

HABITAT ASSESSMENT

Foothills Trail Extension

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TABLE OF CONTENTS

1	Introduction.....	1
2	Methods.....	1
2.1	Existing Documentation Review.....	1
2.2	Fieldwork	1
3	Existing Conditions	2
3.1	Project Vicinity	2
3.2	Study Area.....	3
4	Critical Areas.....	3
5	Wildlife.....	3
5.1	Wildlife Habitat Conservation Areas.....	3
5.1.1	Bald Eagle.....	4
5.1.2	Osprey	4
5.1.3	Northern Goshawk	4
5.1.4	Peregrine Falcon.....	4
5.1.5	Spotted Owl	4
5.1.6	Marbled Murrelet	5
5.1.7	Great Blue Heron	5
5.1.8	Vaux's Swift	5
5.1.9	Townsend's Big-eared Bat	5
5.1.10	Other Wildlife.....	5
6	Habitat Assessment	6
7	Project and Potential Impacts.....	9
8	Recommendations.....	10

Appendix A: Photographs

LIST OF TABLES

Table 1: Bird species identified in Foothills Trail study area.....	6
Table 2: Common vegetative species identified in Foothills Trail study area	8

HABITAT ASSESSMENT

FOOTHILLS TRAIL EXTENSION

1 INTRODUCTION

This report addresses wildlife habitat in the Foothills Trail area, specifically along a proposed extension of the existing, improved trail. The proposed improvements begin approximately 600 feet southwest of the Enumclaw municipal boundary. The proposed trail improvements include portions of a former railroad grade extending from the end of the existing improved trail segment southwest for approximately one mile to the crossing of the White River in the City of Buckley. Other reports completed for this project include a January 2016 Wetland and Stream Delineation Report completed by The Watershed Company. This habitat assessment was conducted to evaluate the project area for the potential and actual occurrence of wildlife species and to assess potential impacts of extending the improved trail.

2 METHODS

2.1 Existing Documentation Review

Publicly available sensitive areas and habitat documentation for the study property were reviewed for this report. Sources include aerial photographs of the site and surrounding area, the King County public GIS database (iMAP), the Washington Department of Fish and Wildlife (WDFW) SalmonScape online mapping system, online WDFW Priority Habitat and Species (PHS), and general information on habitat types from Johnson and O'Neil (2001).

2.2 Fieldwork

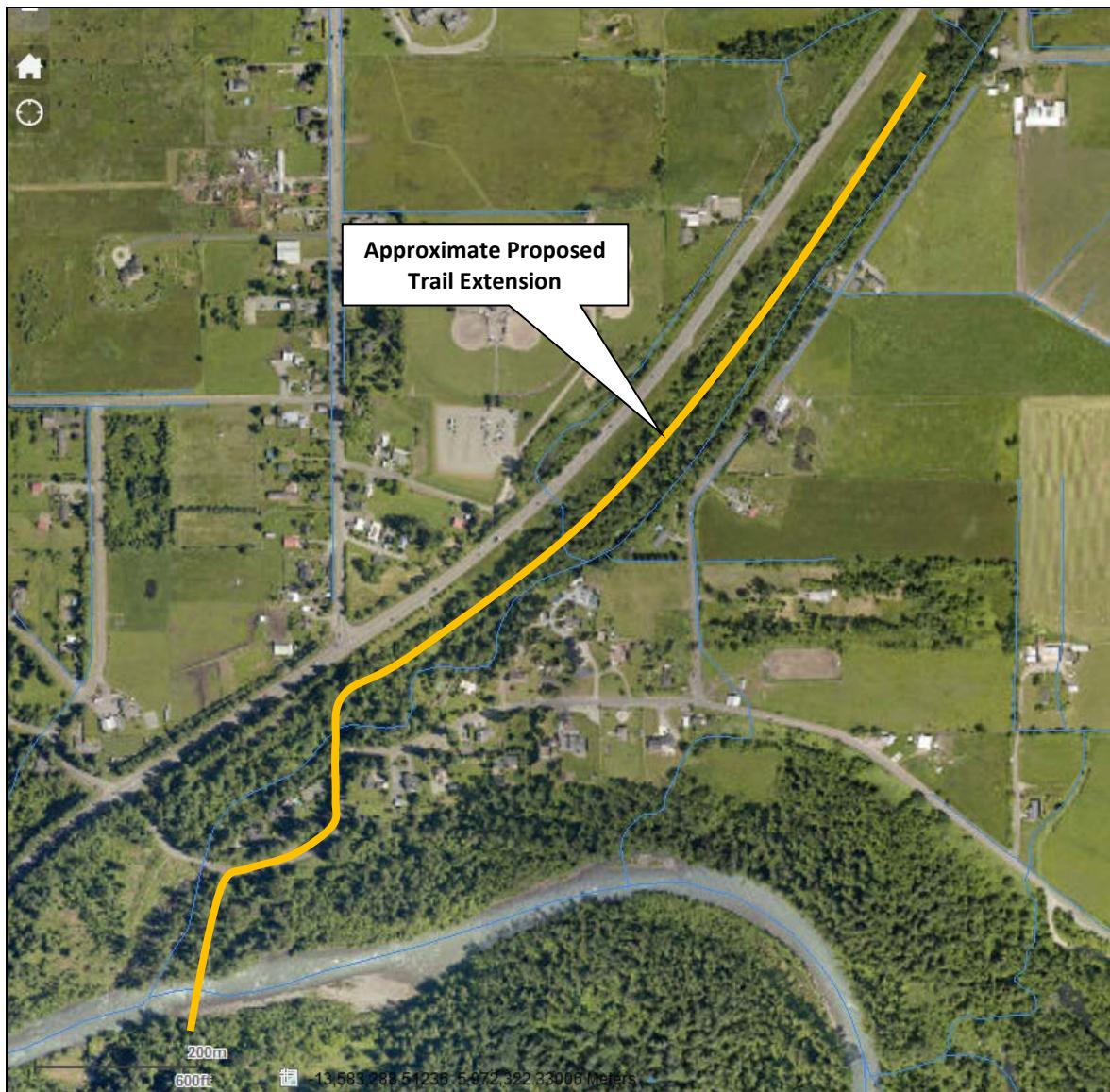
Biologists visited the site three times during December 2015 to search for potential nest sites of species listed in KCC 21A.24.382 and conduct a general assessment of habitats and species present. Documents and online resources examined prior to the site visit are listed in Section 2.1 above. Vegetative structure and composition, special habitat features, presence of wildlife species and signs, and human disturbance were assessed. Vegetative species were recorded and listed in approximate order of frequency with which each species was encountered.

3 EXISTING CONDITIONS

3.1 Project Vicinity

The project is located mostly in unincorporated King County between the Cities of Buckley and Enumclaw. The White River (crossing) portion of the trail is located in the City of Buckley. A wide vegetated corridor with little development is located along the White River, particularly along its southern bank. Much of the land to the east, west, and north is zoned residential and is in use as single-family residential and low- to moderate-intensity agriculture. A portion of Boise Creek, a Shoreline of the State, runs along the southeast edge of the proposed trail alignment.

Figure 1: Project Location



General proposed trail location. Final location of the southern extent may vary slightly.

3.2 Study Area

The study area extends southwest for slightly more than one mile as shown in Figure 1. The project area includes an existing decommissioned bridge spanning Boise Creek and a portion of SE Mud Mountain Road. A decommissioned railway comprises a significant portion of the project area.

Topography in the study area includes many shallow depressions and the steep banks of Boise Creek. Due to the corridor's initial construction and use as a railroad, the existing trail alternates between being situated on a terrace with downslopes on either side to being located in a cut with steep upslopes on either side. Numerous streams and wetlands are located within or adjacent to the corridor. At least two culverts cross beneath the existing trail and two bridge crossings are proposed, including one on the existing arch bridge spanning Boise Creek and a new bridge spanning the White River along the former SR 410 alignment into the City of Buckley at the project terminus.

4 CRITICAL AREAS

Streams and wetlands in the study area are addressed and fully described in the February 3, 2016 Wetland and Stream Delineation Report completed by The Watershed Company. Critical areas are not specifically addressed further in this report.

5 WILDLIFE

5.1 Wildlife Habitat Conservation Areas

Wildlife Habitat Conservation Areas are breeding sites of species identified in the King County Comprehensive Plan. For ten of these species, specific standards referring to protection of breeding sites apply to developments proposals. These species are bald eagle, osprey, northern goshawk, peregrine falcon, spotted owl, marbled murrelet, great blue heron, Vaux's swift, and Townsend's big-eared bat. Other species may also require protection if they are found to breed in a project area. However, the majority of these species is unlikely to occur in King County and none were noted during the fieldwork.

None of the species listed above is known to breed in the study area, and none were observed during the site visits, other than a single red-tailed hawk, which was identified by call only and not visually observed. However, the lack of a documented breeding site and/or observation does not preclude a species' presence. Therefore, the potential for each species to occur on the study site is addressed in the following sections.

5.1.1 Bald Eagle

Bald eagles typically nest near the tops of old-growth or mature trees, often with broken tops and among the tallest in a stand. Preferred nest trees are most often located close to open water including large rivers, although potential nest trees do exist on the study site. The most suitable bald eagle habitat exists along the White River, as proximity to water is probably the most important factor in bald eagle nest site selection (Larson *et al.* 2004). Priority Habitat and Species Data show the nearest documented eagle nest to be approximately 0.75 miles from the study area, in the White River riparian zone (WDFW 2016). Throughout most of the site, the scattered large trees make it possible that bald eagles would be found perching, likely for resting rather than foraging. Foraging perches would be located closer to open water, which could include areas along the White River; however, no perching eagles were noted during any of the field visits. Additionally, no nests were visually observed in the project vicinity.

5.1.2 Osprey

Osprey nest in treetops, on utility poles, and on constructed nest stands or other man-made features with open access and views near large bodies of water. Suitable nesting habitat does not exist along most of the trail alignment, but the species, which forages exclusively in open water, may use the area around the proposed White River crossing. Osprey are likely to use the White River riparian area, at least occasionally, for foraging and potentially nesting. Suitable nesting sites along the White River could potentially include trees or the abandoned bridge abutments at the proposed crossing. However, no osprey nests were observed anywhere in the project area, including the White River corridor.

5.1.3 Northern Goshawk

Northern goshawks are rare to uncommon in western Washington. Few confirmed nests exist in King County, and none are documented within at least five miles of the study area (Opperman *et al.* 2006). The species nests in mature coniferous forest, although it is occasionally found breeding in deciduous and mixed forest as well (Seattle Audubon Society 2016). It is highly unlikely that an undocumented breeding pair exists near the study area, which does not provide suitable nesting habitat.

5.1.4 Peregrine Falcon

Peregrine falcons typically nest on cliffs or artificial structures with ledges, usually near bodies of open water (Seattle Audubon Society 2016). They are known to breed in King County (Opperman *et al.* 2006), but are generally found near mountainous or rocky overhangs and sometimes on man-made structures such as buildings and bridges. They occasionally nest in trees in abandoned nests of other species, but they do not construct nests themselves. The study area does not provide preferred nesting sites.

5.1.5 Spotted Owl

This species does not normally breed outside of old-growth closed-canopy forest. No known breeding pairs exist in the trail alignment or the surrounding area. It is highly unlikely

that a pair breed in the vicinity of the study area, although they probably occur within about 10 miles to the east along the White River corridor (Opperman *et al.* 2006).

5.1.6 Marbled Murrelet

Marbled murrelets breed in mature conifer forest, and none are documented in the study area. They nest on limbs of old-growth conifers in dense coastal stands, which are not presently supported on the site. It is very unlikely that these birds would use the study area or immediate vicinity for any lifecycle stage.

5.1.7 Great Blue Heron

No great blue heron rookeries are documented within a mile of the study site (WDFW 2016). The species is most often found nesting in forest stands near large lakes, wetlands, or mudflats, but may also occur near rivers. Thus, future presence on the trail corridor, though not likely, is possible. The species may use areas of the White River and Boise Creek for foraging at times.

5.1.8 Vaux's Swift

Vaux's swift generally forages in open skies over forests, lakes, and rivers, where insects are abundant. Nesting normally takes place in mature or old-growth forest where large snags, preferably at least 27 inches dbh (Larsen *et al.* 2004) with cavities of approximately 20 inches in length (Bull, pers. comm., August 2006), are available. The species also nests in broken treetops and manmade structures. The study area lacks both nesting and foraging habitat components, although these are available in off-site parts of the White River corridor. Two chimney nest sites were documented in 1987 and 1991 on residential lots along the river, approximately 0.25 and 1.25 miles, respectively, from the study area.

5.1.9 Townsend's Big-eared Bat

Townsend's big-eared bat most commonly roosts in caves and man-made structures, although hollow trees and tree cavities are also an important habitat feature (Woodruff and Ferguson 2005). The study property lacks caves and man-made structures, and the species is not documented on the site and is generally rare in the area.

5.1.10 Other Wildlife

Dense and structurally diverse vegetation along the trail corridor provides potential habitat for birds and mammals. Proximity to the White River and its adjacent vegetated areas make it possible that larger mammals, particularly coyotes, elk, and black-tailed deer, may wander up the trail corridor from larger forested areas. While roads and other development represent barriers to reptiles and amphibians and deterrents to mammals, some species may confine all lifecycle activities to the study area wetlands and vegetated uplands, including breeding in the corridor. Birds cross such barriers more readily, and many species are likely to use the area for foraging and breeding. Although the site visit was conducted outside of the bird breeding season, a number of species were observed on the site (Table 1). The corridor is also potential travel habitat for many species, as it links the White River riparian zone with that of the Boise Creek, which, despite being very narrow, provides access to some larger forest and shrub areas.

Foothills Trail Extension Habitat Assessment

Habitat edges such as those formed where the on-site forest meets fields and cleared areas attract diverse bird communities. The on-site wetlands and Boise Creek and the White River, as well as several other small streams that cross the trail corridor, provide a range of habitat functions (see the wetland reports referred to earlier for details on wetland habitat). Several of them are likely to support reptile and amphibian populations.

Table 1: Bird species identified in Foothills Trail study area.

Common name	Scientific name
American crow	<i>Corvus brachyrhynchos</i>
American dipper	<i>Cinclus mexicanus</i>
American robin	<i>Turdus migratorius</i>
Anna's hummingbird	<i>Calypte anna</i>
Black-capped chickadee	<i>Poecile atricapillus</i>
Brown creeper	<i>Certhia americana</i>
Common raven	<i>Corvus corax</i>
Dark-eyed junco	<i>Junco hyemalis</i>
Downy woodpecker	<i>Picoides pubescens</i>
European starling	<i>Sturnus vulgaris</i>
Northern flicker	<i>Colaptes auratus</i>
Pileated woodpecker	<i>Dryocopus pileatus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Song sparrow	<i>Melospiza melodia</i>
Spotted towhee	<i>Pipilo maculatus</i>
Steller's jay	<i>Cyanocitta stelleri</i>
Winter wren	<i>Troglodytes troglodytes</i>

6 HABITAT ASSESSMENT

The study area is characterized as low-density urban and mixed environments (Johnson and O'Neil 2001). The wildlife habitat type is entirely Westside lowland conifer-hardwood forest, young in age but with some mature trees of up to 24 inches dbh. Specifically, the trail corridor is composed of mixed coniferous-deciduous forest; forested, scrub-shrub and emergent wetlands; and streams. Areas outside of the trail corridor but in the vicinity are a mix of developed land and native mixed deciduous-coniferous forest. Wetlands and streams are discussed only generally in this section, as they are described in the aforementioned delineation report.

Black cottonwood, red alder, bigleaf maple, bitter cherry are the most widespread trees, with Douglas-fir and western red cedar forming locally dominant patches, particularly in the southern portion of the corridor. The dense shrub/small-tree layer in all forested areas is

dominated by beaked hazelnut, vine maple, snowberry, and the invasive Himalayan blackberry and English ivy. Many other species grow in the understory as well (Table 2). Overall, the layers of vegetation make for a very structurally diverse habitat, potentially providing nesting, roosting/resting, and foraging areas for wildlife.

Many of the on-site wetlands have important habitat features such as snags, downed wood, and seasonal ponding, and most of the wetlands are connected by corridors of native vegetation. These features meet the habitat needs of many herpetiles, birds, and small mammals. This is of particular significance because the study area is located in an urbanizing environment, where habitat refuges serve to support wildlife species that might otherwise suffer from the effects of urban habitat loss.

There is a correlation between increased density of invasive species and a decrease in forest bird abundance some Pacific Northwest developed areas (Donnelly and Marzluff 2004). The relationship between these wildlife community changes and cover is complicated by the fact that non-native vegetation increases with urbanization, particularly in the shrub layer. Forest areas on the study site have a predominately native understory of typical Pacific Northwest shrubs and herbaceous vegetation but also areas of non-native species infestations and ornamental/cultivated plants, providing the potential for improvement to habitat in these areas.

Riparian zones represent an interface between aquatic and terrestrial habitat and provide a high diversity of resources compared to less complex, non-transitional habitat (Johnson and O'Neil 2001). Functional values of riparian zones vary widely, as the zones can be composed of a great variety of vegetation types and can be associated with highly diverse waters. The on-site portion of most of the streams' riparian zones are complex in structure and composition, providing nesting and foraging habitat for birds, small mammals, reptiles, and amphibians; however, some of the streams run in culverts or ditches off-site and provide little habitat in those areas. Species and groups likely to use the riparian areas on the site include chorus frog, red-legged frog, various salamanders, newts, garter snake, shrews, moles, voles, yellow warbler, Wilson's warbler, and many other songbirds, including mixed flocks of non-breeding birds. These species and many others are also expected to use the more intact riparian zone of the White River, from which they may access the remainder of the study area for foraging and travelling.

Foothills Trail Extension
Habitat Assessment

Table 2: Common vegetative species identified in Foothills Trail study area

Common name	Scientific name	Type
Black cottonwood	<i>Populus balsamifera</i>	Tree
Bigleaf maple	<i>Acer macrophyllum</i>	
Red alder	<i>Alnus rubra</i>	
Douglas fir	<i>Pseudotsuga menziesii</i>	
Western red cedar	<i>Thuja plicata</i>	
Bitter cherry	<i>Prunus emarginata</i>	
Oregon ash	<i>Fraxinus latifolia</i>)	
Red elderberry	<i>Sambucus racemosa</i>	Shrub
Vine maple	<i>Acer circinatum</i>	
Willow	<i>Salix spp.</i>	
Pacific ninebark	<i>Physocarpus capitatus</i>	
Osoberry	<i>Oemleria cerasiformis</i>	
Oceanspray	<i>Holodiscus discolor</i>	
Pacific Crabapple	<i>Malus fusca</i>	
Red-osier dogwood	<i>Cornus sericea</i>	
Oregon grape	<i>Mahonia aquifolium</i>	
Black twinberry	<i>Lonicera involucrata</i>	
Beaked hazelnut	<i>Corylus cornuta</i>	
Douglas spiraea	<i>Spiraea douglasii</i>	
Himalayan blackberry	<i>Rubus armeniacus</i>	
Snowberry	<i>Symphorocarpus albus</i>	
Salal	<i>Gaultheria shallon</i>	
Evergreen blackberry	<i>Rubus laciniatus</i>	
Pacific dewberry	<i>Rubus ursinus</i>	
English ivy	<i>Hedera helix</i>	
English Holly	<i>Ilex aquifolium</i>	
Salmonberry	<i>Rubus spectabilis</i>	
Nootka rose	<i>Rosa nutkana</i>	
Baldhip rose	<i>Rosa gymnocarpa</i>	
Lady fern	<i>Athyrium filix-femina</i>	Herbaceous species
Sword fern	<i>Polystichum munitum</i>	
Bracken fern	<i>Pteridium aquilinum</i>	
Creeping buttercup	<i>Ranunculus repens</i>	
Fringecup	<i>Tellima grandiflora</i>	
Slough sedge	<i>Carex obnupta</i>	
Large-leaved avens	<i>Geum macrophyllum</i>	
Bentgrass	<i>Agrostis spp.</i>	
Reed canarygrass	<i>Phalaris arundinacea</i>	
Stinging nettle	<i>Urtica dioica</i>	
Pacific Waterleaf	<i>Hydrophyllum tenuipes.</i>	
Japanese knotweed	<i>Polygonum cuspidatum</i>	

As mentioned above, raptor species, including bald eagles and ospreys, likely utilize the White River corridor for foraging and possibly nesting. However, trees in the project area along the White River are generally smaller red alder and black cottonwood trees, which are not preferred habitat for nesting bald eagles and osprey. No nest sites for any of these species were observed during field investigations.

7 PROJECT AND POTENTIAL IMPACTS

The proposal is to construct a portion of the Foothills Trail, a non-motorized regional trail project. Specifically, this report addresses the proposed addition of trail length from just south of 252nd Avenue SE to just south of the White River. Regulatory impacts to critical areas and critical area buffers are not evaluated in this document. General possible impacts to habitat are discussed briefly in this section.

The proposed trail expansion will require some clearing, cut and fill, and the addition of impervious surface. All of these actions have the potential to impact habitat. However, all feasible precautions will be taken to avoid damage to and removal of native habitat. By locating the improved trail on the existing rail corridor and on former/current roadway corridors where feasible, the removal of significant trees will be avoided to the greatest extent possible, leaving the existing tree canopy undisturbed. Portions of the proposed trail footprint are dominated by Himalayan blackberry, which tends to form monotypical infestations, lowering vegetative structural and compositional diversity and degrading habitat. Its removal, while reducing cover and forage for some species, does not have as negative an impact as removal of native vegetation.

In an effort to avoid newly emerging wetland areas that have formed atop the compact former railroad grade, segments of the new trail may require clearing of existing forested areas. This would represent an adverse impact to native habitat for small mammals and many of the bird species observed in the study area. However, none of the protected species are expected to utilize these areas more than for occasional perching. Furthermore, areas adjacent to the trail are regularly disturbed by mowing and use by pedestrians and domestic animals. The areas where native forest is most likely to be directly impacted are not within the White River corridor, where species such as bald eagles and osprey are most likely to be found.

Temporary impacts may occur from construction activities. Damage to existing vegetation will be minimized by staging materials on existing cleared areas and operating equipment from the existing or proposed trail footprint whenever possible. Temporarily disturbed areas will be revegetated with native species. No additional erosion will occur as a result of the project, as trailside features will be constructed as needed to direct and disperse runoff. Erosion control measures and best management practices will be employed during construction.

The new trail will discourage foot traffic outside of its alignment, possibly lessening human impacts to the wetlands and upland habitat from intentional and unintentional trampling. Regular trailside maintenance will reduce the growth of Himalayan blackberry and other invasive species, which tend to grow most prolifically along unmaintained areas of human use, such as the existing foot trail and old railroad bed.

8 RECOMMENDATIONS

No evidence of regulated wildlife habitats exists for the study area. Of the regulated species under King County Code (Wildlife Habitat Conservation Areas), only bald eagles, osprey, and great blue herons are likely to be found in the study area, and these would likely be foraging, rather than nesting, mostly along the White River riparian corridor. Development standards for Wildlife Habitat Conservation Areas associated with these species are specific to activities in proximity to nesting areas. No nest sites for any regulated species were observed in the study area, and none are documented by any of the resources reviewed for this project. Therefore, recommendations are neither required nor necessary for the proposed project. Regular maintenance of the new trail to control invasive vegetation advised for general habitat improvement and protection.

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APPENDIX A

Photographs

Foothills Trail Extension
Habitat Assessment



Photo 1: Existing footpath and forest, typical



Photo 2: Boise Creek, viewed from existing bridge span, facing east.



Photo 3: Proposed location of White River crossing over former SR 410 bridge piers, facing northeast