development may affect individual Aleutian Canada geese, the project is not likely to adversely impact Aleutian Canada goose populations.

5.2 Bald Eagle (*Haliaeetus leucocephalus)*

5.2.1 Life History and Use of the Site

The bald eagle is listed as Threatened by the USFWS and is currently being considered for delisting through most of its range. Bald eagles nest and overwinter within the lower Columbia River and tributary areas. The largest overwintering concentration of bald eagles occurs on Sauvie Island, approximately 2 miles west of WHI. There are two known bald eagle communal winter night roosts in the Portland area; one is located in the vicinity of Vancouver Lake, Clark County, Washington and the other is located approximately 0.25 miles south of Salmon Creek in North Vancouver. The closest known bald eagle nest site is located on Ross Island in the Willamette River, south of the project site. Other bald eagle nest sites are located at Flag Island east of the mouth of the Sandy River and upstream of this nest near Fran's Lake.

Bald eagles typically choose nest sites at the edge of mixed-mature and old growth conifer forests. Most nest trees are alive and most nests are located in either the tallest trees within a stand or at the edge of the stand (Garrett et.al., 1993). Known nest trees within island habitats in the lower Columbia River, below Hood River, are all large diameter, i.e., greater than 30 inches diameter-at-breast height (dbh) black cottonwood trees (Isaacs, personal communication 1999). There are a few individual suitably sized cottonwood trees located at the forest edge on site, however, these trees appear to lack the proper trunk configuration to support the large size and weight of a typical bald eagle nest.

Bald eagles will forage up to 20 miles from their roost or nest site (Isaacs, personal communication, February 1999). Typically bald eagles associate with large concentrations of waterfowl, feeding on injured or dead geese (Griffin, et al., 1982). Bald eagles forage over the Columbia River for wintering waterfowl and fish carcasses. They have been observed foraging over the Willamette River in downtown Portland and along the Columbia River and Oregon Slough within the industrial/commercial areas of high human activity. Bald eagle individuals have been observed roosting on cottonwood trees along the north shoreline of WHI and foraging over the Columbia River adjacent to the project site (Smyth, 1998). It is likely that individual bald eagles will forage for waterfowl over the larger open water wetlands on site.

5.2.2 Determination of Effects

Bald eagle nesting populations have increased dramatically within Oregon over the past 20 years with nesting bald eagles occurring throughout the state. Greatest nesting concentrations currently occur along the Pacific shoreline, the lower Columbia River, the Willamette Valley, and the Klamath Basin, which historically had the highest number of nesting bald eagles within the state. There are now 324 active bald eagle nests within Oregon. Bald eagle nests along the main channel of the Columbia River, e.g., the nest at Bellevue Point on Sauvie Island, are all located in black cottonwood trees (Isaacs, personal communication 1999).

Suitable nesting sites are lacking within the project site. Black cottonwood trees are dominant within WHI, however, none of the trees are large enough to accommodate a bald eagle nest. The trees on WHI site lack the size and placement for preferred nest sites. No known bald eagle nesting sites have been identified within the project site or in the near vicinity. Foraging opportunities are provided by wintering concentrations of waterfowl on the Columbia River, within open water or ponded wetlands within the project site, and in the Columbia Slough that borders the site.

Project implementation may impact individual foraging bald eagles within the project site and immediate vicinity. Project implementation is not likely to adversely affect the lower Columbia River resident (nesting,) or wintering populations of bald eagle.

5.3 Columbian White-tailed Deer (*Odocoileus virginianus leucurus*)

5.3.1 Life History and Use of the Site

Columbian white-tailed deer occur in western Oregon in two remnant and disjunct populations, one located within the bottomlands of the lower Columbia River in Clatsop and Columbia counties and the other along the Umpqua River in Douglas County. The lower Columbia River population is located on Tenisllhe, Puget, and Wallace islands in Oregon and at the Columbian White-tailed Deer National Wildlife Refuge (NWR) near Cathlamet, Washington. Radio-tagging studies show that Columbian white-tailed deer do not change their home territory (Clark, 1999). However, some irregular interchange among the island populations has been noted.

Columbian white-tailed deer prefer habitats that provide both food and cover. The deer tend to avoid pastures where cattle are present during the summer, but may select these same pastures during the following fall and winter (Verts and Carraway, 1998). These deer are mostly grazers rather than browsers. The rut season is considered to occur in late November to early December. Typically, the females give birth to twins. Numbers of deer during recent years are as follows (Clark, 1999): Tenesillhe Island - 200; Westport/Wallace Island - 175 to 255; Puget Island (which has the largest land area, c5500 acres)-200 to 250; and mainland areas, mostly in the Julia Butler Hansen NWR - 60 in 1997.

Proposals have been put forth to delist or down list this species. To delist, there must be a minimum of 400 deer distributed in three viable secure sub-populations. To downlist there must be a fall population of 400 deer distributed in three viable habitats, two of which are secure. Viable means a minimum of 50 individuals in November. Secure means that the deer are free from adverse human activity and relatively safe from destructive natural phenomena. Although current sub-populations range from 745 - 975 deer in three apparently viable sub-populations, secure habitat remains a problem for several reasons. There is a lack of production, i.e., the fawn to doe ratio is too low to maintain the population. Causes for this lack of production include coyote predation,

flooding, and competition with Roosevelt elk that browse and trample vegetation, such as wild rose and currant bushes which deer prefer. Undercutting of dikes that were placed on mainland areas and islands contributes to flooding, habitat loss, and direct loss of individual deer due to drowning. No Columbian white-tailed deer have been observed on WHI. Suitable habitat exists on site within the cottonwood-willow forested wetlands, traditional white-tailed deer habitat, and shrubby areas.

5.3.2 Determination of Effects.

The closest sub-population of Columbian white-tailed deer is located on Puget Island. However, research information indicates little movement of Columbian white-tailed deer within their sub-populations and that these deer prefer areas not grazed by cattle during the summer months which is not true for the project site. Project implementation is not likely to affect Columbian white-tailed deer individuals or the lower Columbia River population.

6.0 RESULTS – LISTED FISH

Discussion on potential impacts to listed and proposed Columbia River fish listed earlier in this BA is provided under separate cover in the Biological Assessment for Listed and Proposed Threatened and Endangered Fish Species, West Hayden Island Port Facilities Development, Port of Portland, Oregon.

7.0 RESULTS - LISTED PLANTS

Six listed plant species were reported by the USFWS (May 2000) as occurring within a 5-mile radius of the project site. These included golden paintbrush (*Castilleja levisecta*) (Threatened); Willamette daisy (*Erigeron decumbens* var. *decumbens*) (Endangered); Howellia (*Howellia aquatilis*) (Threatened); Bradshaw's lomatium (*Lomatium bradshawii*) (Endangered); Kincaid's lupine (*Lupinus sulphureus* var. *kincaidii*) (Threatened); and Nelson's checker-mallow (*Sidalcea nelsoniana*) (Threatened). Four of these species -- golden paintbrush, Bradshaw's lomatium, Willamette daisy and Kincaid's lupine -- were eliminated from the rare plant survey completed in the summer of 1999 because these plants are found on native wet prairies of the Willamette Valley, usually on heavy clay soils. No heavy clay soils or native prairie communities occur on the project site. Nelson's checker-mallow was eliminated from discussion in this BA because no individual plants were located during the rare plant survey and its natural range (Willamette Valley and Coast Range) and habitat requirement of gravelly well-drained soils does not include WHI.

7.1 Howellia (*Howellia aquatilis*)

7.1.1 Natural History and Species Occurrence

Howellia (*Howellia aquatilis*) is federally listed as threatened and has been found in only a few locations in Oregon, Washington, Idaho, Montana, and California. It was originally found on Sauvie Island in 1879 and 1886, but currently it is thought to be extirpated in Oregon. It is an aquatic species that occurs in low elevation ponds or sloughs, submersed or partially floating on the surface of slow-moving water. There are many ponds on West Hayden Island, and each of these was searched for this species. Possible habitat may exist on the study area, but decades of grazing may have degraded the ponds' capability for supporting this species. No populations were found on site. A complete list of plant species identified on WHI is included in the Rare, Threatened, and Endangered Plant Species Survey in Appendix II.

Field surveys for Howellia (Threatened) were conducted on July 21-22, 1999. The surveys were scheduled to cover the flowering times of this species according to taxonomic literature and herbarium data. The survey was conducted by two biologists who walked over the site, recording all identifiable species as they progressed. At each of the delineated wetlands, a more intensive search was conducted.

No individuals or populations of this species were found on WHI.

7.1.2 Determination of Effects

No impacts would result to individuals or populations of Howellia from project development.

8.0 Conservation Measures

1) The project would be designed and implemented to be consistent with federal, state and local permit requirements regarding air and water quality, salmon recovery plans, and City of Portland regulations for environmental zones and plan districts.

2) Proposed open water/emergent wetland mitigation sites with connection to the Columbia River or the Oregon Slough would be protected or enhanced to provide suitable rearing areas for anadromous and other fish species. These upgraded wetlands would also provide suitable habitat for waterfowl and other wildlife. Wetland and open water mitigation project designs would be approved and permitted by the Corps of Engineers and local regulations. Forested areas surrounding these wetlands would be maintained, enhanced, or replanted to provide resting areas for bald eagle and other foraging birds. The upland mitigation plan would also require approval by the appropriate jurisdictions.

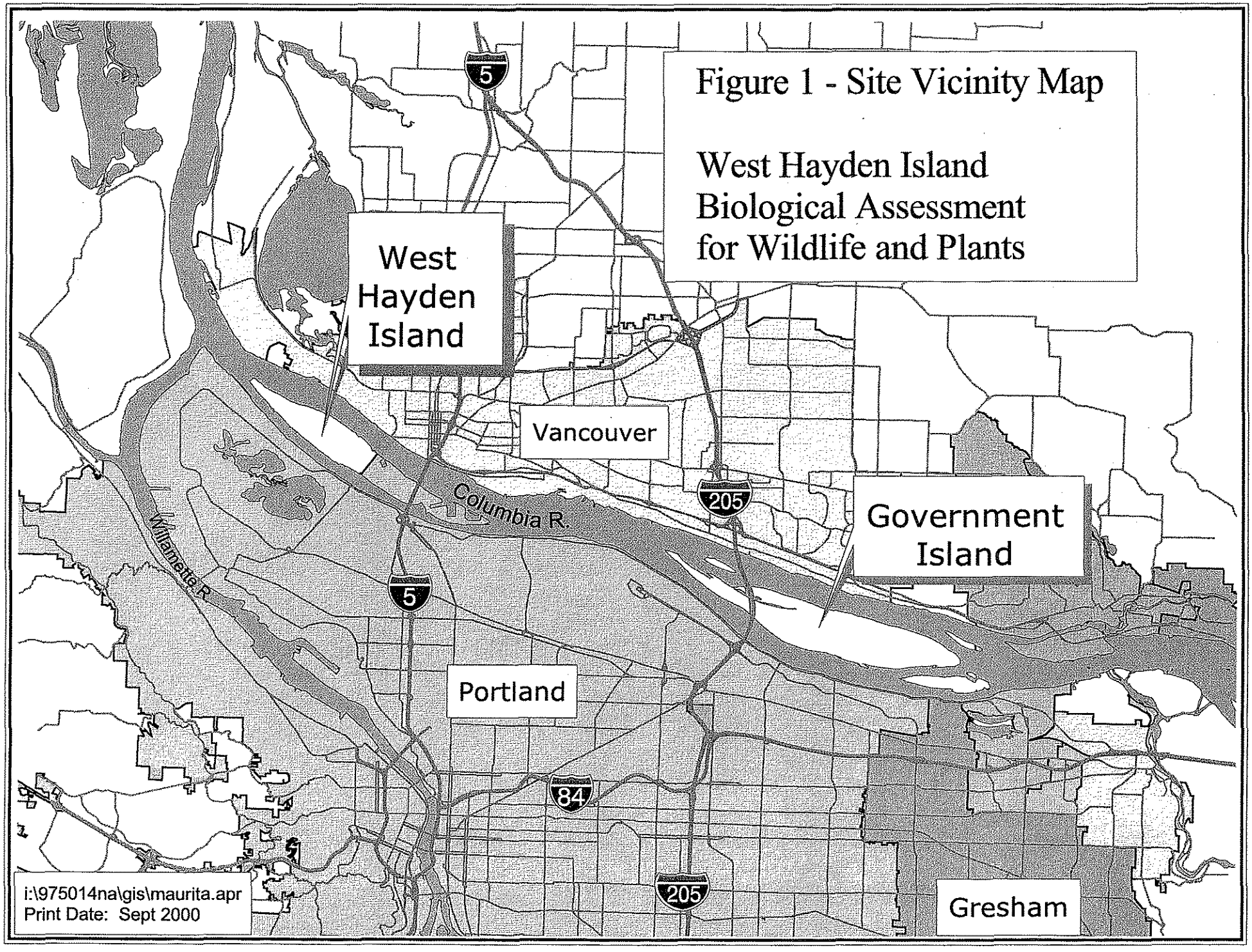
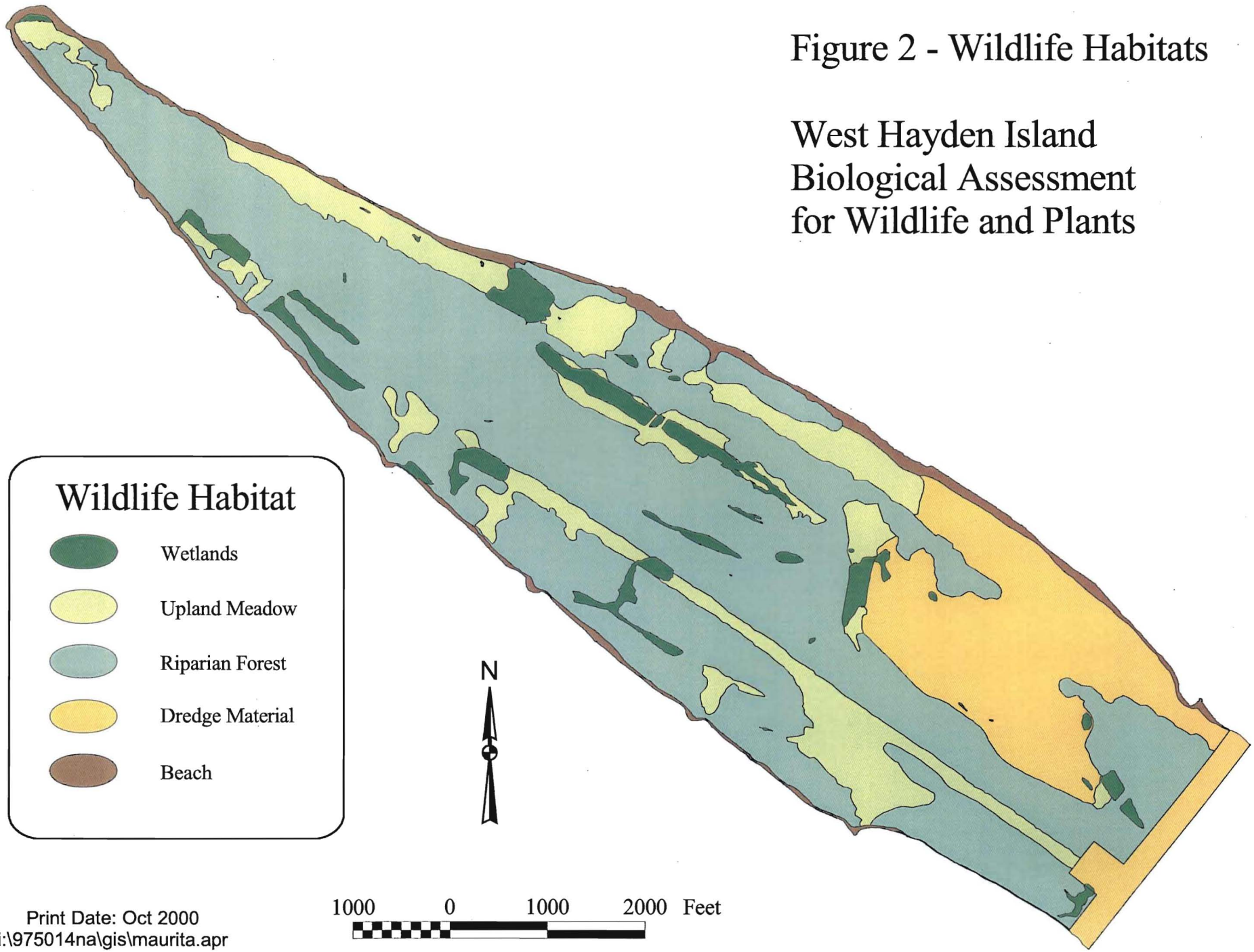


Figure 1 - Site Vicinity Map
West Hayden Island Biological Assessment for Wildlife and Plants
West Hayden Island
Vancouver
Government Island
Portland
Gresham
Columbia R.
Willamette R.
5
205
84
i:\975014na\gis\maurita.apr
Print Date: Sept 2000

Figure 2 - Wildlife Habitats

West Hayden Island
Biological Assessment
for Wildlife and Plants



Print Date: Oct 2000
i:\975014na\gis\maurita.apr

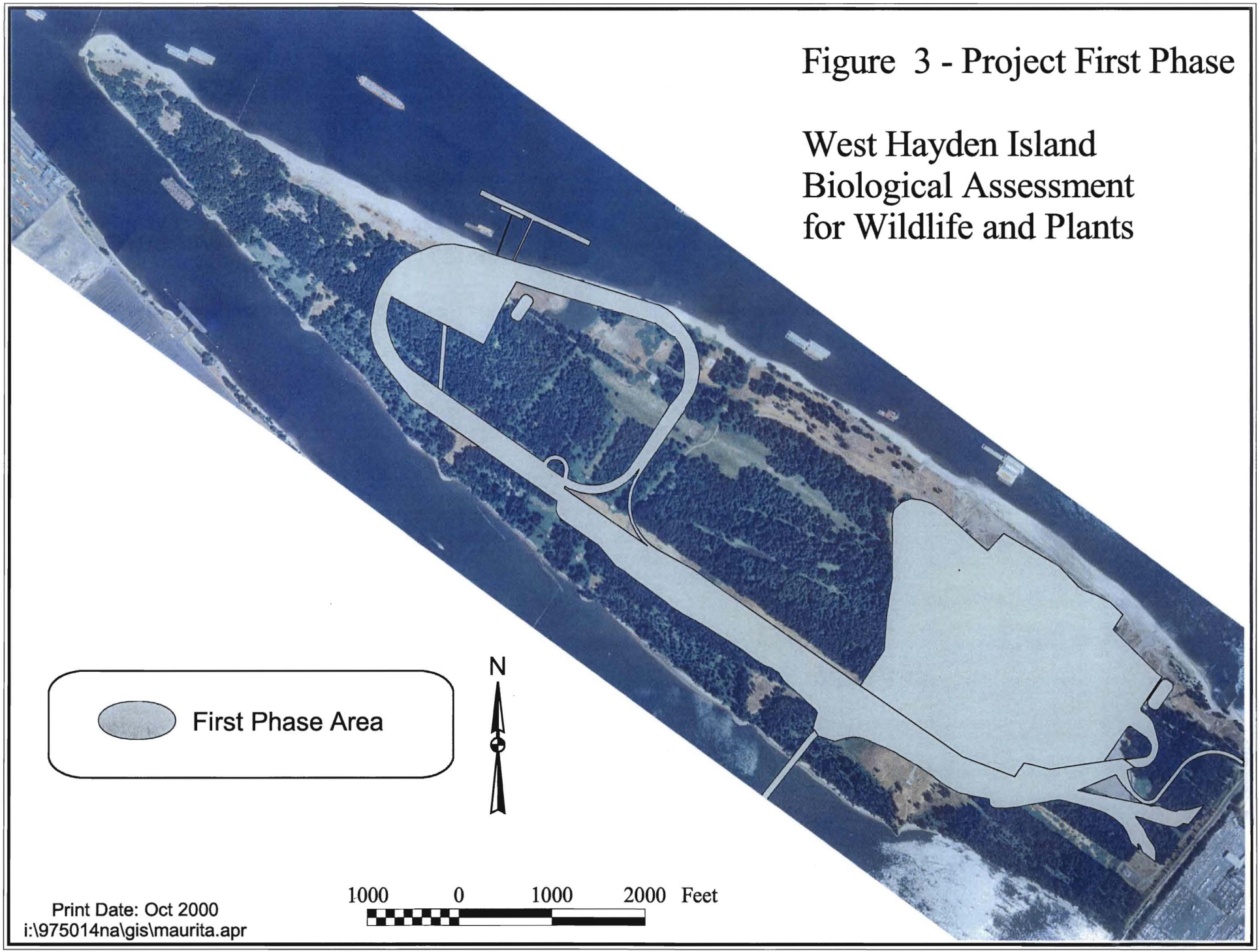


Figure 3 - Project First Phase
West Hayden Island
Biological Assessment
for Wildlife and Plants
First Phase Area
N
1000 0 1000 2000 Feet
Print Date: Oct 2000
i:\975014na\gis\maurita.apr

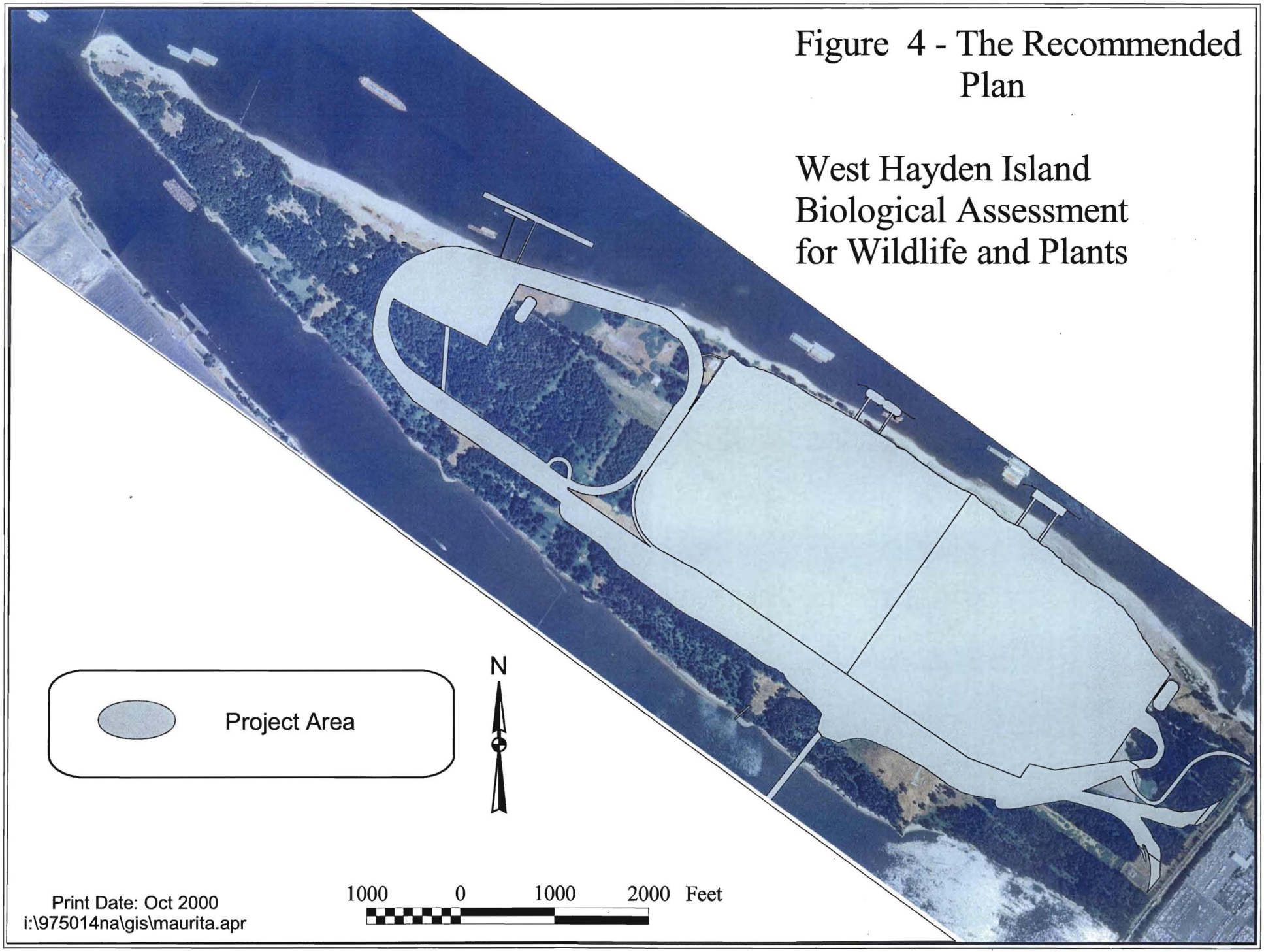


Figure 4 - The Recommended Plan
West Hayden Island
Biological Assessment
for Wildlife and Plants
Project Area
N
1000 0 1000 2000 Feet
Print Date: Oct 2000
i:\975014na\gis\maurita.apr

References

Aleutian Canada Goose Recovery Team. September 30, 1991. US Fish and Wildlife Service. Aleutian Canada Goose Recovery Plan, Second Revision. 55 pp.

Clark, Al. US Fish and Wildlife Service. February 1999. Presentation to The Wildlife Society on status of Columbian White-tailed Deer, Lower Columbia River population.

Cooke, Sarah Spear, editor. 1997. A field guide to the common wetland plants of western Washington and northwestern Oregon. Seattle Audubon Society, Seattle, WA. 417 pp.

Drut, Martin. S. and Robert E. Trost. Annual Summary of Goose Population Monitoring Programs in the Pacific Flyway, 1997-1998. US Fish and Wildlife Service Office of Migratory Bird Management. Portland, Oregon. 50 pp.

Drut, Martin. Personal communication with M. Smyth. March 1999.

Eastman, Donald C. 1990. Rare and endangered plants of Oregon. Beautiful American Publishing Co., Wilsonville, OR. 194 pp.

Garrett, M.G., J.W. Watson, and R.G. Anthony. 1993. Bald eagle home range and habitat use in the Columbia River estuary. Journal of Wild. Mgmt. Vol.57(1):1993. 8 pp. 2 figures, 4 tables.

Griffin, C.R., T.S. Baskett, and R.D. Sparrowe. 1982 Ecology of bald eagles wintering near a waterfowl concentration. US Fish and Wildlife Service Special Scientific Report-Wildlife No. 247. Washington, D.C. 12 pp.

Guard, B. Jennifer. 1995. Wetland plants of Oregon and Washington. Lone Pine Publishing, Vancouver, BC. 239 pp.

Hitchcock, C. Leo, and Arthur Cronquist. 1973. Flora of the Pacific Northwest: an illustrated manual. University of Washington Press, Seattle, WA. 730 pp.

Hitchcock, C. Leo, Arthur Cronquist, Marion Ownbey, J. W. Thompson. 1955-1969. Vascular plants of the Pacific Northwest. 5 Volumes. University of Washington Press, Seattle, WA.

Isaacs, F.B. Oregon Cooperative Research Unit, Oregon State University. Corvallis, Oregon. Personal Communication with M. Smyth. March 1, 1999.

Isaacs, G.B. and R.G. Anthony. 1992. Bald eagle nest locations and history of use in Oregon 1971 through 1992. Oreg. Coop. Res. Unit, Oregon State University, Corvallis. 14 pp. 5 tables, 1 figure.

Jolley, Russ. 1988. Wildflowers of the Columbia Gorge. Oregon Historical Society Press, Portland, OR. 331 pp.

Meinke, Robert J. 1982. Threatened and endangered vascular plants of Oregon: an illustrated guide. U.S. Fish and Wildlife Service, Office of Endangered Species, Region 1, Portland, OR. 352 pp.

METRO and Parametrix, Inc. November 1997. Biological assessment for bald eagle and peregrine falcon. South/North Corridor Project. 38 pp.

Naughton, Maura. Biologist, Finley National Wildlife Refuge. Personal communication with M. Smyth. March 3, 1999.

Oregon Natural Heritage Program. 1998b. Rare, threatened and endangered plants and animals of Oregon. Oregon Natural Heritage Program, Portland, Oregon.

Portland General Electric. 1985. West Hayden Island Habitat Evaluation.. 24 pp.

Rempel, Jim. Oregon Department of Fish and Wildlife. Sauvie Island Refuge. Personal communication with M. Smyth. July 24, 2000.

Smyth, M. 1991. Historic distribution of natural resources in Multnomah County, Oregon. 4 pp. and project file notes.

US Fish and Wildlife Service. 1999. Letter consultation response to M. Smyth .

US Fish and Wildlife Service. 2000. Letter consultation response to David Barrows.

US Fish and Wildlife Service. April 1998. Federal Register Notice Request for Information on the Aleutian Canada goose.

Verts, B.J. and Leslie N. Carraway. 1998. Land Mammals of Oregon. University of California Press. Berkeley and Los Angeles, California.

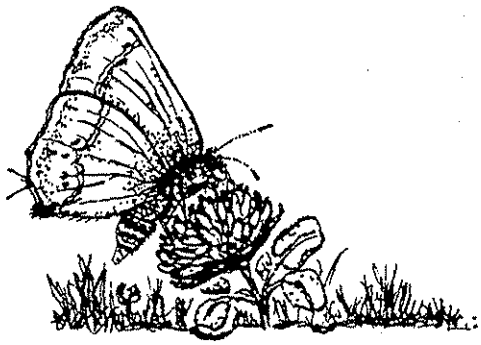
Wilson, L. Telephone conversation with M. Smyth (May 2, 1999) on habitat requirements and potential occurrence for rare plants on the WHI site.

URS Greiner Woodward Clyde. 1999. Oregon Freshwater Wetland Assessment for West Hayden Island. 26 pp. with appendices.

URS Greiner Woodward Clyde. December 1998. Max extension to the Portland airport Environmental assessment. Prepared for the Port of Portland. Section 3.7. 7 pp.

Appendix I
Letter to USFWS February 20, 1998
USFWS Response Letter January 2, 1988(sic)
Letter to ONHP February 20, 1998
ONHP Response Letter March 2, 1998
Letter to USFWS May 3, 2000
USFWS Response Letter dated May 23, 2000

0054



Maurita Smyth, Environmental Consultant
6261 SW 47th Place, Portland, Oregon 97221
Phone: (503) 246-5890 Fax: (503) 452-7066
Email: mmsmyth@teleport.com

February 20, 1998

U. S. Fish and Wildlife Service
Endangered Species Program
Attention: Diana Hwang
2600 SE 98th #100
Portland, Oregon 97266

REQUEST FOR DATA

Project site: west Hayden Island

Location: T2N, R1E, Sections 19, 28, 29, 30, 32, and 33 (Figure 1)

Reason for Request: I am doing the wildlife and vegetation surveys and analyses, including ESA issues, for a proposed Port project on the western portion of Hayden Island. The project tentatively includes three phases over twenty years for complete build out. Phase I is what we will deal with over the next two years. Phase I includes a bulk/grain terminal, an intermodal railroad yard, and possibly an auto bridge (new) to access the island west of I-5. This bridge may not be built until Phase II.

Island habitat currently includes riparian/upland forest, emergent wetland, wetland meadow, wetland forest, a small bit of scrub-shrub wetland, beach, a PGE substation, and a developed area (earth moving school). The project will also affect shallow water habitat along the Columbia River and the Portland Harbor. The island is used actively for deposit of dredge spoils.

Data Requested: all listed taxa within a 5-mile radius of the site. I am asking for a broader base because similar habitat is found on Sauvie Island and at Vancouver Lake for species such as bald eagle.

Please bill me at the address above or by fax. Thank you.

Sincerely,

Maurita Smyth

MS:hs

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oregon State Office
2600 S.E. 98th Avenue, Suite 100
Portland, Oregon 97266
(503) 231-6179 FAX: (503) 231-6195

Reply To:
File Name:

January 2, 1988

In reply refer to:
1-7-98-SP-148

Maurita Smyth
6261 SW 47th Place
Portland, OR OR 97221

Dear Ms. Smyth:

This is in response to your letter, dated 20 February 1998, requesting information on listed and proposed endangered and threatened species that may be present within the area of the Hayden Island Proposed Port Project in Multnomah County. The U.S. Fish and Wildlife Service (Service) received your letter on 26 February 1998.

We have attached a list (Attachment A) of threatened and endangered species that may occur within the area of the Hayden Island Proposed Port Project. The list fulfills the requirement of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Corps of Engineers (COE) requirements under the Act are outlined in Attachment B.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems on which they depend may be conserved. Under section 7(a)(1) and 7(a)(2) of the Act and pursuant to 50 CFR 402 *et seq.*, COE is required to utilize their authorities to carry out programs which further species conservation and to determine whether projects may affect threatened and endangered species, and/or critical habitat. A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) which are major Federal actions significantly affecting the quality of the human environment as defined in NEPA (42 U.S.C. 4332 (2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to the Biological Assessment be prepared to determine whether they may affect listed and proposed species. Recommended contents of a Biological Assessment are described in Attachment B, as well as 50 CFR 401.12.

If COE determines, based on the Biological Assessment or evaluation, that threatened and endangered species and/or critical habitat may be affected by the project, COE is required to consult with the Service following the requirements of 50 CFR 402 which implement the Act.

ATTACHMENT B

FEDERAL AGENCIES RESPONSIBILITIES UNDER SECTION 7(a) and (c)
OF THE ENDANGERED SPECIES ACT

SECTION 7(a)-Consultation/Conference

Requires:

1) Federal agencies to utilize their authorities to carry out programs to conserve endangered and threatened species;

2) Consultation with FWS when a Federal action may affect a listed endangered or threatened species to insure that any action authorized, funded or carried out by a Federal agency is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of Critical Habitat. The process is initiated by the Federal agency after they have determined if their action may affect (adversely or beneficially) a listed species; and

3) Conference with FWS when a Federal action is likely to jeopardize the continued existence o f a proposed species or result in destruction or adverse modification of proposed Critical Habitat.

SECTION 7(c)-Biological Assessment for Major Construction Projects[1]

Requires Federal agencies or their designees to prepare a Biological Assessment (BA) for construction projects only. The purpose of the BA is to identify and proposed and/or listed species which are/is likely to be affected by a construction project. The process is initiated by a Federal agency in requesting a list of proposed and listed threatened and endangered species (list attached). The BA should be completed within 180 days after its initiation (or within such a time period as is mutually agreeable). If the BA is not initiated within 90 days of receipt of the species list, the accuracy of the species list should be informally verified with our Service. No irreversible commitment of resources is to be made during the BA process which would foreclose reasonable and prudent alternatives to protect endangered species. Planning, design, and administrative actions may be taken; however, no construction may begin.

To complete the BA, your agency or its designee should: (1) conduct and on-site inspection of the area to be affected by the proposal which may include a detailed survey of the area to determine if the species is present and whether suitable habitat exists for either expanding the existing population or for potential reintroduction of the species; (2) review literature and scientific data to determine species distribution, habitat needs, and other biological requirements; (3) interview experts including those within FWS, National Marine Fisheries Service, State conservation departments, universities, and others who may have data not yet published in scientific literature; (4) review and analyze the effects of the proposal on the species in terms of individuals and populations, including consideration of cumulative effects of the proposal on the species and its habitat; (5) analyze alternative actions that may provide conservation measures and (6) prepare a report documenting the results, including a discussion of study methods used, nay problems encountered, and other relevant information. The BA should conclude whether or not a listed species will be affected. Upon completion, the report should be forwarded to our Portland Office.

---

[1]A construction project (or other undertaking having similar physical impacts) which is a major Federal action significantly affecting the quality of the human environment as referred to in NEPA (42 U.S.C. 4332. (2)c). On projects other that construction, it is suggested that a biological evaluation similar to the biological assessment be undertaken to conserve species influenced by the Endangered Species Act.

CANDIDATE SPECIES[7/]

Fish		
Sea-run cutthroat trout	*Oncorhynchus clarki clarki*	**CF
Coho salmon (Lower Columbia River)[8/]	*Oncorhynchus kisutch*	**CF

SPECIES OF CONCERN

Mammals	
Pacific western big-eared bat	*Corynorhinus (=Plecotus) townsendii townsendii*
Long-eared myotis (bat)	*Myotis evotis*
Fringed myotis (bat)	*Myotis thysanodes*
Long-legged myotis (bat)	*Myotis volans*
Yuma myotis (bat)	*Myotis yumanensis*
Birds	
Tricolored blackbird	*Agelaius tricolor*
Little willow flycatcher	*Empidonax traillii brewsteri*
Amphibians and Reptiles	
Northwestern pond turtle	*Clemmys marmorata marmorata*
Northern red-legged frog	*Rana aurora aurora*
Fish	
Green sturgeon	*Acipenser medirostris*
Pacific lamprey	*Lampetra tridentata*
Invertebrates	
Great Columbia River spire snail	*Fluminicola columbianus*
Plants	
White top aster	*Aster curtus*
Tall bugbane	*Cimicifuga elata*
Pale larkspur	*Delphinium leucophaeum*
Peacock larkspur	*Delphinium pavonaceum*
Howell's montia	*Montia howellii*
Columbia cress	*Rorippa columbiae*
Oregon sullivantia	*Sullivantia oregana*

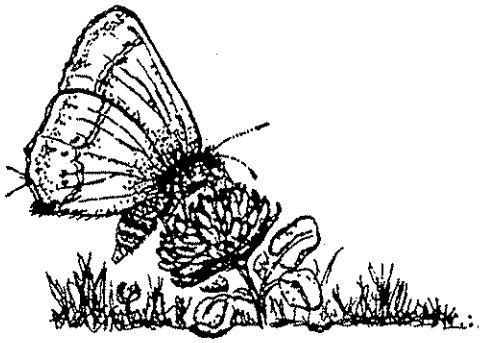
(E) - Listed Endangered *(T) - Listed Threatened* *(CH) - Critical Habitat has been designated for this species*
(PE) - Proposed Endangered *(PT) - Proposed Threatened* *(PCH) - Critical Habitat has been proposed for this species*

Output form

KEY TO PRINTOUT

NAME AND COMMON NAME: The scientific and common name of the species.
EO-CODE (element occurrence code): Unique Heritage Program code for this occurrence. The first 10 characters are the code for the species, and the last 3 are the occurrence number.
COUNTY(S): County name(s)
QUAD NAMES: Name of the USGS topographic quadrangle map(s) where the record is mapped.
PHYSIOGRAPHIC PROVINCE: Code for physiographic province. CR=Coast Range, WV=Willamette Valley, KM=Klamath Mountains, WC=West slope and crest of the Cascades, EC=East slope of the Cascades, BM=Ochoco, Blue and Wallowa Mts., BR=Basin and Range, HP=High Lava Plains, OU=Owyhee uplands, CB=Columbia Basin.
T-R-S: Township, Range and Section, with township first, range second and section third (a space appears between range and section). 004S029E 32 = Township 4S, Range 29E, Section 32. Fractional townships and ranges are further defined in the T-R COMMENTS field.
T-R-S COMMENTS: Comments relating to township, range or section(s), e.g. SE4NE4 or SENE=SE 1/4 of the NE 1/4
LASTOBS: Last reported sighting date, in the form YYYY-MM-DD
FIRSTOBS: First reported sighting date for this occurrence in the form YYYY-MM-DD
LAT: latitude, North
LONG: longitude, West
QUADCODE: Heritage Program code for the USGS topo map
FED STATUS: US Fish and Wildlife Service status. LE=listed endangered, LT=listed threatened, PE or PT=proposed endangered or threatened, C=candidate for listing with enough information available for listing, SOC=species of concern.
STATE STATUS: For animals, Oregon Department of Fish and Wildlife status; LE=listed endangered, PE=proposed endangered, PT=proposed threatened, SC or C=sensitive-critical, SV or V=sensitive-vulnerable, SP or P=sensitive peripheral or naturally rare, SU or U=sensitive-undetermined. For plants, Oregon Department of Agriculture status; LE=listed endangered, LT=listed threatened, C=candidate.
SIZE: in acres, whole numbers. 0=unknown
MINELEV: Minimum elevation, in feet.
MAXELEV: Maximum elevation in feet.
PRECISION: Second (S)=exact location, Minute (M)=location known to nearest 1.5 miles, General (G)=location known to nearest 5 miles.
EO-RANK/COMM: Relative quality of this occurrence (A=best site, B=good population or site, C=fair or small population, D=marginal or destroyed occurrence)
DIRECTIONS: Site name and direction to site
DESCRIPTION: Habitat information, e.g. aspect, slope, soils, associated species, community type, etc.
EO-DATA: Species and population biology - numbers, age, nesting success, vigor, phenology, disease, pollinators, etc.
EOTYPE: For animals, type of occurrence, e.g. roost, nest, etc.
COMMENTS: Miscellaneous comments
ANNUAL OBSERVATIONS: Summary of yearly observations
OWNER: federal, state, private, etc.
MANAGED AREA: BLM district, USFS Forest, Private Preserve, etc.
MANAGE COMM: Comments on how the site is managed.
PROT COMM (Protection Comments): Comments regarding protectibility and threats.
BEST SOURCE: Best source of information for this occurrence.

0054



Maurita Smyth, Environmental Consultant
6261 SW 47th Place, Portland, Oregon 97221
Phone: (503) 246-5890 Fax: (503) 452-7066
Email: mmsmyth@teleport.com

February 20, 1998

Oregon Natural Heritage Program
Attention: Connie Levesque
821 S.E. 14th Avenue
Portland, Oregon 97214

REQUEST FOR DATA

Project site: west Hayden Island

Location: T2N, R1E, Sections 19, 28, 29, 30, 32, and 33 (Figure 1)

Reason for Request: I am doing the wildlife and vegetation surveys and analyses, including ESA issues, for a proposed Port project on the western portion of Hayden Island. The project tentatively includes three phases over twenty years for complete build out. Phase I is what we will deal with over the next two years. Phase I includes a bulk/grain terminal, an intermodal railroad yard, and possibly an auto bridge (new) to access the island west of I-5. This bridge may not be built until Phase II.

Island habitat currently includes riparian/upland forest, emergent wetland, wetland meadow, wetland forest, a small bit of scrub-shrub wetland, beach, a PGE substation, and a developed area (earth moving school). The project will also affect shallow water habitat along the Columbia River and the Portland Harbor. The island is used actively for deposit of dredge spoils.

Data Requested: all listed taxa within a 5-mile radius of the site. I am asking for a broader base because similar habitat is found on Sauvie Island and at Vancouver Lake for species such as bald eagle.

Please bill me at the address above or by fax.

Thank you.

Sincerely,

Maurita Smyth

MS:hs

Oregon NATURAL HERITAGE PROGRAM

A Cooperative Project of :

March 2, 1998

821 SE 14th Avenue
Portland, Oregon 97214-2537
(503) 731-3070
FAX (503) 230-9639

Maurita Smyth
6261 SW 47th Place
Portland, OR 97221

Dear Ms. Smyth:

We have conducted a data system search for rare, threatened and endangered plant and animal records for your west Hayden Island project (T2N, R1E, Sections 19, 28, 29, 30, 32, 33).

Thiry-three (33) records were noted within a five-mile radius of your project and are included on the enclosed computer printout. A key to the fields is also included.

Please remember that the lack of rare element information from a given area does not mean that there are no significant elements there, only that there is no information known to us from the site. To assure that there are no important elements present, you should inventory the site, at the appropriate season. We do not have information computerized for anadromous fish in the Columbia River.

This data is confidential and for the specific purposes of your project and is **not to be distributed**.

Please call if you should have any questions.

Sincerely,

Connie Levesque

Connie Levesque
Data Services Assistant

encl: invoice

NAME: AGELAIUS TRICOLOR
COMMON NAME: TRICOLORED BLACKBIRD
EO-CODE: ABPBXB0020*002 LAST OBS: 1985 FED STATUS: SOC
COUNTY(s): MULTNOMAH FIRST OBS: 1983 STATE STATUS: SP
QUAD NAMES: PORTLAND LAT: 453550N SIZE: 0
PHYSIOGRAPHIC PROV: WV LONG: 1224305W MINELEV (Feet): 20
T-R-S: 001N001E 05 QUADCODE: 4512256 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: M
EO-RANK/COMM: :
DIRECTIONS: ST. JOHNS LAND FILL IN PORTLAND
DESCRIPTION: DENSE HIMALAYAN BLACKBERRIES ADJACENT TO A BLIND SLOUGH W/ SPARSE TREE COVER ALONG THE SLOUGH MARGINS
EO-DATA: 1985: A COLONY OF 20-30 BIRDS PRESENT DURING THE NESTING SEASON. 1983: 36 BIRDS OBSERVED 6/25-7/31, APPARENTLY NESTING.
EOTYPE:
COMMENTS: REPORTED BY HOUCK ET AL. THIS COLONY WOULD BE ABOUT 250 MI N OF THE CLOSEST NESTING AREAS IN THE ROGUE RIVER VALLEY
ANNUAL OBSERVATION:
OWNER: CITY
MANAGED AREA:
MANAGE COMM:
PROT COMM:
BEST SOURCE: HOUCK ET AL. 1983. AMERICAN BIRDS. 37(6):1022. HOUCK. 1985. PERSONAL COMMUNICATION W/ONHDB

NAME: AGELAIUS TRICOLOR
COMMON NAME: TRICOLORED BLACKBIRD
EO-CODE: ABPBXB0020*007 LAST OBS: 1985 FED STATUS: SOC
COUNTY(s): MULTNOMAH FIRST OBS: 1983 STATE STATUS: SP
QUAD NAMES: PORTLAND LAT: 453605N SIZE: 0
PHYSIOGRAPHIC PROV: WV LONG: 1224000W MINELEV (Feet): 10
T-R-S: 001N001E 03 QUADCODE: 4512256 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: M
EO-RANK/COMM: :
DIRECTIONS: S OF TOMAHAWK ISLAND ON NE BRIDGETON RD, OFF OF MARINE DRIVE
DESCRIPTION: DENSE HIMALAYAN BLACKBERRY ALONG BLIND SLOUGH
EO-DATA: SMALL POPULATION OBSERVED DURING THE NESTING SEASON. NESTING NEEDS VERIFICATION
EOTYPE:
COMMENTS:
ANNUAL OBSERVATION:
OWNER: PRIVATE
MANAGED AREA:
MANAGE COMM:
PROT COMM:
BEST SOURCE: HOUCK. 1985. PERSONAL COMMUNICATION WITH ONHDB

NAME: BRANTA CANADENSIS LEUCOPAREIA
COMMON NAME: ALEUTIAN CANADA GOOSE
EO-CODE: ABNJB05035*017 LAST OBS: 1995-04-12 FED STATUS: LT
COUNTY(s): COLUMBIA FIRST OBS: 1983 STATE STATUS: LE
MULTNOMAH
QUAD NAMES: ST HELENS LAT: 454652N SIZE:
SAUVIE ISLAND
PHYSIOGRAPHIC PROV: WV LONG: 1224656W MINELEV (Feet): 10
T-R-S: 003N001W 35,11 QUADCODE: 4512277 MAXELEV (Feet):
002N001W 09 4512267
004N001W 34
T-R-S COMMENTS: PRECISION: G
EO-RANK/COMM: :
DIRECTIONS: SAUVIE ISLAND WILDLIFE AREA
DESCRIPTION:
EO-DATA: 1995: SIGHTINGS OF A SINGLE BIRD ON 4 DIFFERENT DATES BETWEEN 3/4 AND 4/12. 1991: 18 OBSERVATIONS SINCE 1983. UNCLEAR WHETHER THESE SIGHTINGS ARE JUST INCIDENTAL OR IF A NEW WINTERING AREA IS BEING

ESTABLISHED.
EOTYPE:
COMMENTS:
ANNUAL OBSERVATION: 1995-1 BANDED BIRD (GREEN COLLAR 288) OBSERVED ON 3/34; 1-2 UNBANDED BIRDS OBSERVED ON 3/27, 3/30, & 4/12.
1992-1-12 BIRDS OBSERVED FROM 10/29-11/11, PEAK OF 12 ON 11/07
1990/1991 - 20 BIRDS PEAK WINTER COUNT ON 11/3/90. 6 SIGHTINGS FROM 11/3 TO 1/24.
OWNER: STATE
MANAGED AREA: SAUVIE ISLAND WMA
MANAGE COMM:
PROT COMM:
BEST SOURCE: PITKIN, DAVID S. AND ROY LOWE, 1995. DISTRIBUTION, ABUNDANCE AND ECOLOGY OF ALEUTIAN CANADA GEESE IN OREGON AND WASHINGTON, 13 OCTOBER 1994 TO 1 MAY 1995. UNPUBLISHED REPORT.

NAME: COCCYZUS AMERICANUS
COMMON NAME: YELLOW-BILLED CUCKOO
EO-CODE: ABNRB02020*012 LAST OBS: 1977-09-11 FED STATUS:
COUNTY(s): MULTNOMAH FIRST OBS: 1977 STATE STATUS: SC
QUAD NAMES: SAUVIE ISLAND LAT: 454105N SIZE: 0
PHYSIOGRAPHIC PROV: WV LONG: 1224855W MINELEV (Feet): 10
T-R-S: 002N001W 04 QUADCODE: 4512267 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: G
EO-RANK/COMM: :
DIRECTIONS: SAUVIE ISLAND, NEAR PORTLAND.
DESCRIPTION: LARGE ALLUVIAL DELTA ISLAND AT WILLAMETTE/COLUMBIA RIVER CONFLUENCE. CONSIDERABLE BRUSHY RIPARIAN HABITAT. NEAR URBAN CENTERS, HEAVY RECREATIONAL USES.
EO-DATA: ONE INDIVIDUAL OBSERVED SEPTEMBER 2-11, 1977 AND SEPTEMBER 28.
EOTYPE:
COMMENTS: POPULATION FORMERLY WIDESPREAD IN THE WILLAMETTE AND COLUMBIA BASIN RIPARIAN AREAS.
ANNUAL OBSERVATION:
OWNER:
MANAGED AREA:
MANAGE COMM:
PROT COMM:
BEST SOURCE: WILBUR, S.R. 1980. PRELIMINASRY STATUS REPORT, C. AMERICANUS OCCIDENTALIS. USFWS, CA. NEHLS, HARRY.

NAME: COCCYZUS AMERICANUS
COMMON NAME: YELLOW-BILLED CUCKOO
EO-CODE: ABNRB02020*026 LAST OBS: 1985 FED STATUS:
COUNTY(s): MULTNOMAH FIRST OBS: 1923-06-08 STATE STATUS: SC
QUAD NAMES: PORTLAND LAT: 453712N SIZE: 0
PHYSIOGRAPHIC PROV: WV LONG: 1224300W MINELEV (Feet): 10
T-R-S: 002N001E 32 QUADCODE: 4512256 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: G
EO-RANK/COMM: :
DIRECTIONS: PORTLAND-ALONG THE COLUMBIA RIVER FROM THE MOUTH OF THE WILLAMETTE N TO WHAT IS NOW THE PORTLAND AIRPORT
DESCRIPTION: COLUMBIA RIVER BOTTOMLANDS
EO-DATA: 1985: 1 CUCKOO HEARD. 1940: 2 BIRDS ON 7-27. 1923: AT LEAST 12 BIRDS ON 6-8.
EOTYPE:
COMMENTS: OBSERVERS: MIKE HOUCK (1985), W.H. TELFER (1940), GABRIELSON AND JEWETT (1923).
ANNUAL OBSERVATION:
OWNER: PRIVATE
MANAGED AREA:
MANAGE COMM:
PROT COMM:
BEST SOURCE: HOUCK, MIKE. PORTLAND AUDUBON SOCIETY.

NAME: FALCO PEREGRINUS ANATUM
COMMON NAME: AMERICAN PEREGRINE FALCON
EO-CODE: ABNKD06071*013 LAST OBS: 1997 FED STATUS: LE
COUNTY(s): MULTNOMAH FIRST OBS: 1994 STATE STATUS: LE
QUAD NAMES: PORTLAND LAT: xxxxxxN SIZE:

PHYSIOGRAPHIC PROV: WV LONG: xxxxxxxW MINELEV (Feet): 50
T-R-S: 001N001E xx QUADCODE: 4512256 MAXELEV (Feet):
T-R-S COMMENTS: Data Blocked, see "DIRECTIONS" PRECISION: S
EO-RANK/COMM: :
DIRECTIONS: Contact Oregon Natural Heritage Program (503) 731-3070
DESCRIPTION:
EO-DATA: NEST SITE. SEE ANNOBS.
EOTYPE: BREEDING SITE
COMMENTS:
ANNUAL OBSERVATION: 1997-NESTING OBSERVED
1996-2 ADULTS, AT LEAST 2 CHICKS
1995-2 ADULTS, 1 YOUNG FLEDGED
1994-2 ADULTS, 1 YOUNG FLEDGED
OWNER: STATE
MANAGED AREA: STATE HIGHWAY MAINTENANCE DIST 28
MANAGE COMM:
PROT COMM:
BEST SOURCE: NUGENT, MARTIN. ODFW.

NAME: HALIAEETUS LEUCOCEPHALUS
COMMON NAME: BALD EAGLE
EO-CODE: ABNKC10010*199 LAST OBS: 1997 FED STATUS: LT
COUNTY(s): COLUMBIA FIRST OBS: 1997 STATE STATUS: LT
QUAD NAMES: SAUVIE ISLAND LAT: 454417N SIZE:
PHYSIOGRAPHIC PROV: WV LONG: 1224955W MINELEV (Feet): 10
T-R-S: 003N001W 17 QUADCODE: 4512267 MAXELEV (Feet):
T-R-S COMMENTS: SE4 PRECISION: M
EO-RANK/COMM: :
DIRECTIONS: CHAPMAN LANDING - NEAR WEST ARM, STURGEON LAKE
DESCRIPTION:
EO-DATA: SEE ANNUAL OBSERVATIONS
EOTYPE: BREEDING SITE
COMMENTS: ISAACS & ANTHONY NEST #753
ANNUAL OBSERVATION: 1997-NESTING FAILURE
OWNER: STATE
MANAGED AREA: SAUVIE ISLAND WMA
MANAGE COMM:
PROT COMM:
BEST SOURCE: ISAACS & ANTHONY. 1997. BALD EAGLE NEST LOCATIONS AND HISTORY OF USE IN OREGON 1971-1997

NAME: HALIAEETUS LEUCOCEPHALUS
COMMON NAME: BALD EAGLE
EO-CODE: ABNKC10010*551 LAST OBS: 1997 FED STATUS: LT
COUNTY(s): COLUMBIA FIRST OBS: 1994 STATE STATUS: LT
MULTNOMAH
QUAD NAMES: SAUVIE ISLAND LAT: 454425N SIZE:
PHYSIOGRAPHIC PROV: WV LONG: 1224645W MINELEV (Feet): 10
T-R-S: 003N001W 14,23 QUADCODE: 4512267 MAXELEV (Feet):
T-R-S COMMENTS: SW4, SE4 SEC 14; SE4 SEC 23 PRECISION: M
EO-RANK/COMM: :
DIRECTIONS: SAUVIE ISLAND; E SIDE OF STURGEON LAKE NEAR GAY AND RACETRACK LAKES.
DESCRIPTION:
EO-DATA: SEE ANNUAL OBSERVATIONS
EOTYPE: BREEDING SITE
COMMENTS: ISAACS & ANTHONY NEST 601, 698, 748.
ANNUAL OBSERVATION: 1997-2 FLEDGLINGS
1996-BREEDING FAILURE
1995-NESTING FAILURE
1994-BREEDING FAILURE
OWNER: STATE; PRIVATE
MANAGED AREA: SAUVIE ISLAND WMA
OREGON DEPT OF FISH AND WILDLIFE

MANAGE COMM:
PROT COMM:
BEST SOURCE: ISAACS & ANTHONY. 1997. BALD EAGLE NEST LOCATIONS & HISTORY OF USE IN OREGON 1971-1997.

NAME: MELANERPES LEWIS
COMMON NAME: LEWIS' WOODPECKER
EO-CODE: ABNYF04010*013 LAST OBS: 1977-10 FED STATUS:
COUNTY(s): COLUMBIA FIRST OBS: 1977 STATE STATUS: SC
QUAD NAMES: SAUVIE ISLAND LAT: 454350N SIZE: 0
PHYSIOGRAPHIC PROV: WV LONG: 1224900W MINELEV (Feet): 20
T-R-S: 003N001W 21 QUADCODE: 4512267 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: S
EO-RANK/COMM: :
DIRECTIONS: OAK ISLAND ON SAUVIE ISLAND
DESCRIPTION: OAK WOODLAND
EO-DATA: PERMANENT RESIDENT; OCCURS ALL YEAR. ABUNDANCE: OCCASIONAL.NESTING/WINTERING AREAS NEED DOCUMENTATION.
EOTYPE:
COMMENTS:
ANNUAL OBSERVATION:
OWNER: SAUVIE ISLAND WMA
MANAGED AREA: SAUVIE ISLAND WMA
MANAGE COMM:
PROT COMM:
BEST SOURCE: KLEIN R J 1977.

NAME: PROGNE SUBIS
COMMON NAME: PURPLE MARTIN
EO-CODE: ABPAU01010*025 LAST OBS: FED STATUS:
COUNTY(s): MULTNOMAH FIRST OBS: STATE STATUS: SC
COLUMBIA
QUAD NAMES: SAUVIE ISLAND LAT: 454045N SIZE: 0
ST HELENS
PHYSIOGRAPHIC PROV: WV LONG: 1225200W MINELEV (Feet): 20
T-R-S: 002N001W 06 QUADCODE: 4512267 MAXELEV (Feet):
003N001W 4512277
002N002W
003N002W
T-R-S COMMENTS: PRECISION: G
EO-RANK/COMM: :
DIRECTIONS: SAUVIE ISLAND, ALONG THE MULTNOMAH CHANNEL
DESCRIPTION: NEST BOXES ERECTED ON PILINGS IN THE MULTNOMAH CHANNEL
EO-DATA: NESTING COLONY REPORTED USING NEST BOXES PROVIDED BY TOM LUND, PER SHARP (1985)
EOTYPE:
COMMENTS:
ANNUAL OBSERVATION:
OWNER:
MANAGED AREA: WILLAMETTE RIVER GREENWAY
MANAGE COMM: SPECIES THREATENED BY STARLINGS & LOSS OF NESTING CAVITIES
PROT COMM:
BEST SOURCE: SHARP, BRIAN, 1985. USFWS BIOLOGIST

NAME: CORYNORHINUS TOWNSENDII TOWNSENDII
COMMON NAME: PACIFIC WESTERN BIG-EARED BAT
EO-CODE: AMACC08015*071 LAST OBS: 1928-09-05 FED STATUS: SOC
COUNTY(s): MULTNOMAH FIRST OBS: 1914 STATE STATUS: SC
QUAD NAMES: PORTLAND LAT: 453220N SIZE: 0
PHYSIOGRAPHIC PROV: WV LONG: 1223800W MINELEV (Feet): 150
T-R-S: 001N001E 25 QUADCODE: 4512256 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: G
EO-RANK/COMM: :
DIRECTIONS: PORTLAND - ON THE E SIDE
DESCRIPTION:

EO-DATA: ADULT MALE IN THE JEWETT COLLECTION WAS CAPTURED 9-5-28, A FEW MI FROM A CAVE ON THE E SIDE OF PORTLAND THAT WAS USED BY HUNDREDS OF BATS IN 1914, BUT WAS LATER DESTROYED BY VANDALS
EOTYPE:
COMMENTS:
ANNUAL OBSERVATION:
OWNER: PRIVATE
MANAGED AREA:
MANAGE COMM:
PROT COMM:
BEST SOURCE: BAILEY. 1936. MAMMALS OF OREGON. MASSER & CROSS. 1981. NOTES ON THE DISTRIBUTION OF OREGON BATS

NAME: MYOTIS YUMANENSIS
COMMON NAME: YUMA BAT
EO-CODE: AMACC01020*043 LAST OBS: 1982 FED STATUS: SOC
COUNTY(s): MULTNOMAH FIRST OBS: 1982 STATE STATUS: SU
QUAD NAMES: SAUVIE ISLAND LAT: 453854N SIZE:
PHYSIOGRAPHIC PROV: WV LONG: 1225015W MINELEV (Feet): 40
T-R-S: 002N001W 20 QUADCODE: 4512267 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: G
EO-RANK/COMM: :
DIRECTIONS: BURLINGTON
DESCRIPTION: ATTIC OF BUILDING
EO-DATA: 1982: 100 BATS OBSERVED
EOTYPE: NURSERY COLONY - bats
COMMENTS: OBSERVER: MARK PERKINS
ANNUAL OBSERVATION:
OWNER: PRIVATE
MANAGED AREA:
MANAGE COMM:
PROT COMM:
BEST SOURCE: PERKINS, M. 1982. NORTHWEST OREGON BAT SURVEY. FINAL REPORT

NAME: ODOCOILEUS VIRGINIANUS LEUCURUS
COMMON NAME: COLUMBIAN WHITE-TAILED DEER
EO-CODE: AMALC02022*023 LAST OBS: 1991-04-19 FED STATUS: LE
COUNTY(s): MULTNOMAH FIRST OBS: 1991 STATE STATUS: SV
QUAD NAMES: SAUVIE ISLAND LAT: 453810N SIZE: 40
PHYSIOGRAPHIC PROV: WV LONG: 1224950W MINELEV (Feet): 20
T-R-S: 002N001W 20 QUADCODE: 4512267 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: S
EO-RANK/COMM: B :
DIRECTIONS: BURLINGTON BOTTOMS. ALONG SW EDGE OF SEASONAL POND IN CENTER OF TRACT.
DESCRIPTION:
EO-DATA: TWO ADULTS SEEN RUNNING NORTH ALONG MARGIN OF WETLAND.
EOTYPE:
COMMENTS:
ANNUAL OBSERVATION:
OWNER:
MANAGED AREA: BURLINGTON BOTTOMS
MANAGE COMM:
PROT COMM:
BEST SOURCE: CHRISTY, JOHN A.

NAME: CHRYSEMYS PICTA
COMMON NAME: PAINTED TURTLE
EO-CODE: ARAAD01010*017 LAST OBS: 1985-06 FED STATUS:
COUNTY(s): COLUMBIA FIRST OBS: 1985 STATE STATUS: SC/[illegible]
QUAD NAMES: SAUVIE ISLAND LAT: 454355N SIZE: 0
PHYSIOGRAPHIC PROV: WV LONG: 1224955W MINELEV (Feet): 10
T-R-S: 003N001W 20 QUADCODE: 4512267 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: M
EO-RANK/COMM: :

DIRECTIONS: SAUVIE ISLAND IN 2 SMALL SLOUGHS OFF OF STEELMAN LAKE
DESCRIPTION: SMALL SOUGHS. PAINTED TURTLES FOUND IN AREAS W/SUNNING LOGS, ABUNDANT SUBMERGED VEGETATION, ABUNDANT SNAILS & NO CURRENT AT LEAST 1M DEEP. BULLFROGS ABUNDANT
EO-DATA: PAINTED TURTLES OBSERVED HERE INCLUDED A SMALL TURTLE UNDER 4 YEARS OLD. SAUVIE ISLAND POPULATION IN GENERAL WAS COMPRISED OF AGING TURTLES, AT LEAST 10 YEARS OLD
EOTYPE:
COMMENTS: SURVEY CONDUCTED BY GADDIS & CORKRAN FROM MAY TO JULY 1985
ANNUAL OBSERVATION:
OWNER: SAUVIE ISLAND WMA
MANAGED AREA: SAUVIE ISLAND WMA
WILLAMETTE RIVER GREENWAY
MANAGE COMM:
PROT COMM:
BEST SOURCE: GADDIS, PHILIP & CHAR CORKRAN. 1985. DISTRIBUTION & ECOLOGY OF NATIVE TURTLES - FINAL REPORT

NAME: CHRYSEMYS PICTA
COMMON NAME: PAINTED TURTLE
EO-CODE: ARAAD01010*019 LAST OBS: 1985-06 FED STATUS:
COUNTY(s): COLUMBIA FIRST OBS: 1985 STATE STATUS: SC
QUAD NAMES: SAUVIE ISLAND LAT: 454410N SIZE: 0
PHYSIOGRAPHIC PROV: WV LONG: 1224705W MINELEV (Feet): 10
T-R-S: 003N001W 15,22 QUADCODE: 4512267 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: M
EO-RANK/COMM: :
DIRECTIONS: STURGEON LAKE - ALONG THE E SHORE NEAR GAY LAKE
DESCRIPTION: PAINTED TURTLES FOUND IN AREAS WITH ABUNDANT SUNNING LOGS, SUBMERGED VEGETATION & SNAILS, & NO CURRENT AT LEAST 1M DEEP. BULLFROGS ABUNDANT, NO POND TURTLES FOUND
EO-DATA: PAINTED TURTLES OBSERVED DURING SURVEY BY GADDIS AND CORKRAN FROM MAY TO JULY 1985. ALL TURTLES WERE FULL GROWN AND PRESUMED TO BE AT LEAST 10 YEARS OLD
EOTYPE:
COMMENTS:
ANNUAL OBSERVATION:
OWNER: SAUVIE ISLAND WMA
MANAGED AREA: SAUVIE ISLAND WMA
MANAGE COMM:
PROT COMM:
BEST SOURCE: GADDIS, PHILIP & CHAR CORKRAN. 1985. DISTRIBUTION & ECOLOGY OF NATIVE TURTLES - FINAL REPORT

NAME: CHRYSEMYS PICTA
COMMON NAME: PAINTED TURTLE
EO-CODE: ARAAD01010*020 LAST OBS: 1985-06 FED STATUS:
COUNTY(s): MULTNOMAH FIRST OBS: 1985 STATE STATUS: SC
QUAD NAMES: SAUVIE ISLAND LAT: 454230N SIZE: 0
PHYSIOGRAPHIC PROV: WV LONG: 1224630W MINELEV (Feet): 20
T-R-S: 003N001W 26,35 QUADCODE: 4512267 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: M
EO-RANK/COMM: :
DIRECTIONS: DAIRY CREEK ON SAUVIE ISLAND
DESCRIPTION: TURTLES FOUND IN AREAS W/ABUNDANT SUNNING LOGS, SUBMERGED VEGETATION & SNAILS & W/NO CURRENT AT LEAST 1M DEEP
EO-DATA: PAINTED TURTLES OBSERVED BY GADDIS & CORKRAN DURING SURVEY FROM MAY TO JULY, 1985. ALL TURTLES WERE FULL GROWN & PRESUMED TO BE AT LEAST 10 YEARS OLD
EOTYPE:
COMMENTS:
ANNUAL OBSERVATION:
OWNER: SAUVIE ISLAND WMA
MANAGED AREA: SAUVIE ISLAND WMA
MANAGE COMM:
PROT COMM:
BEST SOURCE: GADDIS, PHILIP & CHAR CORKRAN. 1985. DISTRIBUTION & ECOLOGY OF NATIVE TURTLES - FINAL REPORT

NAME: CHRYSEMYS PICTA

COMMON NAME: PAINTED TURTLE
EO-CODE: ARAAD01010*021 LAST OBS: 1985- FED STATUS:
COUNTY(s): COLUMBIA FIRST OBS: 1985 STATE STATUS: SC
QUAD NAMES: SAUVIE ISLAND LAT: 454455N SIZE: 0
ST HELENS
PHYSIOGRAPHIC PROV: WV LONG: 1224630W MINELEV (Feet): 10
T-R-S: 003N001W 14,11 QUADCODE: 4512267 MAXELEV (Feet):
4512277
T-R-S COMMENTS: PRECISION: M
EO-RANK/COMM: :
DIRECTIONS: POPE LAKE & SLOUGHS TO THE S ON SAUVIE ISLAND (ALSO CALLED GUILES LAKE)
DESCRIPTION: TURTLES FOUND IN AREAS W/ABUNDANT SUNNING LOGS, SUBMERGED VEGETATION & SNAILS, & W/NO CURRENT AT LEAST 1M. DEEP. BULL FROGS ABUNDANT. 2 RED-EARED TURTLES, NO POND TURTLES.
EO-DATA: 13 PAINTED TURTLES TRAPPED IN THIS AREA BETWEEN MAY-JULY 1985. ALL TURTLES WERE AT LEAST 10 YEARS OLD EXCEPT FOR A SMALL MALE W/5 GROWTH RINGS. A JUVENILE UNDER 2 YEARS OLD WAS SIGHTED IN THE TURTLE HOLE AREA.
EOTYPE:
COMMENTS: NO NESTING AREAS FOUND. POPULATION ABUNDANT IN TURTLE HOLE AREA INTO JUNE, DISPERSED S W/HIGHER WATER LEVELS
ANNUAL OBSERVATION:
OWNER: SAUVIE ISLAND WMA
MANAGED AREA: SAUVIE ISLAND WMA
MANAGE COMM:
PROT COMM:
BEST SOURCE: GADDIS, PHILIP & CHAR CORKRAN. 1985. DISTRIBUTION & ECOLOGY OF NATIVE TURTLES-FINAL REPORT

NAME: CHRYSEMYS PICTA
COMMON NAME: PAINTED TURTLE
EO-CODE: ARAAD01010*022 LAST OBS: 1993-06 FED STATUS:
COUNTY(s): MULTNOMAH FIRST OBS: 1985-06 STATE STATUS: SC
QUAD NAMES: PORTLAND LAT: 453655N SIZE: 0
PHYSIOGRAPHIC PROV: WV LONG: 1224425W MINELEV (Feet): 10
T-R-S: 002N001E 31 QUADCODE: 4512256 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: M
EO-RANK/COMM: :
DIRECTIONS: SMYTH-BYBEE LAKES
DESCRIPTION: SUNNING LOGS & SNAILS ABUNDANT. NO OTHER TURTLE SPECIES PRESENT. BULLFROGS ABUNDANT
EO-DATA: 1993: 128 INDIVIDUALS OBSERVED. 1985: 1 PAINTED TURTLE OBSERVED.
EOTYPE:
COMMENTS: OBSERVERS: MARK HAYES AND DAN HOLLAND (1993). PHILLIP GADDIS AND CHAR CORKRAN (1985).
ANNUAL OBSERVATION:
OWNER: PRIVATE
MANAGED AREA:
MANAGE COMM:
PROT COMM:
BEST SOURCE: BRUCE, CHARLIE. ODFW BIOLOGIST.

NAME: CHRYSEMYS PICTA
COMMON NAME: PAINTED TURTLE
EO-CODE: ARAAD01010*023 LAST OBS: 1985-06 FED STATUS:
COUNTY(s): MULTNOMAH FIRST OBS: 1985 STATE STATUS: SC
QUAD NAMES: PORTLAND LAT: 453530N SIZE: 0
PHYSIOGRAPHIC PROV: WV LONG: 1223825W MINELEV (Feet): 10
T-R-S: 001N001E 11,2 QUADCODE: 4512256 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: M
EO-RANK/COMM: :
DIRECTIONS: PENINSULAR DRAINAGE CANAL; OFF OF THE COLUMBIA SLOUGH NEAR THE PORTLAND INTERNATIONAL AIRPORT
DESCRIPTION: TURTLES OBSERVED IN AREA W/ABUNDANT SUNNING LOGS, SUBMERGENT VEGETATION & SNAILS, & W/NO CURRENT AT LEAST 1M DEEP. BULL FROGS ABUNDANT. NO POND TURTLES REPORTED
EO-DATA: 8 PAINTED TURTLES OBSERVED BY GADDIS AND CORKRAN DURING A SURVEY FROM MAY-JULY, 1985. ALL TURTLES WERE FULL GROWN AND PRESUMED TO BE AT LEAST 10 YEARS OLD
EOTYPE:

COMMENTS:
ANNUAL OBSERVATION:
OWNER:
MANAGED AREA:
MANAGE COMM:
PROT COMM:
BEST SOURCE: GADDIS, PHILIP & CHAR CORKRAN. 1985. DISTRIBUTION & ECOLOGY OF NATIVE TURTLES - FINAL REPORT

NAME: CHRYSEMYS PICTA
COMMON NAME: PAINTED TURTLE
EO-CODE: ARAAD01010*033 LAST OBS: 1991-07-02 FED STATUS:
COUNTY(s): MULTNOMAH FIRST OBS: 1991-04-19 STATE STATUS: SC
QUAD NAMES: SAUVIE ISLAND LAT: 453740N SIZE: 20
PHYSIOGRAPHIC PROV: WV LONG: 1224940W MINELEV (Feet): 20
T-R-S: 002N001W 20 QUADCODE: 4512267 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: S
EO-RANK/COMM: B :
DIRECTIONS: BURLINGTON BOTTOMS AT EDGE OF POND SOUTH OF ACCESS ROAD.
DESCRIPTION:
EO-DATA: 1991: 8 INDIVIDUALS OBSERVED 6/27-7/2, SINGLE ADULT SEEN SUNNING AT EDGE OF POND IN APRIL.
EOTYPE:
COMMENTS:
ANNUAL OBSERVATION:
OWNER:
MANAGED AREA: BURLINGTON BOTTOMS
MANAGE COMM:
PROT COMM:
BEST SOURCE: CHARLIE BRUCE, ODFW

NAME: CHRYSEMYS PICTA
COMMON NAME: PAINTED TURTLE
EO-CODE: ARAAD01010*045 LAST OBS: 1996-06-25 FED STATUS:
COUNTY(s): MULTNOMAH FIRST OBS: 1994-06 STATE STATUS: SC
QUAD NAMES: SAUVIE ISLAND LAT: 454113N SIZE:
PHYSIOGRAPHIC PROV: WV LONG: 1224942W MINELEV (Feet): 010
T-R-S: 002N001W 05 QUADCODE: 4512267 MAXELEV (Feet): 010
T-R-S COMMENTS: NW4 PRECISION: S
EO-RANK/COMM: :
DIRECTIONS: OAK ISLAND RD ON SAUVIE ISLAND, APPROXIMATELY 1.75 MILES NORTH OF JUNCTION W/ REEDER ROAD, 0.25 SOUTH OF OLD LDS DAIRY. 1996 SIGHTINGS WERE 0.5 MI TO THE NORTH.
DESCRIPTION: COTTONWOOD-MIXED DECIDUOUS ALONG SLOUGH, APPROX. 20' WIDE; SLOUGH VERY STAGNANT; PLANTED AGRICULTURAL FIELDS ON EAST SIDE ROAD
EO-DATA: ONE PAINTED TURTLE OBSERVED AS IT CROSSED ROAD-GOING WEST BACK TOWARD SLOUGH-8" CARAPACE, BY COUNTING LINES ON CARAPACE ESTIMATE TO BE AT LEAST 12 YEARS OLD; IN 1996, ONE ADULT TURTLE OBSERVED IN NEARLY EXACT SAME PLACE IN EARLY JUNE; A SECOND TURTLE OBSERVED APPROX 0.5 MI NORTH OF THIS SITE, TURTLE WAS WANDERING ALONG BUFFER STRIP BETWEEN FIELD AND ROAD-LARGE, AT LEAST 8 INCH CARAPACE.
EOTYPE:
COMMENTS:
ANNUAL OBSERVATION:
OWNER: PRIVATE
MANAGED AREA:
MANAGE COMM:
PROT COMM:
BEST SOURCE: MARK STERN, OR NATURAL HERITAGE PROGRAM

NAME: CHRYSEMYS PICTA
COMMON NAME: PAINTED TURTLE
EO-CODE: ARAAD01010*046 LAST OBS: 1994-10-03 FED STATUS:
COUNTY(s): MULTNOMAH FIRST OBS: 1994-10-03 STATE STATUS: SC
QUAD NAMES: SAUVIE ISLAND LAT: 453855N SIZE:
PHYSIOGRAPHIC PROV: WV LONG: 1224925W MINELEV (Feet): 20
T-R-S: 002N001W 21 QUADCODE: 4512267 MAXELEV (Feet): 20

T-R-S COMMENTS: NE4NE4 PRECISION: S
EO-RANK/COMM: :
DIRECTIONS: SAUVIE ISLAND, ON SAUVIE ISLAND ROAD, APPROX 200 M N OF SAUVIE ISLAND FARM MARKET
DESCRIPTION: GOING FROM MULTNOMAH CHANNEL EAST ACROSS RD; POSSIBLY TO LAY EGGS (?)
EO-DATA: OBSERVED 1 LARGE TURTLE ON EDGE OF SAUVIE ISLAND RD HEADING EAST-STOPPED IMMEDIATELY & RAN BACK, ONLY TO FIND IT RUNOVER & DEAD. ESTIMATE CARAPACE TO HAVE BEEN 10 INCHES- A VERY LARGE, VERY OLD TURTLE: COULD HAVE COME ACROSS CHANNEL FROM BURLINGTON BOTTOMS.
EOTYPE:
COMMENTS:
ANNUAL OBSERVATION:
OWNER: PRIVATE
MANAGED AREA:
MANAGE COMM:
PROT COMM:
BEST SOURCE: MARK STERN, OREGON NATURAL HERITAGE PROGRAM

NAME: CHRYSEMYS PICTA
COMMON NAME: PAINTED TURTLE
EO-CODE: ARAAD01010*060 LAST OBS: 1991-08-09 FED STATUS:
COUNTY(s): MULTNOMAH FIRST OBS: 1991-08-02 STATE STATUS: SC
QUAD NAMES: PORTLAND LAT: 453141N SIZE:
PHYSIOGRAPHIC PROV: WV LONG: 1224350W MINELEV (Feet): 450
T-R-S: 001N001E 31 QUADCODE: 4512256 MAXELEV (Feet):
T-R-S COMMENTS: SW4NE4 [TRS NOT GIVEN] PRECISION: S
EO-RANK/COMM: :
DIRECTIONS: PORTLAND AUDUBON SOCIETY POND, 5151 NW CORNELL RD.
DESCRIPTION:
EO-DATA: 1991: 1 INDIVIDUAL OBSERVED.
EOTYPE:
COMMENTS:
ANNUAL OBSERVATION:
OWNER: PRIVATE
MANAGED AREA:
MANAGE COMM:
PROT COMM:
BEST SOURCE: BRUCE, CHARLIE. ODFW.

NAME: CLEMMYS MARMORATA MARMORATA
COMMON NAME: NORTHWESTERN POND TURTLE
EO-CODE: ARAAD02031*103 LAST OBS: 1992-07-16 FED STATUS: SOC
COUNTY(s): MULTNOMAH FIRST OBS: 1991 STATE STATUS: SC
QUAD NAMES: SAUVIE ISLAND LAT: 453835N SIZE: 0
PHYSIOGRAPHIC PROV: WV LONG: 1224940W MINELEV (Feet): 20
T-R-S: 002N001W 20 QUADCODE: 4512267 MAXELEV (Feet):
T-R-S COMMENTS: NE4NE4 PRECISION: M
EO-RANK/COMM: :
DIRECTIONS: BURLINGTON BOTTOMS
DESCRIPTION: SEEN WITH 2 WESTERN PAINTED TURTLES
EO-DATA: 1992: 2 TURTLES. 1991: 1 MALE TURTLE
EOTYPE:
COMMENTS: HOLLAND SITE #OR432W. 1991 SIGHTING BY BILL BURKETTE, PHOTO TAKEN AND REPORTED TO SCOTT PEARSON, TNC.
ANNUAL OBSERVATION:
OWNER:
MANAGED AREA: BURLINGTON BOTTOMS
MANAGE COMM:
PROT COMM: THREATS: BULL FROGS & CARP, CATTLE GRAZING
BEST SOURCE: HOLLAND, D.C. 1994. DRAFT REPORT ON THE WESTERN POND TURTLE PROJECT. UNPUBLISHED REPORT OF ODFW.

NAME: FISHEROLA NUTTALLI
COMMON NAME: SHORTFACE LANX (=GIANT COLUMBIA RIVER LIMPET)
EO-CODE: IMGASL6010*003 LAST OBS: 1985 FED STATUS:
COUNTY(s): MULTNOMAH FIRST OBS: 1982 STATE STATUS:

ONHP Plan

Ref. WHI 8

QUAD NAMES: PORTLAND LAT: 453640N SIZE: 0
PHYSIOGRAPHIC PROV: WV LONG: 1223915W MINELEV (Feet): 15
T-R-S: 002N001E 35 QUADCODE: 4512256 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: G
EO-RANK/COMM: :
DIRECTIONS: COLUMBIA RIVER, NEAR PORTLAND
DESCRIPTION: STREAM SIZE EVIDENTLY NOT A FACTOR IF IT IS RELATIVELY UNPOLLUTED, COLD AND WELL OXYGENATED, WITH PERMANENT FLOW AND A COBBLE-BOULDER SUBSTRATE; THESE CONDITIONS OCCUR IN RAPIDS.
EO-DATA: SAMPLED BY FREST '88 - POPULATION MAY BE EXTINCT. TAYLOR OBSERVED IN '82 AND '85.
EOTYPE:
COMMENTS: SURVEY OF COLUMBIA RIVER BASIN STREAMS FOR GIANT COLUMBIA RIVER SPIRE SNAIL AND GREAT COLUMBIA RIVER LIMPET, PACIFIC NW LABORATORY 10-89.
ANNUAL OBSERVATION:
OWNER: STATE
MANAGED AREA:
MANAGE COMM:
PROT COMM:
BEST SOURCE: D.A.NEITZEL, T.J. FREST

NAME: FLUMINICOLA COLUMBIANA
COMMON NAME: COLUMBIA PEBBLESNAIL OR SPIRE SNAIL
EO-CODE: IMGASG3020*002 LAST OBS: 1982 FED STATUS: SOC
COUNTY(s): MULTNOMAH FIRST OBS: 1982 STATE STATUS:
QUAD NAMES: PORTLAND LAT: 453640N SIZE: 0
PHYSIOGRAPHIC PROV: WV LONG: 1223915W MINELEV (Feet):
T-R-S: 002N001E 35 QUADCODE: 4512256 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: G
EO-RANK/COMM: :
DIRECTIONS: COLUMBIA RIVER
DESCRIPTION: STREAM SIZE EVIDENTLY NOT A FACTOR IF IT IS RELATIVELY UNPOLLUTED, COLD AND WELL OXYGENATED WITH PERMANENT FLOW AND A COBBLE-BOULDER SUBSTRATE; THESE CONDITIONS OCCUR IN RAPIDS.
EO-DATA: SAMPLED DURING '88 BY T. FREST - POP. MAY BE EXTINCT. TAYLOR OBSERVED POP IN '82
EOTYPE:
COMMENTS: SURVEY OF COLUMBIA RIVER BASIN STREAMS FOR GIANT COLUMBIA RIVER SPIRE SNAIL AND GREAT COLUMBIA RIVER LIMPET PACIFIC NORTHWEST LABORATORY, OCT. 1989 BY D.A. NEITZEL AND T.J. FREST.
ANNUAL OBSERVATION:
OWNER: PRIVATE/UNKNOWN
MANAGED AREA:
MANAGE COMM:
PROT COMM:
BEST SOURCE: D.A. NEITZEL; T.J. FREST; NEITZEL AND FREST UNPUBLISHED SURVEY

NAME: CAREX COMOSA
COMMON NAME: BRISTLY SEDGE
EO-CODE: PMCYP032Y0*004 LAST OBS: 1884-06-05 FED STATUS:
COUNTY(s): MULTNOMAH FIRST OBS: 1882-06 STATE STATUS:
QUAD NAMES: SAUVIE ISLAND LAT: 454004N SIZE:
PHYSIOGRAPHIC PROV: WV LONG: 1224807W MINELEV (Feet): 10
T-R-S: 002N001W 09 QUADCODE: 4512267 MAXELEV (Feet): 20
T-R-S COMMENTS: PRECISION: G
EO-RANK/COMM: :
DIRECTIONS: SAUVIE ISLAND
DESCRIPTION: FLOATING ISLAND (HENDERSON 1884)
EO-DATA: NONE GIVEN
EOTYPE:
COMMENTS: HERBARIUM COLLECTION: 1) T.J. HOWELL, 6-1882, OSC-1989 (ORIG ID C. PSEUDOCYPERUS VAR COMOSA (ANN. TO C. COMOSA JW STACEY). 2) HENDERSON #1051, 6-5-1884, OSC-1991 (SEE ANNOTATION NOTES IN #1).
ANNUAL OBSERVATION:
OWNER:
MANAGED AREA:
MANAGE COMM:
PROT COMM:

BEST SOURCE: HOWELL COLLECTION

NAME: CAREX COMOSA
COMMON NAME: BRISTLY SEDGE
EO-CODE: PMCYP032Y0*005 LAST OBS: 1887-03-06 FED STATUS:
COUNTY(s): MULTNOMAH FIRST OBS: 1887-03-06 STATE STATUS:
QUAD NAMES: PORTLAND LAT: 453340N SIZE:
PHYSIOGRAPHIC PROV: WV LONG: 1224240W MINELEV (Feet): 20
T-R-S: 001N001E 20 QUADCODE: 4512256 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: M
EO-RANK/COMM: :
DIRECTIONS: "[SWAN] ISLAND" [BRACKETED INFORMATION CAME FROM THE CAREX WORKING GROUP-ONHP/SV, 5/97]
DESCRIPTION:
EO-DATA:
EOTYPE:
COMMENTS: HERBARIUM COLLECTION: L.F. HENDERSON, S.N., 3-6-1887, ORE-16644.
ANNUAL OBSERVATION:
OWNER: PRIVATE
MANAGED AREA:
MANAGE COMM:
PROT COMM:
BEST SOURCE: HENDERSON COLLECTION

NAME: CIMICIFUGA ELATA
COMMON NAME: TALL BUGBANE
EO-CODE: PDRAN07030*023 LAST OBS: 1887-07 FED STATUS: SOC
COUNTY(s): MULTNOMAH FIRST OBS: 1887 STATE STATUS: C
QUAD NAMES: SAUVIE ISLAND LAT: 454105N SIZE:
PHYSIOGRAPHIC PROV: WV LONG: 1224855W MINELEV (Feet):
T-R-S: 002N001W 04 QUADCODE: 4512267 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: G
EO-RANK/COMM: :
DIRECTIONS: FIR FOREST, SAUVIES ISLAND
DESCRIPTION:
EO-DATA: HERBARIUM COLLECTION: THOMAS HOWELL S.N., 7-1887, BR
EOTYPE:
COMMENTS:
ANNUAL OBSERVATION:
OWNER:
MANAGED AREA:
MANAGE COMM:
PROT COMM:
BEST SOURCE: THOMAS HOWELL COLLECTION

NAME: HOWELLIA AQUATILIS
COMMON NAME: HOWELLIA
EO-CODE: PDCAM0A010*006 LAST OBS: 1886-05 FED STATUS: LT
COUNTY(s): MULTNOMAH FIRST OBS: 1879 STATE STATUS:
QUAD NAMES: SAUVIE ISLAND LAT: 454105N SIZE: 0
PHYSIOGRAPHIC PROV: WV LONG: 1224855W MINELEV (Feet): 75
T-R-S: 002N001W 04 QUADCODE: 4512267 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: G
EO-RANK/COMM: :
DIRECTIONS: SAUVIE ISLAND. WILLAMETTE SLOUGH (J. HOWELL #187)
DESCRIPTION: PONDS. IN STAGNANT WATER (J. HOWELL, #187).
EO-DATA: HERBARIUM COLLECTION: HOWELL, 5-1886, OSC; HENDERSON, #592, 5-9-1885, OSC; J. HOWELL AND T. HOWELL, S.N., 5-1881, WTU, GH; J. HOWELL, S.N., 8-10-1879, GH; J. HOWELL, #187, 5-1879, GH
EOTYPE:
COMMENTS: TYPE LOCALITY. RELOCATION EFFORTS UNSUCCESSFUL.
ANNUAL OBSERVATION:
OWNER:
MANAGED AREA:

MANAGE COMM:
PROT COMM:
BEST SOURCE: HOWELL COLLECTION, 1886.

NAME: RORIPPA COLUMBIAE
COMMON NAME: COLUMBIA CRESS
EO-CODE: PDBRA27060*013 LAST OBS: 1884 FED STATUS: SOC
COUNTY(s): MULTNOMAH FIRST OBS: 1884 STATE STATUS: C
QUAD NAMES: SAUVIE ISLAND LAT: 454105N SIZE: 0
PHYSIOGRAPHIC PROV: WV LONG: 1224750W MINELEV (Feet): 250
T-R-S: 002N001W 03 QUADCODE: 4512267 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: G
EO-RANK/COMM: :
DIRECTIONS: SAUVIES ISLAND. MOUTH OF WILLAMETTE RIVER.
DESCRIPTION:
EO-DATA: HERBARIUM COLLECTION: J HOWELL, 1884, NO #, HERBARIUM UNKNOWN (FROM HOWELL, 1900 LIT.)
EOTYPE:
COMMENTS: FROM 1980 USFWS ENDANGERED SPECIES REPORT BY DEBBIE DARR
ANNUAL OBSERVATION:
OWNER:
MANAGED AREA:
MANAGE COMM:
PROT COMM:
BEST SOURCE: HOWELL COLLECTION

NAME: SULLIVANTIA OREGANA
COMMON NAME: OREGON SULLIVANTIA
EO-CODE: PDSAX0X020*012 LAST OBS: 1887- FED STATUS: SOC
COUNTY(s): MULTNOMAH FIRST OBS: 1887 STATE STATUS: C
COLUMBIA
QUAD NAMES: SAUVIE ISLAND LAT: 454004N SIZE: 0
PHYSIOGRAPHIC PROV: WV LONG: 1224807W MINELEV (Feet): -1111
T-R-S: 002N001W 09 QUADCODE: 4512267 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: G
EO-RANK/COMM: :
DIRECTIONS: SAUVIES ISLAND, MILWAUKIE (MAPPED ON SAUVIES ISLAND)
DESCRIPTION:
EO-DATA: HERBARIUM COLLECTION: JOSEPH HOWELL, 1887, G. (ASSUMED TO BE GRAY HERBARIUM)
EOTYPE:
COMMENTS: FROM ROSENDAHL, C.O. 1927. REVISION OF THE GENUS SULLIVANTIA. MINN STUD. PLANT SCI 6:407
ANNUAL OBSERVATION:
OWNER:
MANAGED AREA:
MANAGE COMM:
PROT COMM:
BEST SOURCE: JOSEPH HOWELL COLLECTION

NAME: WOLFFIA COLUMBIANA
COMMON NAME: COLUMBIA WATER-MEAL
EO-CODE: PMLEM03030*002 LAST OBS: 1991-07-03 FED STATUS:
COUNTY(s): MULTNOMAH FIRST OBS: 1991 STATE STATUS:
QUAD NAMES: PORTLAND LAT: 453655N SIZE: 100
PHYSIOGRAPHIC PROV: WV LONG: 1224350W MINELEV (Feet): 20
T-R-S: 002N001E 31 QUADCODE: 4512256 MAXELEV (Feet):
T-R-S COMMENTS: PRECISION: M
EO-RANK/COMM: B :
DIRECTIONS: FROM I-5, FOLLOW COLUMBIA BLVD. WEST TO RIVERGATE, HEAD WEST ON RIVERGATE TO BOAT LANDING ON SMITH LAKE.
DESCRIPTION:
EO-DATA: NOT ABUNDANT IN SHELTERED AREAS, EDGE OF SALIX LASIANDRA SWAMP. WITH LEMNA MINOR.
EOTYPE:
COMMENTS:
ANNUAL OBSERVATION:

OWNER: PORT OF PORTLAND
MANAGED AREA:
MANAGE COMM:
PROT COMM:
BEST SOURCE: CHRISTY, JOHN A.

33 Records listed.

URS Corporation

The integrated resources of
URS Greiner Woodward Clyde
Dames & Moore
BRW
Radian
O'Brien-Kreitzberg
and associated firms

111 SW Columbia, Suite 900
Portland, OR 97201-5814
Tel: 503.222.7200
Fax: 503.222.4292
Offices Worldwide

May 3, 2000

U.S. Fish and Wildlife Service
Endangered Species Program
Attention: Diana Hwang
Suite 100
2600 SE 98th
Portland, OR 97266

REQUEST FOR DATA

Project Site: West Hayden Island

Location: T2N, R1E, Section 19, 28, 29, 30, 32, and 33

Reason for Request: As you know, we are working with Maurita Smyth to prepare a biological assessment for the Port of Portland's proposed development which includes three marine cargo terminals on the Columbia River on the north shore of Hayden Island and a vehicular bridge across Oregon Slough. The project area is located between Columbia River mile 102.7 and 105.6.

Island habitat currently includes riparian/upland forest, emergent wetland, wetland meadow, wetland forest, a small bit of scrub-shrub wetland, beach, a PGE substation, and a developed area (earth moving school). The project will also affect shallow water habitat along the Columbia River and the Portland Harbor. The island is used actively for deposit of dredged material.

Data Requested: All listed taxa within a 5-mile radius of the site. We are requesting a broader base because similar habitat is found on Sauvie Island and at Vancouver Lake for such species as bald eagle.

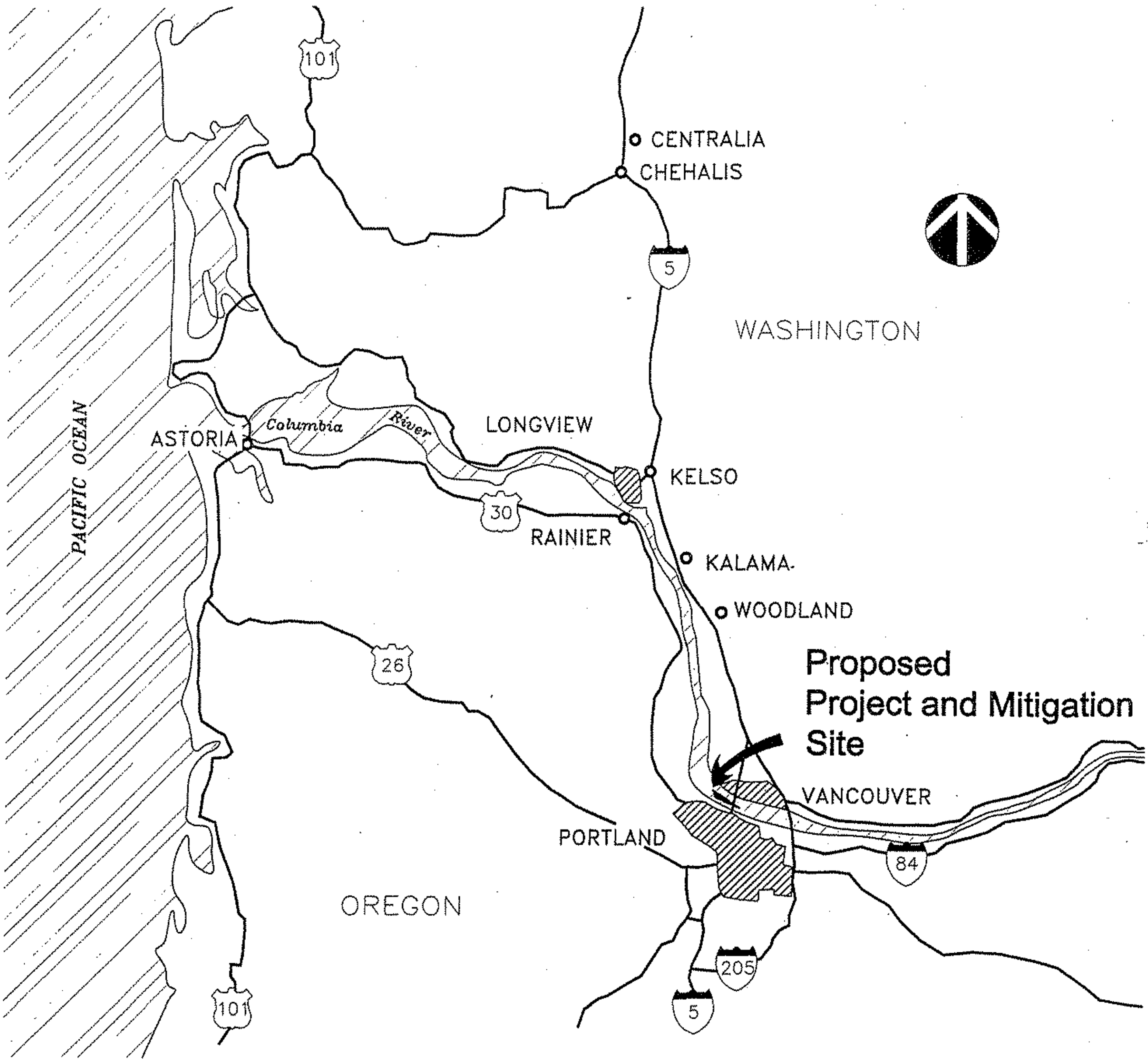
The Corps of Engineers has authorized us to make this request on its behalf and the information will be used by the Corps in its consultation with the Fish and Wildlife Service.

Please bill us at the address above. Thank you.

Sincerely,

David B. Barrows
Project Manager
West Hayden Island EIS Team

s:/proj97/975014NA/tl1proj~1/commun~1/USFWS rqst ltr may 5.DOC5/3/00



N.T.S.	PREPARED BY: **URS Greiner Woodward Clyde** 111 SW Columbia, Suite 900 - Portland, Oregon 97201 Tel: (503) 222-7200 Fax: (503) 222-4292	**Vicinity Map**	FIGURE 2-1

Aug 13, 1999-11:58am

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oregon State Office
2600 S.E. 98th Avenue, Suite 100
Portland, Oregon 97266
(503) 231-6179 FAX: (503) 231-6195

Reply To: 1-7-00-SP-347
File Name: Sp347.wpd

May 23, 2000

David Barrows
URS Corporation
111 SW Columbia, Suite 900
Portland, OR 97201-5814

Dear Mr. Barrows:

This is in response to your letter, dated May 3, 2000, requesting information on listed and proposed endangered and threatened species that may be present within the area of the Hayden Island Cargo Terminals and Vehicular Bridge project in Multnomah County. The U.S. Fish and Wildlife Service (Service) received your letter on May 5, 2000.

We have attached a list (Attachment A) of threatened and endangered species that may occur within the area of the Hayden Island Cargo Terminals and Vehicular Bridge project. The list fulfills the requirement of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). U.S. Army Corps of Engineers (COE) requirements under the Act are outlined in Attachment B.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems on which they depend may be conserved. Under section 7(a)(1) and 7(a)(2) of the Act and pursuant to 50 CFR 402 *et seq.*, COE is required to utilize their authorities to carry out programs which further species conservation and to determine whether projects may affect threatened and endangered species, and/or critical habitat. A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) which are major Federal actions significantly affecting the quality of the human environment as defined in NEPA (42 U.S.C. 4332 (2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to the Biological Assessment be prepared to determine whether they may affect listed and proposed species. Recommended contents of a Biological Assessment are described in Attachment B, as well as 50 CFR 401.12.

If COE determines, based on the Biological Assessment or evaluation, that threatened and endangered species and/or critical habitat may be affected by the project, COE is required to consult with the Service following the requirements of 50 CFR 402 which implement the Act.

Attachment A includes a list of candidate species under review for listing. The list reflects changes to the candidate species list published October 25, 1999, in the Federal Register (Vol. 64, No. 205, 57534) and the addition of "species of concern." Candidate species have no protection under the Act but are included for consideration as it is possible candidates could be listed prior to project completion. Species of concern are those taxa whose conservation status is of concern to the Service (many previously known as Category 2 candidates), but for which further information is still needed.

If a proposed project may affect candidate species or species of concern, COE is not required to perform a Biological Assessment or evaluation or consult with the Service. However, the Service recommends addressing potential impacts to these species in order to prevent future conflicts. Therefore, if early evaluation of the project indicates that it is likely to adversely impact a candidate species or species of concern, COE may wish to request technical assistance from this office.

Your interest in endangered species is appreciated. The Service encourages COE to investigate opportunities for incorporating conservation of threatened and endangered species into project planning processes as a means of complying with the Act. If you have questions regarding your responsibilities under the Act, please contact Cindy Bright or Laura Todd at (503) 231-6179. For questions regarding anadromous fish, please contact National Marine Fisheries Service, 525 NE Oregon St., Suite 500, Portland, Oregon 97232, (503) 230-5400. All correspondence should include the above referenced file number.

Sincerely,

Nancy K. Lee

for Kemper M. McMaster
State Supervisor

Attachments
SP 347
cc: PFO-ES
ODFW (nongame)
cc: Larry Evans

ATTACHMENT A

FEDERALLY LISTED AND PROPOSED ENDANGERED AND THREATENED SPECIES, CANDIDATE SPECIES AND SPECIES OF CONCERN THAT MAY OCCUR WITHIN THE HAYDEN ISLAND CARGO TERMINALS AND VEHICULAR BRIDGE PROJECT 1-7-00-SP-347

LISTED SPECIES[1/]

Mammals		
Columbian white-tailed deer	*Odocoileus virginianus leucurus*	E
Birds		
Bald eagle	*Haliaeetus leucocephalus*	T
Fish		
Chum salmon (Lower Columbia River)[2/]	*Oncorhynchus keta*	**T
Steelhead (Middle Columbia River)[3/]	*Oncorhynchus mykiss*	**T
Steelhead (Lower Columbia River)[4/]	*Oncorhynchus mykiss*	**T
Steelhead (Snake River Basin)[5/]	*Oncorhynchus mykiss*	** T
Sockeye salmon	*Oncorhynchus nerka*	CH **E
Chinook salmon	*Oncorhynchus tshawytscha*	CH **T
Chinook salmon	*Oncorhynchus tshawytscha*	CH **T
Chinook salmon (Lower Columbia River)[6/]	*Oncorhynchus tshawytscha*	**T
Plants		
Golden paintbrush[7/]	*Castilleja levisecta*	T
Willamette daisy[8/]	*Erigeron decumbens* var. *decumbens*	E
Howellia	*Howellia aquatilis*	T
Bradshaw's lomatium	*Lomatium bradshawii*	E
Kincaid's lupine[8/]	*Lupinus sulphureus* var. *kincaidii*	T
Nelson's checker-mallow	*Sidalcea nelsoniana*	T

PROPOSED SPECIES

Fish		
Coastal cutthroat trout	*Oncorhynchus clarki clarki*	PT

CANDIDATE SPECIES

Amphibians and Reptiles		
Oregon spotted frog[9/]	*Rana pretiosa*	
Fish		
Coho salmon (Lower Columbia River)[10/]	*Oncorhynchus kisutch*	**CF

SPECIES OF CONCERN

Mammals	
Pacific western big-eared bat	*Corynorhinus (=Plecotus) townsendii townsendii*
Long-eared myotis (bat)	*Myotis evotis*
Fringed myotis (bat)	*Myotis thysanodes*
Long-legged myotis (bat)	*Myotis volans*
Yuma myotis (bat)	*Myotis yumanensis*
Birds	
Tricolored blackbird	*Agelaius tricolor*
Olive-sided flycatcher	*Contopus cooperi (=borealis)*
Little willow flycatcher	*Empidonax traillii brewsteri*
Amphibians and Reptiles	
Northwestern pond turtle	*Clemmys marmorata marmorata*
Northern red-legged frog	*Rana aurora aurora*
Fish	
Pacific lamprey	*Lampetra tridentata*
Invertebrates	
California floater (mussel)	*Anodonta californiensis*
Great Columbia River spire snail	*Fluminicola columbianus*
Plants	
White top aster	*Aster curtus*
Tall bugbane	*Cimicifuga elata*
Pale larkspur	*Delphinium leucophaeum*
Peacock larkspur	*Delphinium pavonaceum*
Howell's montia	*Montia howellii*
Columbia cress	*Rorippa columbiae*
Oregon sullivantia	*Sullivantia oregana*

(E) - Listed Endangered *(T) - Listed Threatened* *(CH) - Critical Habitat has been designated for this species*
(PE) - Proposed Endangered *(PT) - Proposed Threatened* *(PCH) - Critical Habitat has been proposed for this species*

Species of Concern - Taxa whose conservation status is of concern to the Service (many previously known as Category 2 candidates), but for which further information is still needed.

(CF) - Candidate: National Marine Fisheries Service designation for any species being considered by the Secretary for listing for endangered or threatened species, but not yet the subject of a proposed rule.

** *Consultation with National Marine Fisheries Service required.*

1/ *U. S. Department of Interior, Fish and Wildlife Service, October 31, 1997, Endangered and Threatened Wildlife and Plants, 50 CFR 17.11 and 17.12.*

2/ *Federal Register Vol. 64, No. 57, March 25, 1999, Final Rule - Columbia River Chum Salmon*

3/ *Federal Register Vol. 64, No. 57, March 25, 1999, Final Rule - Middle Columbia and Upper Willamette River Steelhead*

4/ *Federal Register Vol. 63, No. 53, March 19, 1998, Final Rule-West Coast Steelhead*

5/ *Federal Register Vol. 62, No. 159, August 18, 1997, Final Rule-Snake River Steelhead*

6/ *Federal Register Vol. 64, No. 56, March 24, 1999, Final Rule - West Coast Chinook Salmon*

7/ *Federal Register Vol. 62, No. 112, June 11, 1997, Final Rule-Castilleja levisecta*

8/ *Federal Register Vol. 65, No. 16, January 25, 2000, Final Rule-Erigeron decumbens var. decumbens, Lupinus sulphureus ssp. kincaidii and Fender's blue butterfly.*

9/ *Federal Register Vol. 64, No. 205, October 25, 1999, Notice of Review-Candidate or Proposed Animals and Plants*

10/ *Federal Register Vol. 62, No. 87, May 6, 1997, Final Rule-Coho Salmon*

ATTACHMENT B

FEDERAL AGENCIES RESPONSIBILITIES UNDER SECTION 7(a) and (c)
OF THE ENDANGERED SPECIES ACT

SECTION 7(a)-Consultation/Conference

Requires:

1) Federal agencies to utilize their authorities to carry out programs to conserve endangered and threatened species;

2) Consultation with FWS when a Federal action may affect a listed endangered or threatened species to insure that any action authorized, funded or carried out by a Federal agency is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of Critical Habitat. The process is initiated by the Federal agency after they have determined if their action may affect (adversely or beneficially) a listed species; and

3) Conference with FWS when a Federal action is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed Critical Habitat.

SECTION 7(c)-Biological Assessment for Major Construction Projects[1]

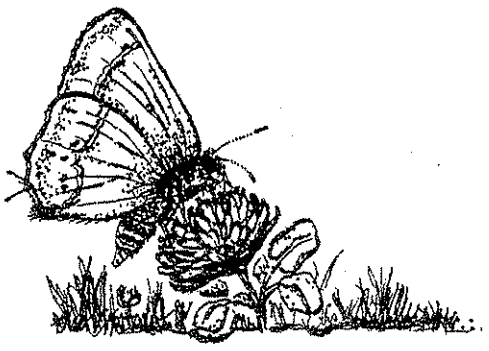
Requires Federal agencies or their designees to prepare a Biological Assessment (BA) for construction projects only. The purpose of the BA is to identify proposed and/or listed species which are/is likely to be affected by a construction project. The process is initiated by a Federal agency in requesting a list of proposed and listed threatened and endangered species (list attached). The BA should be completed within 180 days after its initiation (or within such a time period as is mutually agreeable). If the BA is not initiated within 90 days of receipt of the species list, the accuracy of the species list should be informally verified with our Service. No irreversible commitment of resources is to be made during the BA process which would foreclose reasonable and prudent alternatives to protect endangered species. Planning, design, and administrative actions may be taken; however, no construction may begin.

To complete the BA, your agency or its designee should: (1) conduct and on-site inspection of the area to be affected by the proposal which may include a detailed survey of the area to determine if the species is present and whether suitable habitat exists for either expanding the existing population or for potential reintroduction of the species; (2) review literature and scientific data to determine species distribution, habitat needs, and other biological requirements; (3) interview experts including those within FWS, National Marine Fisheries Service, State conservation departments, universities, and others who may have data not yet published in scientific literature; (4) review and analyze the effects of the proposal on the species in terms of individuals and populations, including consideration of cumulative effects of the proposal on the species and its habitat; (5) analyze alternative actions that may provide conservation measures and (6) prepare a report documenting the results, including a discussion of study methods used, nay problems encountered, and other relevant information. The BA should conclude whether or not a listed species will be affected. Upon completion, the report should be forwarded to our Portland Office.

---

[1]A construction project (or other undertaking having similar physical impacts) which is a major Federal action significantly affecting the quality of the human environment as referred to in NEPA (42 U.S.C. 4332. (2)c). On projects other that construction, it is suggested that a biological evaluation similar to the biological assessment be undertaken to conserve species influenced by the Endangered Species Act.

Appendix II
WHI Wildlife and Vegetation Baseline Studies Report, February 18, 1999
Rare, Threatened, and Endangered Plant Species Survey, August 1999



Maurita Smyth*, *Environmental Consultant
6261 SW 47th Place, Portland, Oregon 97221
Phone: (503) 246-5890 Fax: (503) 452-7066
Email: mmsmyth@teleport.com

Wildlife and Vegetation Baseline Studies Report

for

West Hayden Island

Prepared for
URS Greiner Woodward Clyde
111 SW Columbia, Suite 900
Portland, Oregon 97201
(503) 222-7200

Prepared by
Maurita Smyth, *Environmental Consultant*
6261 SW 47th Place
Portland, Oregon 97221-2825

February 18, 1999

1.0 Vegetation and Wildlife

1.1 Summary

The West Hayden Island study area is approximately 827 acres of typical bottomland forest, meadow, shoreline, and wetland habitats within the lower Columbia River Basin. Recent historic use of the site includes cattle raising, horseback riding stables, an earth moving school, a depository for dredge material from the Columbia River, equipment storage, and other commercial/industrial uses. Most of the site, however, remains in a natural though disturbed condition. The site supports five basic wildlife habitat cover or functional types which include wetland and upland plant communities. These basic types are riparian (upland) forest (488.10 acres), which is the dominant community, upland meadow (127.40 acres), beach or shoreline habitat (33.44 acres), and wetlands (total 39.50 acres) consisting of emergent wetlands and forested wetlands. There is also a non-habitat area (approximately 137.15 acres), which consists of stockpiles of dredge material that will be used for other purposes in the future.

The overall dominant tree on the site is black cottonwood which occurs in several associations with Pacific willow, Oregon ash, and red alder in the overstory. Shrubs include upland species such as snowberry, trailing blackberry, and red elderberry, and wetland species such as red-osier dogwood and Pacific ninebark. Herbaceous vegetation includes several varieties of grasses including reed canarygrass, and flowering plants (forbs) that include Canada thistle, beggarstick, and smartweed. Generally all three plant layers -- tree, shrub, and herb -- are well-developed. Non-native invasive plants, such as Himalayan blackberry, occur throughout the site in varying degrees of dominance. Dead or dying wood occurs in varying degrees of abundance throughout the site, mostly within forested habitats. Rare plant surveys were not conducted for purposes of this report and are scheduled for the summer of 1999.

Wildlife species observed on West Hayden Island are representative of species that use bottomland hardwood forests. Over 100 bird, mammal, insect and other invertebrate species spend all or part of their life cycle on the site. Black-tailed deer, coyote, mole, and vole are year round residents. Resident birds include dark-eyed junco, song sparrow, American robin, black-capped chickadee, and red-breasted nuthatch. During spring and fall migration, several species of warbler can be observed on site. Species

such as fox sparrow and white-throated sparrow overwinter on site. Waterfowl spend the winter and early spring in the ponded wetlands that provide food such as smartweed. In the spring, swallows migrate through the site, some, such as the tree swallow, remain and nest in cavities in snags. These swallows forage over meadow, emergent wetlands, ponds, and the river and slough for a variety of insects. Dead wood habitat provides many opportunities for other nesting and foraging birds, such as pileated woodpecker and black-capped chickadee. Pacific chorus frog and long-toed salamander reside year round on the site, breeding in the ponded emergent wetlands during later winter and early spring.

Federal threatened, endangered, or species of concern (TES) wildlife observed on site during the 1998 field surveys include bald eagle and little willow flycatcher. State listed species observed in 1998 include pileated woodpecker, bank swallow, and little willow flycatcher . Other TES species observed previously on site include painted turtle.

1.2 PURPOSE AND OBJECTIVE

There are two principal purposes for completion of the vegetation baseline study. The first is to obtain updated information on the current status of the site's plant communities using the City of Portland's 1995 Goal 5 Study (City of Portland, 1995) as a baseline. The second, which will be completed as a supplement to this report, is to attempt location and identification of sensitive plants suspected to occur on site.

The purpose for the wildlife baseline study is to update existing information on current wildlife use of the site, on existing wildlife habitat conditions, and to update required information regarding the presence of federally or state listed threatened, endangered, candidate, and other wildlife species of concern.

1.3 OVERVIEW

1.3.1 Vegetation

The site is a mosaic of five basic habitat types -- riparian upland forest, wetland forest, emergent wetland, which function as meadow and seasonal or year round open water habitats, upland meadow, and shoreline. The riparian forest and the wetland forest habitats exist as differing plant associations

of the black cottonwood community (e.g., cottonwood/ash, cottonwood/stinging nettle, cottonwood/snowberry, etc.) The percent of canopy closure in the tree, shrub, and herbaceous layers defines the specific association. There also exists a "non-habitat" area lacking vegetation where recent and former dredge material has been deposited. The boundaries for the specific associations of forest types were mapped in the 1995 City of Portland Goal Five Study (City of Portland, 1995). Information gathered for this baseline study essentially verified the 1995 study with the addition of new information on vegetation changes since that time. The forest habitat, in general, dominates the site forming a matrix within which wetland and meadow habitats occur.

Wetland plant communities contain some of the same species as the upland-riparian forest. The island hydrology which includes periodic flooding has been modified by high bank dredge deposits and by water flows regulated at the Columbia River dams. It is likely that interior island wetlands were saturated not only with back flow due to normal tidal influence or high-water (flood) events from the Columbia River, but with groundwater resulting from Columbia waters moving through the alluvial soils. Depressions and old river channels provided the low topographic positions which support small emergent and scrub/shrub wetland plant communities throughout the site.

1.3.2 Wildlife

Wildlife habitat on the site is based upon the five basic plant communities and the location of the site on an island that lies between the Oregon Slough and the mainstem Columbia River. The diversity of plant species and structure, including the interspersion of habitat types throughout the site, provides for the breeding, rearing, travel, resting, and foraging habitat for over 100 hundred species of birds, mammals, fish, amphibians and reptiles, terrestrial and aquatic insects, and crustaceans. The site is also used for migration and dispersal habitat for many species that originate from mainland habitats.

Wildlife species observed on the site are representative of species that use bottomland hardwood forests, such as black-tailed deer and song birds. The site also includes over 30 wetlands, some of which are broadly interspersed within the hardwood forest habitat matrix. Some wetlands are located within meadow habitats where tree canopies are lacking. Some of the wetlands located in meadows and other areas lacking tree cover have open water habitat available year round and seasonally. These wetlands are utilized for resting and feeding by wintering and migratory waterfowl.

1.4 METHODS

1.4.1 Vegetation

A pre-field investigation was performed that included a review of aerial photographs and topographic maps to identify habitat types and locations. Aerial photos were used to place transect locations for vegetation surveys. Published and unpublished information relating to the plant communities was reviewed, and sensitive species habitat needs were researched to determine the most appropriate timing for field surveys.

General vegetation information was recorded during field surveys in February, March, May, July, August, September, and October 1998 coincidental with transect data collection. Walking transects were surveyed throughout the site to typify habitat or cover types and identify their general and specific conditions. Biologists walked through an area and recorded dominant plant species in the tree, shrub, and herbaceous layers, percent canopy closure in all three vegetative layers, canopy type (open, closed, scattered, clumped etc.), number and kinds of snags and dead/downed wood, the presence of water and its condition (depth, quality, source, etc.), and any unique features. Plant communities, or habitat cover types, were distinguished on the basis of these characteristics.

Background information on the presence of TES plant species was requested from the U.S. Fish and Wildlife Service and the Oregon Natural Heritage Program database. Responses to these inquiries and studies of museum specimens of potential plants for the site was completed in 1998. Sensitive species surveys will be conducted in the summer of 1999 and will involve a more concentrated effort during appropriate flowering times.

1.4.2 Wildlife

A pre-field review was completed and included the wildlife inventory support documents for Portland's 1985 (Lev and Jennings, 1985) and 1995 Goal 5 (City of Portland, 1995) reports, PGE's Environmental Impact Statement and attendant wildlife inventory and habitat evaluation summaries (Portland General Electric, 1985), and information provided by island residents at the November public meeting. In addition, the Oregon Natural Heritage database and the U.S. Fish and Wildlife Service

(USFWS) were queried to obtain updated information on the possible presence of state or federally listed wildlife species.

Field surveys were conducted on foot along established transects with overlapping variable plots. These transects were set up within representative habitat types -- riparian forest, upland meadow, forested wetland, and emergent wetland. Each transect was walked twice within each season during winter, spring, summer, and fall 1998. All observed species within the surveyed habitat type and regardless of their distance from the transect were recorded. Surveys also included an update on habitat typification and conditions to compare to the 1995 baseline surveys. Spring and summer surveys were conducted twice in early morning hours (the time when birds are most active and detectable) from dawn to approximately 0900. Incidental wildlife sightings were also recorded in all habitat types, including shoreline habitat.

Point counts were conducted at the open water emergent wetlands primarily to record observations of waterfowl during the winter months. However, all species observed within the open water boundary were recorded, for example, foraging tree swallow flocks during the spring, summer, and fall months. The remaining wetlands, mostly those closely associated with forest habitat (wetland and upland) were surveyed as part of the walking transects with special notation taken on those species located within the wetland habitat. All aquatic habitat was searched for fish, herpetofauna, aquatic insects, and other aquatic wildlife species when water was present.

Field surveys were conducted on February 14, 15, 18, and 26; March 18 and 19; May 11, 14, 15, 16, 18, and 19; July 24 and 25; August 4 and 7; September 27; and October 22 and 23, 1998. The February 26th and March 18-19, 1998 surveys were conducted by Dr. Marc P. Hayes specifically to locate wetland associated herpetofauna. All observed wildlife or their sign were recorded during these surveys and notation taken on behavior and special habitat attributes.

1.5 RESULTS AND DISCUSSION

1.5.1 Vegetation

The following text summarizes the results of field surveys and generally describes the site's vegetation (habitat types) and wildlife species. Habitat types are generally mapped in Figure 1. West Hayden

Island Wildlife Habitats. Essentially the site's existing conditions are similar to that found during the 1995 Goal 5 inventory (City of Portland, 1995). The most apparent change has been the expansion of non-native plants, such as burdock, Himalayan blackberry, and tansy ragwort within forest and meadow habitats.

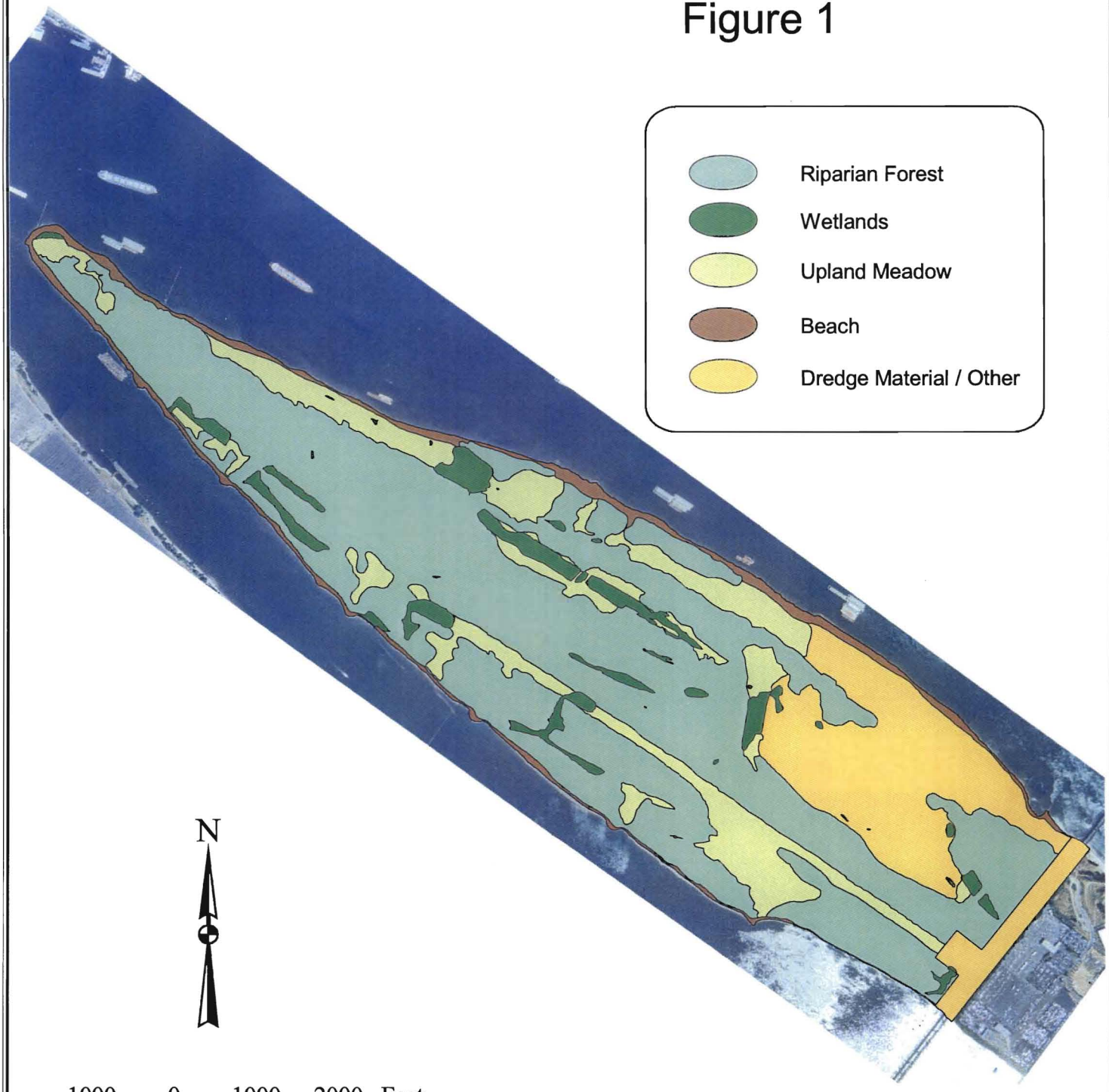
1.5.1.1 Description of Upland Riparian Forest (RF)Habitat

The riparian forest is dominated by an overstory of black cottonwood with Oregon ash and Pacific willow occurring as sub-dominants in some areas. The complexity of this community is based upon the various associations of black cottonwood and other tree and shrub species. These associations include cottonwood/stinging nettle, cottonwood/ Pacific willow/ash/various shrubs, cottonwood/red-osier dogwood/ stinging nettle, cottonwood/snowberry with or without stinging nettle, etc. The site's topography and hydrology, both current and historic, affect the plant community diversity. For example, depressions areas collect rain and groundwater and support small emergent wetlands frequently located under the forest canopy. In some instances Pacific willow acts as the dominant tree and in other cases, the wetlands are surrounded by wet meadows of reed canarysgrass. Open forests in wetlands and uplands at the south side of the island are almost completely dominated by willows at sites 31, 9/10, 18, and 19 (See Figure 2. West Hayden Island Wetland Habitats) in a very open canopy. The closely interspersed wetland habitats (emergent and forest) and the riparian forest community make it difficult to separate these habitat types. They function as a unit providing food, water, and cover for wildlife species that depend upon either or both of these habitats for their life history needs. For example, the song sparrow, uses upland forest for nesting, but this species has been observed specifically foraging for water boatman, an aquatic insect, in the partially dry muck of an ephemeral emergent wetland located within the riparian forest habitat.

The black cottonwood/Oregon ash riparian woodland within the eastern portion of the site has an overstory canopy closure during full leaf that ranges from 65-95%. Nettles and snowberry are sometimes present as dominant understory plants. Scattered red elderberry and seedling or sapling ash may be found in the mid and understories. A few old and dying Pacific willow occur widely scattered throughout the riparian forest types, often in association with wetland habitats.

In the western and west central woodlands, the plant association is primarily black cottonwood/red osier dogwood/willow. Shrub species include gooseberry, wild rose, snowberry, and alder and

West Hayden Island EIS
Wildlife Baseline Report
Figure 1



Print Date: Oct 2000
I:\975014na\Apr2000\gis\misc_eis_figs.apr

Wildlife Baseline Report

Figure 2

On Island Delineated Wetlands

Critical Habitat

Wetlands

01 - Wetland Identification

001 - Wetland Acreage

34
0.39

29
0.03

28
0.05

27
0.02

37
0.05

36
0.006

22
0.34

21+20
2.39

19
1.58

15
5.2

35
0.10

18
3.39

26
0.02

14
5.48

12
4.34

33
0.29

13
0.24

3
0.03

17
0.64

7+8
1.61

16
3.19

32
0.13

30
0.006

6
0.54

24
0.29

9+10
4.21

5
0.05

4
3.46

25
0.04

23
0.11

38
0.01

31
0.03

2
0.95

11
0.92

1
0.69

N

1000 0 1000

SCALE IN FEET

D:\Proj97\975014no\task_2b\smyth\critical_hab.dwg Feb 19,1999-12:12pm

cottonwood seedlings. Canopy closure in this association ranges from 40-65%. The herbaceous layer is diverse and includes sword fern, miner's lettuce, bedstraw, and buttercup among other species.

Dead wood habitat as snags or dead/downed woody debris is present throughout the site. Most of the dead wood is Oregon ash and willow. However, many large cottonwood trees have fallen within the last year or two providing downed wood habitat for foraging birds. Where this wood occurs it is provides security and resting areas for amphibians and reptiles and foraging areas for insect gleaning birds.

1.5.1.2 Description of the Upland Meadow (UM) Habitat

The north shore includes a narrow strip of sandy beach backed by mounded dredge material from the Columbia River. It is sparsely vegetated with weedy species such as dock, plantain, and various forbs, such as Canada thistle. Young cottonwood trees with an understory dominated by Himalayan blackberry have colonized what are likely the older spoils. This area provides wildlife habitat value for foraging birds, such as swallows and several species of sparrow as well as potential nesting areas for turtles. Raptors and insect gleaning upper canopy birds, such as warblers and chickadees, also use this area for foraging and resting.

Upland meadow also occurs along powerline rights of way and is dominated by either grasses and forbs or by extensive stands of Himalayan blackberry. Cattle grazing maintains herbaceous vegetation at low height, and in some instances, also maintains seedling overstory trees, such as ash and cottonwood, at a less than 2-foot (seedling) height. Vegetative cover approaches 100%. Dead wood habitat is essentially non-existent within this habitat type. The few logs that are available are small, less than four feet long, but are used by garter snakes as resting and hiding habitat.

1.5.1.3 Beach or Shoreline Habitat (BH)

Approximately 33.44 acres of sandy beach form the northern and southern boundaries of the island. This habitat varies in size because of tidal and dam controlled water elevations. Along the north shore waterfowl use the area for loafing and white-crowned sparrows forage in the scattered shrubs at the upland edge of the shore. Bald eagle have been observed flying over this area and, on occasion, taking an injured duck for food. Double-crested cormorants can be seen on old pilings but also on logs on both shorelines. Great blue heron and shorebird tracks have been observed in this habitat. An active osprey

nest was located on a transmission tower that sits in an open meadow near the north shoreline which is close to and connected to the Columbia River, and the adult pair and a juvenile osprey were observed in the fall of 1998.

1.5.1.4 Description of Wetland Habitats

Emergent Wetlands (EM)

Emergent wetlands occur throughout the site in open areas along the north shoreline, within meadow habitats (e.g. powerline corridors), and within forested habitat. These wetlands function as open water, mud flat, or meadow habitats for wildlife. For example, Wetland 4 has an open water component for much of the year, but dries down in mid to late summer. In the late fall and winter Wetland 4 provides seed heads of smartweed, beggarstick, and reed canarygrass within the ponded area for foraging waterfowl. Open water with emergent vegetation also provides suitable breeding and rearing areas for amphibians and aquatic invertebrates. In late summer, shorebirds (e.g. spotted sandpiper) forage in the dried mud bottom of the ponded area; and passerines, such as house finch and American goldfinch, forage on the reed canarygrass and flowering plants within the vegetated area, or meadow habitat, surrounding the dried pond bottom.

Several emergent wetland areas, which include an open water component during most or all of the year, are connected to the Oregon slough or the Columbia River providing habitat for a variety of fish and other aquatic dependent species. These wetlands are often associated with vegetation that has been disturbed. Reed canarygrass is present in varying positions of dominance within most of these emergent wetland complexes. Within the forest habitat most of the emergent wetlands are associated with willow, Oregon ash, or cottonwood/willow/ash plant associations. In some instances downed logs occur within this habitat providing resting areas for waterfowl when water is impounded during the winter and early spring.

Reed canarygrass is also the common dominant within emergent wetlands found in the pasture areas in the central portion of the site. These wetland areas function as wetland meadow habitat, primarily during the summer months, for wildlife providing foraging opportunities for swallows and passerines. Other plants include various grasses, polygonum, and beggarstick. Ground cover within this habitat

approaches 100%. Where water ponds during winter and spring months, bare ground areas are present in the summer. Dead wood is also lacking within this habitat type.

Wetland Forest (WF)

The wetland forest plant community is very similar to that of the riparian or upland forest. The difference between the two is based upon the dominant plants, which are either obligate wetland species or are more strongly associated with wetlands than uplands. Throughout the site, wetland forests occur mostly on the south side of the island in the depressions areas between the pile dikes. The canopy in these areas tends to be rather open with an estimated 40-50% overstory canopy closure.

Pacific willow, Oregon ash, and black cottonwood are all present. Shrubs may include Pacific ninebark and snowberry with stinging nettle, moneywort, touch-me-not, and other wetland associated herbaceous plants present. Standing dead wood (snags), downed logs, and live defective trees are a common component of this habitat type.

1.5.1.3 TES Plants

Information received from the Oregon Natural Heritage Program (ONHP) and the U.S. Fish and Wildlife Service (USFWS) listed no rare or otherwise protected plant species known to occur on West Hayden Island. A rare plant survey has not been conducted on West Hayden Island, but is scheduled for late spring/early summer 1999. These agencies did, however, provide a list of seven TES plants observed within a 5-mile radius of the project site. This list was reviewed by a botanist to determine if suitable habitat conditions for these plants exists on site. In addition, the botanist checked museum specimens of the most likely species to occur on site to aide in field identification.
TES plant surveys will be conducted in June and July 1999 to attempt location and identification of the species listed by the agencies and any other rare plants that may occur on site.

Table 1. Summary of General Plant Species Identified on West Hayden Island Site, 1998.
(Refer to Wetland Delineation Baseline Report for additional species)

Common Name	*Scientific Name*	Habitat Association
TREES		
Black cottonwood	*Populus balsamifera trichocarpa*	RF, WF
Oregon ash	*Fraxinus latifolia*	RF, WF

Pacific willow	*Salix lasiandra*	WF
red alder	*Alnus rubra*	UF, WF
SHRUBS		
evergreen blackberry	*Rubus laciniatus*	RF
Himalayan blackberry	*Rubus discolor*	RF, WF, UM, BH
Pacific ninebark	*Physocarpus capitatus*	RF, WF
prickly currant	*Ribes lacustre*	RF, WF
red elderberry	*Sambucus mexicana*	RF
red-osier dogwood	*Cornus stolonifera*	RF, WF
snowberry	*Symphoricarpos albus*	RF, WF
trailing blackberry	*Rubus ursinus*	RF
HERBS		
beggarstick	*Bidens sp.*	EM
bittercress	*Cardamine oligosperma*	UM
bull thistle	*Cirsium vulgare*	UM
burdock	*Arctium lappa*	RF
buttercup	*Ranunculus sp.*	UM, RF
Canada thistle	*Cirsium arvense*	UM, RF
deadly nightshade	*Solanum dulcamara*	RF
English plantain	*Plantago lanceolata*	WM, EM, UM
horsetail	*Equisetum spp.*	EM
mint	*Mentha sp.*	EM/WM
moneywort	*Lysimachia nummularia*	EM, RF
mustard sp.	*Cruciferae sp.*	UM
one-sided sedge	*Carex unilateralis*	UM, WM
pineapple weed	*Matricaria matricarioides*	UM,
reed canarygrass	*Phalaris arundinacia*	WM
sedge sp.	*Carex sp.*	EM
smartweed	*Polygonum persicaria*	EM, UM
soft rush	*Juncus effusus*	EM
stinging nettle	*Urdica dioica*	RF, WF
tansy ragwort	*Senecio jacobea*	RF, UM
teasel	*Dipsacus sylvestris*	UM
touch-me-not	*Impatiens ecalcarata.*	RF,WF,EM
Watson's willoweed	*Epilobium watsonii*	RF
western dock	*Rumex occidentalis*	RF, UM
white clover	*Trifolium repens*	UM
wooly mullein	*Verbascum thapsus*	UM

1.5.2 Wildlife

1.5.2.1 Wildlife observations

Wildlife species observed or known to occur on West Hayden Island include over 80 species of breeding, resident, and migratory birds such as black-throated grey warbler, tree swallow, American robin, hermit and Swainson's thrush; red-tailed hawk, several species of sparrow, winter and Bewick's wren, American goldfinch, house and purple finch, and waterfowl, such as mallard, Canada goose, American and European wigeon, bufflehead, and wood duck. Table 1 presents a list of common and scientific names. Waterfowl are plentiful during the late fall, winter, and early spring months when wetland habitats are full. Mallard breed on site. Cavity nesting species (tree swallows, downy woodpecker, house wrens, chickadees, and nuthatches) nest within standing snags and live trees that are dispersed throughout the site. Osprey nest on the tall powerline towers near the north shoreline of the island. A breeding osprey pair was observed in the spring of 1998 and a juvenile with its parents was observed in September 1998 in the area of the active nest.

Mammals observed on site include raccoon, coyote, black-tailed deer, mole, and brush rabbit. Several amphibian species breed and live on the island including Pacific chorus frog and long-toed salamander. Egg packets, tadpoles, and larvae of both species were observed in February and March 1998. One wetland pond supported over 2500 egg masses of the long-toed salamander. Few common garter snakes were observed in 1998. However, both adults and juveniles of this species were located in several locations on the site.

Overhanging vegetation associated with the emergent wetland habitat provides thermal control for water temperatures, food for insects, hiding areas for amphibians, and likely reduces the effect of evaporation on the longevity of the standing water. Snags, dead top trees, and downed logs provide resting areas for wood duck and other waterfowl.

Invertebrate wildlife species observed on site include several species of Lepidoptera (butterflies) and Heterocera (mostly moths), including common species such as cabbage white, satyr anglewing, painted lady, mylitta crescent, and spring azure butterflies. Wetlands support a high diversity of invertebrate life, including mayflies, dragon and damsel flies, daphne, scud, water beetles, water boatman, midge fly,

phantom midges, fairy shrimp, and water striders. These species provide a diversity of food for foraging birds and fish.

Plants provide a diversity of food sources for wildlife. Flowers provide a needed source of early protein for breeding birds in early and late spring, while flower nectar and seed production provide food later in the growing season for juvenile wildlife and migratory birds during early to late summer and fall. Plants also provide the necessary structure for nesting and hiding cover and shade protection from hot summer temperatures. The proximity of perennial water in the slough and the Columbia River is important especially during times of low rainfall, such as during the summer of 1998. Mudflats visible after the open water component of emergent wetlands has dried down provide foraging opportunities for migrating shorebirds during the fall. This is an important source of insect protein needed for extended flight periods.

1.5.2.2 TES Wildlife Species

Threatened, Endangered, Candidate and Sensitive Species: The U.S. Fish and Wildlife Service and the Oregon Natural Heritage Program provided a list of fifteen state and federal endangered, threatened, candidate, or other species of concern observed within a 5-mile radius of West Hayden Island. Of these, five species have been verified on site. These include bald eagle (Federal and State Threatened), painted turtle (State Critical), pileated woodpecker (State Vulnerable), little willow flycatcher (Federal Species of Concern and State Vulnerable), and bank swallow (State Undetermined). The Aleutian Canada goose (Federal Threatened, State Endangered), peregrine falcon (Federal and State Endangered), and Columbia white-tailed deer (Federal Endangered) have been observed within a five-mile radius of the site.

Table 2. Summary of Wildlife Observations, West Hayden Island Site, 1995-1998.

Common Name	*Scientific Name*	Habitat Association	Notes
BIRDS			
Accipiter, unknown	*Accipiter sp*	RF	
American crow	*Corvus brachyrhynchos*	UM, RF	
American goldfinch	*Carduelis tristis*	UM	nesting
American kestrel	*Falco sparverius*	UM. RF	
American pipit	*Anthus rubescens*	EM mudflat	migratory
American robin	*Turdus migratorius*	UM, RF, WM	resident
American wigeon	*Anas americana*	EM	
bald eagle	*Haliaeetus leucocephalus*	RF, UM	
band-tailed pigeon	*Columba fasciata*	RF	
bank swallow	*Riparia riparia*	EM	summer forager
barn swallow	*Hirundo rustica*	EM, UM, UF openings	nesting
black-capped chickadee	*Parus atricapillus*	RF, WF	resident
black-crowned night heron	*Nycticorax nycticorax*	EM	
belted kingfisher	*Megaceryle alcyon*	EM	resident
Bewick's wren	*Thryomanes bewickii*	RF	resident
black-headed grosbeak	*Pheucticus melanocephalus*	RF, UM	nesting
black-throated gray warbler	*Dendroica nigrescens*	RF	nesting
brown creeper	*Certhia americana*	RF	resident
brown-headed cowbird	*Molothrus ater*	UM, RF, WM	summer resident
bufflehead	*Bucephala albeola*	EM	
Canada goose	*Branta canadensis*	EM, WM, BH	
Caspian tern	*Sterna caspia*	Columbia Rr. shoreline	
cedar waxwing	*Bombycilla cedrorum*	RF	resident
cliff swallow	*Hirundo fulva*	UM	summer resident
common bushtit	*Psaltriparus minimus*	RF	resident
common yellowthroat	*Geothlypis trichas*	EM, RF, UM, WM	nesting
dark-eyed junco	*Junco hyemalis*	RF	resident
double-crested cormorant	*Phalacrocorax auritus*	BH, Columbia Rr. & Oregon Slough	resident
downy woodpecker	*Picoides pubescens*	UF, RF	resident
European starling	*Sturnus vulgaris*	UM, RF, WM	resident
European wigeon	*Anaa penelope*	EM	
fox sparrow	*Passerella Iliaca*	RF shrub edge	winter resident
gadwall	*Anas strepera*	EM-OW	winter resident
golden-crowned kinglet	*Regulus satrapa*	RF	resident
golden-crowned sparrow	*Zonotrichia atricapilla*	UM, WM, RF	winter resident
great blue heron	*Ardea herodias*	EW, WM, UM, RF, BH	
great horned owl	*Bubo virginianus*	RF	
greater scaup	*Aythya marila*	EW	
hairy woodpecker	*Picoides villosus*	RF, WF	resident
hermit thrush	*Catharus guttatus*	RF	migrant, winter resident
hooded merganser	*Lophodytes cucullatus*	EM, open water	winter resident
house finch	*Carpodacus mexicanus*	WM, WF, RF	resident

house wren	*Troglodytes aedon*	RF	many, resident
killdeer	*Charadrius vociferus*	WM,EM, UM	
lesser scaup	*Aythya affinis*	EM (open water)	winter resident
little willow flycatcher	*Empidonax traillii brewsteri*	UM (north shoreline)	summer res./nesting
mallard	*Anas platyrhynchos*	EW, WM, UM, BH	
mourning dove	*Zenaida macroura*	RF, UF, UM	nesting
northern flicker	*Colaptes auratus*	RF, UM	resident
northern oriole	*Icterus galbula*	RF, UM edge	nest bldg. May/ feeding on nettle flowers
northern pintail	*Anas acuta*	EW, UM, WM	
northern shrike	*Lanius excubitor*	Beach at west end	likely migrant
orange-crowned warbler	*Vermivora celata*	RF	
osprey	*Pandion haliaetus*	UM near slough, BH	foraging over slough and Columbia River
Pacific-slope flycatcher	*Empidonax difficilis*	RF	
pileated woodpecker	*Dryocopus pileatus*	RF, WF	
purple finch	*Carpodacus purpureus*	WM, WF, RF	resident, poss. nesting
red-breasted nuthatch	*Sitta canadensis*	RF	resident
red-breasted sapsucker	*Sphyrapicus ruber*	RF	foraging, poss. resident
redhead	*Aythya americana*	EM	
red-tailed hawk	*Bueto jamaicensis*	RF, UM, WM,EM	resident, 2 active nests
rock dove	*Columba livia*	UM	
rough-winged swallow	*Stelgidopteryx serripennis*	EW, UM, WM	summer user
ruby-crowned kinglet	*Regulus calendula*	RF, WF, EM	resident
ruddy duck	*Oxyura jamaicensis*	EM	
sharp-shinned hawk	*Accipiter striatus*	RF	
song sparrow	*Melospiza melodia*	RF, UM	resident
spotted sandpiper	*Actitis macularia*	EM mudflats	migrant
spotted towhee	*Pipilo erythrophthalmus*	RF, UM	resident
Swainson's thrush	*Catharus ustulatus*	RF	nesting
Townsend's warbler	*Dendroica townsendii*	RF, WF	poss. resident
tree swallow	*Tachycineta bicolor*	EW, UM, WM, RF	summer resident
varied thrush	*Ixoreus naevius*	RF, WF	migrant, winter res.
violet-green swallow	*Tachycineta thalassina*	UM, RF	summer user
warbling vireo	*Vireo gilvus*	RF, WF, EM	poss. summer nester
western tanager	*Piranga ludoviciana*	RF	summer resident
western meadowlark	*Sturnella neglecta*	UM	
western wood pewee	*Contopus sordidulus*	RF, UM	summer res./nesting
white-crowned sparrow	*Zonotrichia leucophrys*	UM, WM, BH	resident
white-throated sparrow	*Zonotrichia albicollis*	RF/WF/EM interface	poss.winter resident
Wilson's warbler	*Wilsonia pusilla*	RF, WF	summer nester
winter wren	*Troglodytes troglodytes*	RF	resident
wood duck	*Aix sponsa*	EW/RF complex	nesting
yellow-rumped warbler	*Dendroica coronata*	RF	resident/nesting
yellow warbler	*Dendroica petechia*	RF,EM	summer res./nesting
MAMMALS			
beaver	*Castor canadensis*	north shoreline	resident
black-tailed deer	*Odocoileus hemionus*	RF, WF, UM	individuals, adult/juv.
brush rabbit	*Sylvilagus backmani*	RF,UM, WM	
coyote	*Canis latrans*	RF, UM	individual, scat, tracks
deer mouse	*Peromyscus maniculatus*	UM, RF, WM	

mole sp.	*Scapanus*	UM, RF	sign
Townsend's vole	*Microtus townsendii*	UM	sign
raccoon	*Procyon lotor*	ALL	sign, indivuals
HERPETOFAUNA			
Amphibians			
long-toed salamander	*Ambystoma macrodactylum*	EM, RF, WF	breeding
Pacific chorus frog	*Pseudacris regilla*	EM, RF, WF	breeding
Reptiles			
common garter snake	*Thamnophis sirtalis*	WM, UM, RF	breeding
painted turtle	*Chrysemys picta*	EM, UM, sandy beaches	indiv. observed in 1995
FISH			
bluegill	*Lepomis macrochirus*	EM	
carp	*Cyprinus carpio*	EM	
3-spined stickleback	*Gasterosteus aculeatus*	EM	
LEPIDOPTERA			
cabbage white	*Pieris rapae*	UM, WM	(May 98)
mylitta crescent	*Phyciodes mylitta*	UM, WM	
painted lady	*Vanessa cardui*	UM, WM	
red admiral	*Vanessa atalanta rubria*	UM, WM	
satyr anglewing	*Polygonia satyrus*	UM, WM, RF	
spring azure	*Celastrina argiolus echo*	UM, WM	
western white	*Pieris occidentalis*	UM	
woodnymph sp.	*Pegala sp.*	UM	
unknown moths	*Heteracera spp.*	RF, WF	
INVERTEBRATES			
backswimmer		EM	
fairy shrimp	*Streptocephalus scalii*	EM (#2)	
midge fly	*chironomidae*	EM	
phantom midges	*chaoboridae*	EM	
mayflies	*Ephemerata*	EM	
water boatman	*Corixidae*	EM	

Note: This list is not an all inclusive list of species that do or may occur on the project site.

References

Bureau of Land Management. April 24-28, 1995. Conservation of Neotropical Migratory Birds. Summary of research papers and training materials for National Training Center Course Number 1730-35A. Vancouver, Washington.

Cummins, Kenneth W. et.al. January 1985. Field Procedures for Analysis of Functional Feeding Groups of Stream Macroinvertebrates. Oregon State University, Corvallis, Oregon.

Dornfeld, Ernst J. 1980. The Butterflies of Oregon. Timber Press, Forest Grove, Oregon.

Fishman Environmental Services. 1994. West Hayden Island Development Program Technical Background Paper, Environmental Conditions. Prepared for the Port of Portland, Portland, Oregon.

Hafele, Rick and Scott Roederer. 1987. An Angler's Guide to Aquatic Insects and Their Imitations. Spring Creek Press, Estes Park, Colorado.

Hitchcock, C. Leo and Arthur Cronquist. 1973. Flora of the Pacific Northwest. University of Washington Press, Seattle, Washington.

Ingles, Lloyd. G. 1965. Mammals of the Pacific States. Stanford University Press, Stanford, California.

Leonard, William P. et al. 1993. Amphibians of Washington and Oregon. Seattle Audubon Society, Seattle, Washington.

Lev, Esther and Michael Jennings. 1986. Field notes taken for a Goal 5 Inventory for the City of Portland. Portland, Oregon.

National Geographic Society. 1987. Second Edition. Field Guide to Birds of North America. National Geographic Society, Washington, D.C.

Northwest Ecological Research Institute. January 1994. Field test edition of a Field Manual of Oregon Amphibians. Published by the U.S. Forest Service, Bureau of Land Management, and the Oregon Department of Fish and Wildlife. Portland, Oregon.

Northwest Ecological Research Institute. 1995. Various field identification sheets for painted turtle data collection. Provided by Teresa DeLorenzo to M. Smyth. Portland, Oregon.

Nussbaum, Ronald A., Edmund D. Brodie, Jr., and Robert M. Storm. 1983. Amphibians and Reptiles of the Pacific Northwest. University of Idaho Press. Moscow, Idaho.

Oregon Natural Heritage Program. Letter to M. Smyth from Connie Levesque, Data Services Assistant, dated March 2, 1998.

Oregon Natural Heritage Program. 1998. Rare, Threatened, and Endangered Species of Oregon. Oregon Natural Heritage Program, Portland, Oregon.

Portland, City of. November 1995. West Hayden Island Goal 5 Natural Resources Inventory. Bureau of Planning. Portland, Oregon.

Portland, City of. 1986. Columbia Corridor Inventory of Wetlands, Water Bodies, and Wildlife Habitat Areas. City of Portland Bureau of Planning, Portland, Oregon.

Portland General Electric. October 1985. West Hayden Island Habitat Evaluation. Prepared by Portland General Electric in cooperation with U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, Oregon Department of Fish and Wildlife, and the Audubon Society of Portland.

Pyle, Robert M. 1981. The Audubon Society Field Guide to North American Butterflies. Alfred A. Knopf, Inc. New York City, New York.

Sharp, P.L. Field notes and personal communication. April 1998.

Smyth, Maurita. 1991, Revised 1992. Historic Distribution of Natural Resources in Multonomah County, Oregon. Prepared under contract to Multonomah County Department of Environmental Services. Portland, Oregon.

Smyth, Maurita. August 29, 1995. Final Baseline Report for West Hayden Island, Goal 5 Inventory and Assessment. City of Portland Bureau of Planning. Portland, Oregon.

U.S. Fish and Wildlife Service. Letter from Gary S. Miller, January 2, 1998 providing information on potential Threatened and Endangered species.

RARE, THREATENED, AND ENDANGERED PLANT SPECIES SURVEY

WEST HAYDEN ISLAND PROJECT PORTLAND, OREGON

Prepared for

Port of Portland

Portland, Oregon

Prepared by

Loverna Wilson
LOVERNA WILSON, ENVIRONMENTAL CONSULTANT
P.O. Box 2284
Corvallis, Oregon 97339-2284

August 1999

RARE, THREATENED AND ENDANGERED SPECIES SURVEYS: WEST HAYDEN ISLAND PROJECT, PORTLAND, OREGON

Prepared August 30, 1999, for Port of Portland, Portland, OR
By Loverna Wilson, Environmental Consultant, (541) 758-3403

INTRODUCTION

When the Endangered Species Act was passed in 1973, the protection of rare animals and plants from extinction became a national concern. Since passage of the act, studies have been conducted to determine which species are threatened or endangered, and therefore need protection. Plants such as the species considered in this report were originally placed on one or more state or federal lists (ONHP 1998b), or are currently being evaluated by Oregon Natural Heritage Program (ONHP), The Nature Conservancy (TNC), Oregon Department of Agriculture (ODA), Oregon Department of Fish and Wildlife (ODFW), or the US Fish and Wildlife Service (USFWS). These species are of interest because they have been infrequently collected or because local or regional botanists feel that there is inadequate information on their distribution or abundance. As additional data on these species become available, it may be determined that some of them are common. Others may be truly rare or their habitats may be in jeopardy. All sighting reports of any of the species listed by ONHP, ODA, ODFW, or USFWS will assist in determining their current status.

The Port of Portland is preparing to develop some areas on West Hayden Island to accommodate industrial growth. There are seven protected plant species or species of concern that have been found in the vicinity of the Columbia River near Portland (ONHP 1998a). Prior to construction the Port has contracted to have the areas of proposed impact surveyed for the presence of any populations of these species.

STUDY AREA

The study area encompasses the undeveloped area on West Hayden Island in the Columbia River, west of the I-5 Interstate Bridge. The island is topographically undulating, and the lowest depressions and swales support wetland communities. Several decades ago, there was a riding stable and bridle paths on West Hayden Island. Today it currently is used to graze cattle. It is also used as a repository for dredge materials.

Wetland Plant Communities

Wetland communities on the site include reed canarygrass swales and depressions, shallow ponds with emergent and/or aquatic vegetation, and a few ponds with open water as well as vegetated shallows. Some of the ponds have concentric rings of vegetation, with reed canarygrass on the upper banks, emergent wetland communities on the shallow edges of the pond, and aquatic communities in the deepest parts of the ponds. Black cottonwood, Oregon ash, and/or Pacific willow usually line the edges of the wetland ponds and swales.

Reed canarygrass grasslands. Reed canarygrass is the dominant species in many of the swales and depressions on the site, and frequently occupies large areas of the ponds as well. Creeping Jennie is the most frequently occurring associated species, and marsh seedbox and swamp smartweed are also common.

Emergent wetland ponds. As the water recedes in these shallow ponds, dense emergent and aquatic communities develop around the edges. By mid-summer there is little or no open water left in the shallowest of these ponds. The most commonly occurring emergent species are swamp smartweed, lady's thumb, marsh seedbox, peplis, and reed canarygrass.

Ponds with open water. These ponds develop a plant community dominated by aquatic species when water is present long enough during the growing season. The most common species is sago pondweed. Other aquatics include curly pondweed, water starwort, common duckweed, and leafy pondweed. The dominant emergent species are water plantain, creeping spikerush, and water smartweed.

Upland Plant Communities

The primary upland communities are bottomland hardwood forests, thickets of Himalayan blackberry, and pioneer grass/forb communities revegetating the dredge material sites.

Bottomland hardwood forests. Black cottonwood and/or Oregon ash dominate the canopy, often accompanied by Pacific willow. The dominant understory species are common snowberry and trailing blackberry.

Himalayan blackberry thickets. Himalayan blackberry thickets grow along roadsides, edges of forested areas, and any other opening with a history of disturbance. Some areas are covered with a monoculture of blackberries. Other thickets have additional species such as common tansy, common wormwood, climbing nightshade, and Canada thistle.

Grass/forb communities. These communities begin developing on a newly cleared site or a new deposit of dredge materials. The earliest species are often pigweeds and other weedy annuals. As time passes, a denser and more diverse community of mixed grasses and forbs replaces them. Common grasses in the more mature sites are cheatgrass, perennial ryegrass, orchardgrass, rat-tail fescue, hedgehog dogtail, and ripgut brome. Forbs include Queen Anne's lace, Canada thistle, bull thistle, chicory, English plantain, St. John's wort, rough hawksbeard, Spanish clover, least hop clover, and great burdock.

METHODS

Information Review

The Oregon Natural Heritage Program (ONHP) was contacted to obtain a listing of any known and potential sightings of sensitive plant species within a five-mile radius of West Hayden Island (ONHP 1998a). The list provided by ONHP includes listed and proposed threatened and endangered species, as well as federal species of concern and state sensitive species. Seven species were identified:

Scientific Name	Common Name	Flowering Dates
Artemisia lindleyana	Columbia River wormwood	Jul-Sep
Carex comosa	bearded sedge; bristly sedge	May-Jul
Cimicifuga elata	tall bugbane	Jun-Aug
Howellia aquatilis	howellia	May-Aug
Rorippa columbiae	Columbia cress or yellow-cress	May-Aug
Sullivantia oregana	Oregon sullivantia	May-Aug
Wolffia columbiana	Columbia watermeal	Jun-Aug

Information about ranges, habitat requirements, and flowering dates for each of these species was assembled from technical literature and taxonomic keys (listed in References), and from herbarium specimens at the Oregon State University Herbarium. Sensitivity rankings were obtained from ONHP (1998b). This information is provided below for each of the species and is summarized on Table 1.

Artemisia lindleyana (Columbia River wormwood). Status: No federal or state status currently. ONHP: considered but rejected (drop because it is considered at present to be too common or secure to warrant inclusion). Range: Along the Columbia River and its major tributaries from Vancouver east to Idaho and Montana; also along the Frazer and possibly the Yellowstone Rivers. Habitat: Sandy, gravelly, or rocky shores of streams or lakes, below the high-water mark. Flowering period: July-Sep.

Carex comosa (bearded sedge; bristly sedge). Status: No federal or state status currently. TNC: G5 – widespread, abundant and secure throughout its range; SH? – historic, formerly part of the native biota with the implied expectation that it may be rediscovered. ONHP: 2-ex – extirpated from Oregon but more common or stable elsewhere. Range: Disjunct populations in the Pacific States from WA to CA; known historically from Columbia, Multnomah, Deschutes, and Josephine Counties in OR; more common in the eastern states. Habitat: In fresh water marshes, lakeshores, and wet meadows. Flowering period: May-July.

Cimicifuga elata (tall bugbane). Status: Federal: SoC –Species of Concern (taxa for which additional information is needed to support a proposal to list under the Endangered Species Act). State: C – Candidate for listing as threatened or endangered. TNC: G2 – imperiled throughout its range; S2 – imperiled in Oregon. ONHP List 1, taxa threatened with extinction throughout their entire range. Range: West of the Cascades from BC to southern OR. Habitat: In moist, shady woods at lower elevations. Flowering period: June-Aug.

Howellia aquatilis (howellia). Status: Federal: LT – Listed Threatened. No state listing because of federal protection. TNC: G2 – imperiled throughout its range; SH – historic, formerly part of the native biota with the implied expectation that it may be rediscovered. ONHP: 1-ex – taxa threatened with extinction throughout their entire range, presumed extirpated from OR. Range: Northern Willamette Valley; western and northeastern WA; CA, ID, MT. Habitat: Low elevation ponds or sloughs, submersed or partially floating on the surface of slow-moving water. Flowering period: May-Aug.

Rorippa columbiae (Columbia cress; Columbia yellow-cress). Status: Federal: SoC – Species of Concern (taxa for which additional information is needed to support a proposal to list under the Endangered Species Act). State: C – Candidate for listing as threatened or endangered. TNC: G3 – rare, threatened, or uncommon throughout its range; S2 – imperiled in OR. ONHP, List 1, taxa threatened with extinction or presumed to be extinct throughout their entire range. Range: In a few scattered sites in the Pacific States, most of them east of the Cascades. In OR, along the Columbia River and in Harney and Lake Counties. Habitat: Moist areas in gravelly soil, generally along rivers, near springs, or in sites that are vernally wet. Flowering period: May-Aug.

Sullivantia oregana (Oregon sullivantia). Status: Federal: SoC – Species of Concern (taxa for which additional information is needed to support a proposal to list under the Endangered Species Act).). State: C – Candidate for listing as threatened or endangered. TNC: G2 – imperiled throughout its range; S2 – imperiled in Oregon. ONHP List 1, taxa threatened with extinction throughout their entire range. Range: Columbia River Gorge and lower Willamette River, OR, in Clackamas, Columbia, Hood, and Multnomah Counties; also near Skamania, WA. Habitat: On shaded cliffs and ledges or among boulders in areas constantly wet or moist, often under waterfalls or within their spray zone. Flowering period: May-Aug.

Wolffia columbiana (Columbia watermeal). Status: no federal or state status currently. TNC: G5 – widespread, abundant, and secure throughout its range; S1 – critically imperiled in OR. ONHP List 2, taxa threatened with extirpation from the state of OR but more common or stable elsewhere. Range: The interior valleys of western OR, in Benton, Clackamas, Douglas, Jackson, Linn, and Multnomah Counties. Habitat: Floating at surface of water on fresh water ponds, sloughs, and other slow-moving water. Flowering period. June-Aug.

The information obtained during review of the literature enabled the field team to determine which species might have suitable habitat on the study area, and when they would be identifiable. Most sensitive plant species cannot be identified without flowers and/or fruits; therefore, flowering dates were used to determine the timing of the surveys. Aerial photographs and topographic maps were also prepared for use in the field.

Field Surveys

The field surveys were conducted on July 21-22, 1999. The surveys were scheduled to cover the flowering times of the species of concern that could potentially occur in the study area, according to taxonomic literature and herbarium data. The survey was conducted by two biologists who walked over the site, recording all identifiable species as they progressed. At each of the 39 wetland sites, a more intensive search was conducted because all but one of the species of concern are emergent or aquatic wetland species.

RESULTS

No populations of sensitive species were found during field surveys. It is unlikely that these species would occur on the site, primarily because of the long history of disturbance and resulting displacement of native species and habitats.

There were three genera related to the sensitive species found on the site. A common species of yellow-cress, *Rorippa curvisiliqua* (curve-pod yellow-cress), was found on muddy banks of Benson Pond. *Artemisia absinthium* (common wormwood) grew in most of the grass/forb communities on the site. *Carex deweyana* (Dewey's sedge) was a common component of the bottomland hardwood forests. A list of all species observed on the site is provided in Table 2 at the end of this report.

DISCUSSION

Two species from the original list of seven were eliminated from the survey for the following reasons:

- *Artemisia lindleyana* (common wormwood) was eliminated because it has no federal or state status, and the taxon has been dropped from all lists in the ONHP. It is currently considered common and secure enough to be removed from inclusion.

- *Sullivantia oregana* (Oregon sullivantia) was eliminated because the habitat is not present on West Hayden Island. This species requires rocky habitats that are constantly wet or moist, usually within the spray zone of waterfalls or similar sites.

The five remaining species and the likelihood of being found on the site are discussed below:

- *Carex comosa* (bearded sedge; bristly sedge) grows in scattered areas in the Pacific states. It prefers fresh water, and is found in marshes and wet meadows, habitats that occur on the study site. ONHP believes that it may have been extirpated from OR, but is more common or stable elsewhere. The last recorded sightings were in 1882-1887, on or near Sauvie Island in Multnomah County. No populations were found during this survey. Because of the disturbance to vegetation over the past century, it is unlikely to be found on site.

- *Cimicifuga elata* (tall bugbane) occurs west of the Cascades from BC to southern OR. It grows in moist, shady woods at lower elevations. One known location is along the Columbia Gorge Scenic Highway on a shaded, north-facing slope a few miles from Multnomah Falls. Other populations have been found on

steep, well-vegetated slopes in Douglas fir-bigleaf maple forest stands, or on steep north-facing slopes with seepy areas in old growth conifer forests. No populations and no suitable habitats were found, and it is unlikely to be found on site.

- *Howellia aquatica* (howellia) is federally listed as threatened and has been found in only a few locations in OR, WA, ID, MT, and CA. It was originally found on Sauvie Island in 1879 and 1886, but it is currently thought to be extirpated in OR. It is an aquatic species that occurs in low elevation ponds or sloughs, submersed or partially floating on the surface of slow-moving water. There are many ponds on West Hayden Island, and each of these was searched for this species. Possible habitat may exist on the study area, but decades of grazing may have degraded the ponds' capability for supporting this species. No populations were found on site. The aquatic species found in the ponds are shown in Table 2.

- *Rorippa columbiana* (Columbia cress; Columbia yellow-cress) is found on a few scattered sites in the Pacific states, mostly east of the Cascades. In Oregon, it has been found in along the Columbia River and in Harney and Lake counties. ONHP has one record of a population found on Sauvie Island in 1884. Although a common related yellow-cress, *Rorippa curvisilique*, was found on site, no populations of *Rorippa columbiana* were found. Grazing disturbance, dredge material deposits, tidal influence, and sandy substrate along the shores of the island make it unlikely that this species would be found on site.

- *Wolffia columbiana* (Columbia watermeal) is found in the interior valleys of western OR, in Benton, Clackamas, Douglas, Jackson, Linn, and Multnomah Counties. It floats at the surface of fresh-water ponds, sloughs, and other slow-moving water, often growing with duckweed and algae. Possible habitat may exist on the study area, especially the ponds that have existing duckweed populations. The ponds with open water were examined carefully; however, no populations were found on the site. This species has some likelihood of occurring on the site. It could possibly become established in the future in ponds that are open to the Columbia River. The rarity of the few scattered existing populations, however, make this unlikely.

TABLE 1 Sensitive Plant Species that May Occur on the West Hayden Island Site

Scientific Name / Common Name	Status FWS	TNC	ODA	ONHP	Range	Habitat	Flowering Period
Artemisia lindleyana Columbia River wormwood	--	--	--	Considered but rejected	Along the Columbia River and its major tributaries from Vancouver eastward to Idaho and Montana; also along the Frazer and possibly the Yellowstone Rivers.	Sandy, gravelly, or rocky shores of streams or lakes, below the high-water mark.	July-Sept.
Carex comosa Bearded sedge, bristly sedge	--	G5 SH?	--	2-ex	Disjunct populations in the Pacific states from WA to CA; known from Columbia, Multnomah, Deschutes, and Josephine counties in OR; more common in the eastern states.	In fresh water; marshes, lakeshores, and wet meadows.	May-July
Cimicifuga elata Tall bugbane	SoC	G2 S2	C	1	West of the Cascades from BC to southern OR.	In moist, shady woods at lower elevations.	June-Aug.
Howellia aquatilis Howellia	LT	G2 SH	--	1-ex	Northern Willamette Valley; western and northeastern WA; CA, ID, MT.	Low elevation ponds or sloughs, submersed or partially floating on the surface of slow-moving water.	May-Aug.
Rorippa columbiae Columbia cress, yellow-cress	SoC	G3 S3	C	1	In a few scattered sites in the Pacific States, most of them east of the Cascades. In Oregon, along the Columbia River and in Harney and Lake counties.	Moist areas in gravelly soil, generally along rivers, near springs, or in sites that are vernally wet.	May-Aug.
Sullivantia oregana Oregon sullivantia	SoC	G2 S2	C	1	Columbia River Gorge and lower Willamette River, OR in Clackamas, Columbia, Hood, and Multnomah counties; also near Skamania, WA.	On shaded cliffs and ledges or among boulders in areas constantly wet or moist, often under waterfalls or within their spray zone.	May-Aug.
Wolffia columbiana Columbia watermeal	--	G5 S1	--	2	The interior valleys of western OR, in Benton, Clackamas, Douglas, Jackson, Linn, and Multnomah counties.	Floating at surface of water on fresh water ponds, sloughs, and other slow-moving water.	June-Aug.

Notes:

Status abbreviations:

U.S. Fish and Wildlife Service (FWS) federal ranks: LT= listed as a threatened species; SoC= species of concern (taxa for which additional information is needed to support a proposal to list under the Endangered Species Act (ESA)

The Nature Conservancy (TNC) ranks: G2= imperiled throughout its range; G3= rare, threatened or uncommon throughout its range; G5= widespread, abundant and secure throughout its range; S1= critically imperiled in Oregon; S2= imperiled in Oregon; S3= either very rare and local throughout its range in Oregon or found locally (even abundantly) in a restricted range in Oregon; SH= historic, formerly part of the native biota with the implied expectation that it may be rediscovered

Oregon Department of Agriculture (ODA) statuses: C= candidate for listing as threatened or endangered

Oregon Natural Heritage Program (ONHP) lists: 1= taxa threatened with extinction or presumed to be extinct throughout their entire range; 2= taxa threatened with extirpation or presumed to be extirpated from the state of Oregon; ex= extirpated

Sources:

ONHP 1998

Hitchcock et al. 1994

Table 2 List of Plant Species Observed During Field Surveys, July 21-22, 1999.
A = aquatic; F = forb; G = grass/grass-like; S = shrub; T = tree

Form	Common Name	Scientific Name
A	common duckweed; water lentil	*Lemna minor*
A	curly pondweed	*Potamogeton crispus*
A	leafy pondweed	*Potamogeton foliosus*
A	marsh seedbox	*Ludwigia palustris*
A	pepperwort; clover-fern	*Marsilea vestita*
A	purple-fringed riccia	*Ricciocarpos natans*
A	sago pondweed	*Potamogeton pectinatus*
A	water starwort	*Callitriche sp.*
F	alsike clover	*Trifolium hybridum*
F	American hedge-hyssop	*Gratiola neglecta*
F	American speedwell	*Veronica americana*
F	autumn willow-weed	*Epilobium paniculatum*
F	beggar-ticks	*Bidens sp.*
F	bird's-foot trefoil	*Lotus corniculatus*
F	bitter dock	*Rumex obtusifolius*
F	bull thistle	*Cirsium vulgare*
F	butterfly mullein	*Verbascum blattaria*
F	Canada thistle	*Cirsium arvense*
F	catchweed bedstraw	*Galium aparine*
F	celery-leaved buttercup	*Ranunculus sceleratus*
F	centaury	*Centaurium umbellatum*
F	chicory	*Cichorium intybus*
F	climbing nightshade	*Solanum dulcamara*
F	clustered dock	*Rumex conglomeratus*
F	common cocklebur	*Xanthium strumarium*
F	common plantain	*Plantago major*
F	common tansy	*Tanacetum vulgare*
F	creeping buttercup	*Ranunculus repens*
F	creeping Jennie	*Lysimachia nummularia*
F	curly dock	*Rumex crispus*
F	curve-pod yellow-cress	*Rorippa curvisiliqua*
F	dandelion	*Taraxacum officinale*
F	English plantain	*Plantago lanceolata*
F	evening-primrose	*Oenothera sp.*
F	false pimpernel	*Lindernia anagalidea*
F	field mint	*Mentha arvensis*
F	filaree	*Erodium cicutarium*
F	flannel mullein	*Verbascum thapsus*
F	great burdock	*Arctium lappa*
F	heal-all	*Prunella vulgaris*
F	hop clover	*Trifolium procumbens*
F	hyssop loosestrife	*Lythrum hyssopifolia*
F	inflated giant clover	*Trifolium vesciculosum*
F	Japanese mazus	*Mazus japonicus*
F	Jerusalem oak	*Chenopodium botrys*
F	lady fern	*Athyrium filix-femina*

F	lady's thumb	*Polygonum persicaria*
F	large-leaf avens	*Geum macrophyllum*
F	least hop clover	*Trifolium dubium*
F	low cudweed	*Gnaphalium uliginosum*
F	mad-dog skullcap	*Scutellaria lateriflora*
F	marsh speedwell	*Veronica scutellata*
F	marshpepper smartweed	*Polygonum hydropiper*
F	mayweed	*Anthemis cotula*
F	pearly-everlasting	*Anaphalis margaritacea*
F	pennyroyal	*Mentha pulegium*
F	peplis	*Peplis portola*
F	pineapple weed	*Matricaria matricarioides*
F	poison-hemlock	*Conium maculatum*
F	prostrate knotweed	*Polygonum aviculare*
F	purple loosestrife	*Lythrum salicaria*
F	Queen Anne's lace	*Daucus carota*
F	rough hawksbeard	*Crepis setosa*
F	sand plantain	*Plantago psyllium*
F	shepherd's purse	*Capsella bursa-pastoris*
F	skunkweed	*Navarretia squarrosa*
F	small-flowered forget-me-not	*Myosotis laxa*
F	sneezeweed	*Helenium autumnale var. grandiflorum*
F	Spanish clover	*Lotus purshianus*
F	St. John's wort	*Hypericum perforatum*
F	stinging nettle	*Urtica dioica*
F	sweet rocket	*Hesperis matronalis*
F	sweet-cicely	*Osmorhiza chilensis*
F	swordfern	*Polystichum munitum*
F	tansy ragwort	*Senecio jacobaea*
F	teasel	*Dipsacus sylvestris*
F	tiny vetch	*Vicia hirsuta*
F	tumble knapweed	*Centaurea diffusa*
F	wall bedstraw	*Galium parisiense*
F	wall lettuce	*Lactuca muralis*
F	wapato	*Sagittaria latifolia*
F	water parsley	*Oenanthe sarmentosa*
F	water plantain	*Alisma plantago-aquatica*
F	water smartweed	*Polygonum amphibium*
F	marsh smartweed	*Polygonum hydropiperoides*
F	Watson's willow-weed	*Epilobium watsonii*
F	western buttercup	*Ranunculus occidentalis*
F	yarrow	*Achillea millefolium*
F	yellow iris	*Iris pseudacorus*
F	yellow parentucellia	*Parentucellia viscosa*
G	annual bluegrass	*Poa annua*
G	barnyard grass	*Echinochloa crusgalli*
G	California oatgrass	*Danthonia californica*
G	Canada bluegrass	*Poa compressa*
G	cheatgrass	*Bromus tectorum*
G	colonial bentgrass	*Agrostis tenuis*

G	creeping spikerush	*Eleocharis palustris*
G	Dewey's sedge	*Carex deweyana*
G	fowl bluegrass	*Poa palustris*
G	hedgehog dogtail	*Cynosurus echinatus*
G	Italian rygrass	*Lolium multiflorum*
G	jointed rush	*Juncus articulatus*
G	Kentucky bluegrass	*Poa pratensis*
G	knotgrass	*Paspalum distichum*
G	least spikerush	*Eleocharis acicularis*
G	meadow barley	*Hordeum brachyantherum*
G	orchardgrass	*Dactylis glomerata*
G	ovate spikerush	*Eleocharis ovata*
G	perennial ryegrass	*Lolium perenne*
G	rat-tail fescue	*Festuca myuros*
G	red-root flatsedge	*Cyperus erythrorhizos*
G	reed canarygrass	*Phalaris arundinacea*
G	Ripgut brome	*Bromus rigidus*
G	silver hairgrass	*Aira caryophyllea*
G	slender rush	*Juncus tenuis*
G	soft rush	*Juncus effusus*
G	soft-stem bulrush	*Scirpus validus*
G	spreading bentgrass	*Agrostis stolonifera*
G	straw-colored flatsedge	*Cyperus strigosa*
G	toad rush	*Juncus bufonius*
G	water foxtail	*Alopecurus geniculatus*
G	witchgrass	*Panicum capillare*
S	black hawthorn	*Crataegus douglasii*
S	common snowberry	*Symphoricarpos albus*
S	common wormwood	*Artemisia absinthium*
S	cultivated hawthorn	*Crataegus monogyna*
S	Himalayan blackberry	*Rubus discolor*
S	Pacific willow	*Salix lasiandra*
S	red-osier dogwood	*Cornus stolonifera*
S	trailing blackberry	*Rubus ursinus*
S	wild currant	*Ribes sp.*
T	black cottonwood	*Populus trichocarpa*
T	Oregon ash	*Fraxinus latifolia*
T	red alder	*Alnus rubra*

REFERENCES

Cooke, Sarah Spear, editor. 1997. A field guide to the common wetland plants of western Washington and northwestern Oregon. Seattle Audubon Society, Seattle, WA. 417 pp.

Eastman, Donald C. 1990. Rare and endangered plants of Oregon. Beautiful American Publishing Co., Wilsonville, OR. 194 pp.

Guard, B. Jennifer. 1995. Wetland plants of Oregon and Washington. Lone Pine Publishing, Vancouver, BC. 239 pp.

Hitchcock, C. Leo, and Arthur Cronquist. 1973. Flora of the Pacific Northwest: an illustrated manual. University of Washington Press, Seattle, WA. 730 pp.

Hitchcock, C. Leo, Arthur Cronquist, Marion Ownbey, J. W. Thompson. 1955-1969. Vascular plants of the Pacific Northwest. 5 Volumes. University of Washington Press, Seattle, WA.

Jolley, Russ. 1988. Wildflowers of the Columbia Gorge. Oregon Historical Society Press, Portland, OR. 331 pp.

Meinke, Robert J. 1982. Threatened and endangered vascular plants of Oregon: an illustrated guide. U.S. Fish and Wildlife Srvice, Office of Endangered Species, Region 1, Portland, OR. 352 pp.

Oregon Natural Heritage Program. 1998a. List of plant and animal species from the Oregon Natural Heritage Data Base, March 2, 1998.

Oregon Natural Heritage Program. 1998b. Rare, threatened and endangered plants and animals of Oregon. Oregon Natural Heritage Program, Portland, Oregon.