Appendix D
Candidate Species

Candidate species are species for which there is sufficient information to support a proposal to list them as threatened or endangered, but for which a proposed rule has not yet been prepared.

The U.S. Fish and Wildlife Service (USFWS) prepares a list of federally threatened, endangered, proposed, and candidate species for each county.[1] Two candidate species appear on the list for Multnomah County: streaked horned lark and northern wormwood; and two appear on the list for Clark County: Brush Prairie Mazama pocket gopher and Oregon spotted frog.

STREAKED HORNED LARK (*Eremophila alpestris strigata*)

Species and Habitat Occurrence

Streaked horned larks inhabit open grassland, sparsely vegetated beaches and islands, and agricultural fields; they generally avoid forested areas. The streaked horned lark was historically found from southwestern British Columbia to the Rogue River Valley in Southern Oregon, but in recent years, it has declined sharply in its range. Currently, the streaked horned lark is known to breed in areas with low/sparse grassy vegetation on prairie remnants, airports, beaches, accreted lands, dredge spoil islands, industrial sites, agricultural land, pasture, grass habitat, and mudflats in scattered locations in western Washington and Oregon (NatureServe 2009). Habitat degradation, land conversion and development, nest predation, cowbird parasitism, and human disturbance are some of the limiting factors. The breeding season is from March until early August. Nesting occurs on the ground in sparsely vegetated areas and is highly susceptible to human disturbances (NatureServe 2009).

In Washington, the historical range extended to Clark County; however, recent data indicate that current detections are limited to Pierce, Thurston, Mason, Pacific, Grays Harbor, and Wahkiakum Counties (Stinson 2005), all of which are more than 20 miles from the project area. WDFW (2009) data show that the nearest documented detection of streaked horned larks occurs in Wahkiakum County, more than 40 miles from the project area.

In Oregon, breeding and wintering occurs throughout the Willamette Valley, but is rare in Washington and Multnomah Counties (Center for Biological Diversity et al. 2002). During the winter, most streaked horned larks occur in Linn, Benton, Polk, and Marion Counties, but during a 2004 survey, a substantial group was detected at the Port of Portland on a large area of dredge spoils (Pearson and Altman 2005; Robinson and Moore 2004). A few nesting locations have been documented throughout the Willamette Valley. One of these occurs within the North Portland Industrial Area, about 1 mile outside of the action area (Pearson and Altman 2005; ORNHIC 2007). Twenty six others occur in the northern Willamette Valley in Multnomah County, but these detections are all outside of the action area and the Portland Metro area (Altman 1999; ORNHIC 2007).

[1] Species list for Multnomah County: available at: http://www.fws.gov/oregonfwo/Species/Lists/Documents/County/MULTNOMAH%20COUNTY.pdf . Species list for Clark County available at: http://www.fws.gov/wafwo/speciesmap/CLARK.html.

Suitable habitat for the streaked horned lark is present within open, sparsely vegetated areas in the CRC action area. These potentially suitable areas occur in several urbanized open fields located directly adjacent to I-5 and the seven interchanges associated with this project. These are primarily located in Oregon in the Delta Park area, and in Washington near Leverich Park and the East Mill Plain and East McLoughlin Boulevard interchanges.

Effect Determination

Potentially suitable breeding and wintering habitat occurs in the action area and may be directly affected by construction activities. These areas will be either permanently removed as part of the project or temporarily used as staging areas. Effects to the streaked horned lark are probably limited to impacts on suitable habitat. The habitat located in the action area is not particularly sensitive, as breeding has never been detected in the action area and is unlikely to occur there. If wintering adults occur in the action area and are displaced by the project, effects are likely to be minimal because similar suitable habitat is abundant outside of the action area, and streaked horned larks are not vulnerable during this life stage. For these reasons, the project is ***not likely to impact populations, individuals, or suitable habitat.***

NORTHERN WORMWOOD (*Artemisia campestris* var*. wormskioldii*)

Species and Habitat Occurrence

Northern wormwood, a member of the aster family, is a low-growing, tap-rooted biennial or perennial plant endemic to the Columbia Basin physiographic province. It has crowded basal rosette leaves with two to three linear divisions and slightly smaller stem leaves of similar form. Leaves and other plant tissue are covered with silky hairs. Narrow inflorescences composed of ray (fertile) and disc (sterile) flowers with relatively large involucres appear in April through June (WDNR 1997).

Northern wormwood is normally found on relatively flat terrain, in arid areas of shrub-steppe vegetation on basalt, compacted cobble, and sand. Associated species include sagebrush, bluebunch wheatgrass, bluegrass, whiteleaf scorpionweed, winged dock, Pacific sage, bigleaf lupine, northern buckwheat, tumblemustard, sand beardtongue, and knapweed (WDNR 1997).

There are only two known occurrences of northern wormwood, both of which are located in Washington State: one in Grant County and one in Klickitat County. Both are more than 100 miles from the project area. The Washington Natural Heritage Program database contained only two documented detections of this species, approximately 87 miles to the east of the project area (WNHP 2009). The species is presumed extirpated in Oregon. Historically, northern wormwood populations were found along the Columbia River from Multnomah County to Umatilla County (WDNR 1997).

Suitable habitat is not likely to be present in the action area, as the nearest shrub-steppe vegetation and sagebrush habitat occurs in eastern Multnomah County and Skamania County, more than 40 miles from the action area. The one vouchered specimen from Multnomah County is in the eastern portion of the county and was last detected in 1915 (OSU 2009).

Plant surveys conducted from May to September 2006 did not detect individuals or suitable habitat for northern wormwood.

Effect Determination

The project is ***not likely to impact populations, individuals, or suitable habitat*** for northern wormwood. Although the project area may occur within the historical range of northern wormwood, it is well outside of the known current range of this species, and suitable habitat is not present in the action area. Surveys

that took place within the northern wormwood flowering period did not detect the plant or suitable habitat in the project area. Given the current range of the species, the lack of suitable habitat, and the lack of documented detections, it is extremely unlikely that this plant occurs in the project area. Therefore, we are reasonably certain that this species will not be exposed to project impacts.

(BRUSH PRAIRIE) MAZAMA POCKET GOPHER (*Thomomys mazama* ssp. *douglasii*)

Species and Habitat Occurrence

The Brush Prairie pocket gopher is one of five subspecies of the western pocket gopher that are state-listed as threatened in Washington (WDFW 2008). The Brush Prairie pocket gopher occurs in extreme southwestern Washington in Clark County (WDFW 2005), but has not been detected in the action area (WDFW 2009).

The western pocket gopher is primarily a burrowing, solitary species that inhabits open grassy areas, including subalpine meadows, pastures, glacial outwash prairies, savannas, and open early seral woodlands and forests. Soil must be dry, loose, and friable and generally free from rocks (Stinson 2005). Breeding occurs in February through May, with young born in March through June. Natural predators of the western pocket gopher include owls, coyotes, and bobcats. Diet consists of underground plant parts, including roots, tubers, bulbs, and some surface vegetation. Foraging occurs from underground burrows or from the ground surface at night or during overcast days (NatureServe 2009).

Main threats consist of an extremely low breeding population, limited dispersal capability, and isolation from other individuals (USFWS 2007). Development has led to large losses of suitable habitat, and the chief habitat type, glacial outwash prairie, is becoming increasingly rare. Trapping by homeowners and predation by domestic cats and dogs have also led to population declines (WDFW 2005).

Suitable habitat is present in open, grassy areas within portions of the CRC action area located in Clark County. However, given that the species has very poor dispersal capability and that the few documented detections are found outside of the action area (WDFW 2009), it is extremely unlikely that pocket gophers are found in the action area.

Effect Determination

The project is ***not likely to impact populations, individuals, or suitable habitat*** for the Brush Prairie Mazama pocket gopher. Given the current range of the species and the lack of documented detections, it is unlikely that the species occurs in the project area. Therefore, we are reasonably certain that this species will not be exposed to project impacts.

OREGON SPOTTED FROG (*Rana pretiosa*)

Species and Habitat Occurrence

Oregon spotted frogs are highly dependent on aquatic habitat and live in or near permanent bodies of water, including lakes, ponds, slow streams, and marshes. They prefer areas with thick algae and vegetation for cover, but may also hide under decaying vegetation. They are most often found in non-woody wetland plant communities such as sedges, rushes, and grasses. Most Oregon spotted frogs hibernate and aestivate. Oregon spotted frogs are distributed through a wide range of altitudes. Adults eat insects, mollusks, crustaceans, and spiders. Larvae eat algae and organic debris. Major predators include bullfrogs, river otters, raccoons, herons, and garter snakes. Larvae of dragonflies, predacious diving

beetles, fish, and garter snakes prey upon larvae of Oregon spotted frogs. The timing of breeding is related to ice melt on lakes, ponds and marshes. Breeding occurs from February to March in the lower elevations, and from March to April in the higher elevations in the Cascade Range. Oregon spotted frogs lay their eggs in the shallows of a permanent water source in spherical clusters of up to 1,300 eggs, which are allowed to float freely. Often, the egg masses protrude above the water surface, which results in egg mortality due to freezing and desiccation (NatureServe 2009).

Potential threats to Oregon spotted frogs include loss and alteration of marsh habitat, plant succession and other vegetation changes, predation from nonnative fishes and American bullfrogs, livestock grazing, water quality degradation, isolation, drought, and diseases (Cushman and Pearl 2007).

Oregon spotted frog was once found at scattered localities throughout most of Oregon and Washington. Currently, they are nearly extirpated west of the Cascade Range (NatureServe 2009). Two historic populations were documented in Clark County Washington in 1962, but currently, there are only a few remaining known populations in Washington (Larsen 1997). The nearest are in eastern Skamania and Klickitat Counties, about 60 miles from the project area (WDFW 2009). Efforts to reintroduce the species have helped increase population numbers to some extent. Records prior to 1990 exist for Multnomah County, but no current populations are known (USFWS 2009). In Oregon, records from 1990 to present occur only in Deschutes, Jefferson, Klamath, Lane, and Wasco Counties (USFWS 2009).

Potentially suitable habitat is found within the action area in riparian corridors, wetlands, wetland/upland mosaics, and upland areas (feeding or wintering), but given its current restricted range, the Oregon spotted frog is very unlikely to be found anywhere within the action area.

Effect Determination

The project is ***not likely to impact populations, individuals, or suitable habitat*** for the Oregon spotted frog. Suitable habitat occurs within the action area, but given the current range of the species and lack of documented detections, it is extremely unlikely that Oregon spotted frog occurs in the project area. Therefore, we are reasonably certain that this species will not be exposed to project impacts.

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