

Appendix B
Endangered Species Act Evaluation
No Effects Documentation

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**ENDANGERED SPECIES ACT EVALUATION
NO EFFECTS DOCUMENTATION**

RapidRide Roosevelt Project

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Federal Transit Administration

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ACRONYMS AND ABBREVIATIONS

BAT	business access and transit
BMP	best management practice
BRT	bus rapid transit
CSECP	Construction Stormwater and Erosion Control Plan
dBA	A-weighted decibels
DPS	Distinct Population Segment
EFH	essential fish habitat
ESA	Endangered Species Act
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
I-5	Interstate 5
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NED	No Effect Documentation
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
OCS	overhead contact system
PBL	protected bicycle lane
PGHS	pollutant-generating hard surface
Project	RapidRide Roosevelt Project
SMC	Seattle Municipal Code
SR	State Route
TOL	transit-only lane
TPSS	traction power substation
USFWS	U.S. Fish and Wildlife Service
WPTP	West Point Treatment Plant
WSDOT	Washington State Department of Transportation

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INTRODUCTION

The proposed RapidRide Roosevelt Project (Project) would provide electric bus rapid transit (BRT) service between Downtown Seattle and the Roosevelt neighborhood in northeast Seattle, Washington, while serving the Belltown, South Lake Union, Eastlake, and University District neighborhoods. The Project would include installation of 26 new bus stations—13 per direction. The purpose of the Project is to improve transit capacity, travel time, reliability, and connectivity in these areas along with improvements for people walking and bicycling. Overall, the Project would improve access and mobility in a rapidly growing urban corridor, providing new and enhanced connections to major employment centers, residential areas, schools, and businesses. The Project would provide increased service frequency in the corridor and would extend service hours to 24 hours per day.

Because the Project would be receiving federal funds through the Federal Transit Administration (FTA), its actions are subject to Section 7(c) of the Endangered Species Act (ESA). This No Effect Documentation (NED) was developed on behalf of the FTA to address potential effects the proposed Project may have on federally listed species and habitat protected by the ESA.

The NED follows the No Effects Assessment template used by the Washington State Department of Transportation (WSDOT) acting for the Federal Highway Administration (FHWA) to evaluate projects that result in a no effect determination but require additional documentation and analysis to support the No Effect call, such as projects with new impervious surface (i.e., document lack of stormwater impacts), projects with complicated action areas, or projects that require completion of a detailed indirect effects analysis (WSDOT, 2018a).

Project Location and Setting

The Project is located within a highly urbanized corridor that includes a mixture of commercial and residential uses. The Project would be within the existing transportation right-of-way, much of which consists almost entirely of impervious surfaces. The exceptions are landscaped areas located within the sidewalk environment or within roadway medians. Because of the urban development within the corridor, there is limited habitat.

The Project is located in Sections 5, 8, 17 20, 29, and 32 of Township 25, Range 4E and Section 5 of Township 24 Range 4E. The Project is also located within Water Resources Inventory Area 8 (Cedar and Sammamish Basin).

PROJECT DESCRIPTION

The Project corridor is approximately 6 miles long and the electric buses would operate in their own lane or in mixed traffic within existing rights-of-way. Figures 1 and 2 show the proposed Project alignment and the 26 new station locations, along with the existing portion of the Project route and the 9 existing bus stations in Downtown Seattle that are included as part of the Project.

Project Elements

The following are the main elements that make up the RapidRide Roosevelt Project:

- 26 new RapidRide stations (13 for each direction of travel) from 3rd Avenue to NE 65th Street with service south to 9 existing stations along 3rd Avenue in Downtown Seattle. Each station would be about 80 feet long and include a 12-foot-long shelter/transit canopy. Main features at each station would consist of benches, pedestrian-level lighting, trash receptacles, and RapidRide branding elements.
- Roadway improvements include transit-only lanes (TOLs) and business access and transit (BAT) lanes. Dedicated TOLs would be located along Virginia Street in Belltown, along Fairview Avenue N in South Lake Union north of Valley Street where roadway widening within the existing right-of-way is needed to add the new lane, and in Eastlake along Eastlake Avenue E between E Allison Street and Harvard Avenue E. BAT lanes are curb lanes located along a route expressly reserved for business access and right turns. BAT lanes would be located on Fairview Avenue N between Denny Way and Valley Street.
- Buses would be powered by electricity provided by an overhead contact system (OCS). OCS includes both poles and wires. The OCS includes both poles and contact wires above the roadway that convey electric power from the traction power substation (TPSS) to the buses. New OCS poles and wire would be added north of the University Bridge, starting at Eastlake Avenue E and NE 40th Street and along both 11th and 12th Avenues NE and Roosevelt Way NE. The OCS poles would be located within existing right-of-way (sidewalk) and would be spaced typically 100 feet apart. The OCS poles would be designed as consolidated traffic signal and/or lighting poles where possible. OCS wire would not be attached to buildings.
- A new TPSS (source of electric power) in the northern portion of the Project. Four TPSS sites are being considered (Figure 1), all within publicly owned property; one will be selected during the final design process.
- Bus layovers at the southern (existing) and proposed sites at the northern end of the route (Figures 1 and 2). Layover areas are locations where buses park while transitioning to service in a different direction.
- Nonmotorized improvements, including:
 - Protected bicycle lanes (PBLs) along 11th and 12th Avenues NE, Eastlake Avenue E, and Fairview Avenue N.
 - Curb ramps, pedestrian push buttons, and countdown pedestrian signal heads to control pedestrian traffic at intersections near station locations, complying with the Americans with Disabilities Act.
 - Intersection safety improvements for pedestrians accessing the stations, including sidewalk repairs and crosswalk striping.
- Concrete paving would be installed at new station locations to support the weight of the buses. Full-depth concrete repaving is proposed on Eastlake Avenue E between Fairview

Avenue and Harvard Avenue E. Mill and overlay paving would occur along 11th and 12th Avenues NE from the University Bridge to NE 67th Street (milling and overlay consists of removal of the top 2 inches of asphalt to the underlying cement concrete base, and then overlaying it with 2 inches of new asphalt. This repair extends the life of the pavement as well as providing a smooth wearing course).

- Installation of stormwater detention facilities consisting of detention pipe between 4 and 6 feet in diameter along 11th Avenue NE, Eastlake Avenue E and Fairview Avenue N. The Project also includes the installation of water quality treatment units along Fairview Avenue N.

Project Construction

Project construction would require up to 24 months to complete and would be phased to minimize construction impacts along the alignment to local traffic. In general, each station location construction phase would be short term to construct and install the transit amenities. Construction is planned to be limited to existing right-of-way but may require temporary construction easements. These easements would not include any "natural" habitat, only extending into the surrounding commercial/urban residential areas next to the corridor.

Construction would involve utility installations and relocations along the corridor, roadway reconstruction and restoration where called for, and traffic signals and intelligent transportation system installation within City rights-of-way. It is anticipated that the first phase of construction would consist of all the utility relocation and the installation of new utilities (i.e., underground power lines, sewer lines, water lines, etc.). This would be followed by paving, the installation of the concrete pads in front of new stations, installation of station amenities, and finally the installation of the OCS poles and wiring and the TPSS. The roadway improvements and the new stations would require the repaving of some roadway areas.

The equipment used in construction would include excavators; graders; bulldozers; concrete, flatbed, and dump trucks; concrete saws; jackhammers; and a variety of hand-held power tools. Any debris or spoil materials would be hauled away to pre-approved disposal sites. Haul routes connecting the site with Interstate 5 (I-5) and State Route (SR) 520 would use arterials, avoiding the use of smaller side streets. Staging areas for construction would be established near the Project and used for storage of equipment and materials. The staging areas would generally be located within the roadway right-of-way and would be selected to minimize impacts on adjacent uses. Property owned by WSDOT, located under I-5 in the Eastlake neighborhood, could be used for staging, but the property is also proposed for the staging for the SR 520 project and use for the Project would depend on timing. Other staging locations could include vacant or underutilized lots; if required, these would be identified during final design.



Figure 1. Project Description - North

Project Stormwater Drainage

The Project consists almost entirely of impervious surface. The alignment crosses over Lake Union at the University Bridge and runs adjacent to the lake in the southern portion of the Eastlake neighborhood and northern portion of the South Lake Union neighborhood. The Project drains to two waterbodies: Puget Sound and Lake Union.

Stormwater runoff in the Project corridor generally flows in sheets off the roadway pavement to the roadside curb and gutter. The runoff is collected by inlets or catch basins and is conveyed through storm drainage systems or combined storm-sewer systems to points of discharge. Combined storm-sewer systems, also known as combined sewer systems, transport sanitary sewer and stormwater flows within the same pipelines to treatment facilities before discharge into the receiving body of water. Storm drainage systems, also referred to as separated systems, transport stormwater flows (separate from any sanitary sewer flows) to the receiving body of water.

The Project crosses six stormwater basins,¹ with three basins draining to the West Point Treatment Plant (WPTP) via combined sewer and three basins draining via existing outfalls to the Ship Canal/Lake Union (Table 1 and Figure 3).

- Basin 1 begins at the northern Project limit immediately north of the NE 65th Street and 11th Avenue NE intersection, and ends south of the NE 52nd Street and Roosevelt Way NE intersection.
- Basin 2 is immediately south of Basin 1 to the Burke-Gilman Trail.
- Basin 3 is on Eastlake Avenue E from the Burke-Gilman Trail to E Blaine Street, the western half of Eastlake Avenue E between E Blaine Street and Fairview Avenue, and the eastern half of Eastlake Avenue E between a local high point and E Galer Street.
- Basin 4 is a drainage basin wrapped around by Basin 3. It is the western half of Eastlake Avenue E between E Blaine Street and the local high point on Eastlake Avenue E.
- Basin 5 is south of Basin 3 between Eastlake Avenue E and 300 feet north of Valley Street.
- Basin 6 is immediate south of Basin 5 to the south end of the Project.

Stormwater from Basins 1, 3, and 6 is collected in the City of Seattle combined sewer system and, after treatment, will be discharged to Puget Sound through the WPTP outfall. The WPTP provides secondary water treatment to the water entering through the combined sewer system, which includes oil/water separation, sedimentation collection, biological treatment, disinfection, and water reuse collection. Impacts from Basins 1, 3, and 6 will have no effect on listed species and these basins are not addressed further in this NED.

¹ A stormwater basin is an onsite area draining to a single natural discharge location, or multiple natural discharge locations that combine within one-quarter-mile downstream as determined by the shortest flow path.

Runoff from Basins 2, 4, and 5 discharges into the Ship Canal/Lake Union via existing outfalls (Figure 3). Potential impacts from Basins 2, 4 and 5 are evaluated in the Analysis of Effects section.

Table 1. Basin Delineation

BASIN ID	LOCATION	BASIN DRAINS TO	OUTFALL	WATERSHED	BOUNDARIES
1	Roosevelt Way NE	Combined Sewer	WPTP	Puget Sound	NE 70th Street
	12th Avenue NE				NE 52nd Street
2	Roosevelt Way NE	Receiving Water	Lake Union	Ship Canal/Lake Union	NE 52nd Street
	11th Avenue NE				Burke-Gilman Trail
3	Eastlake Avenue E	Combined Sewer	WPTP	Puget Sound	Burke-Gilman Trail
					E Galer Street
4	Eastlake Avenue E	Receiving Water	Lake Union	Ship Canal/Lake Union	E Blaine Street
					E Galer Street
5	Fairview Avenue N	Receiving Water	Lake Union	Ship Canal/Lake Union	E Galer Street
					Valley Street
6	Fairview Avenue N	Combined Sewer	WPTP	Puget Sound	Valley Street
	Boren Avenue				3rd Avenue
	Virginia Street				
	Stewart Street				

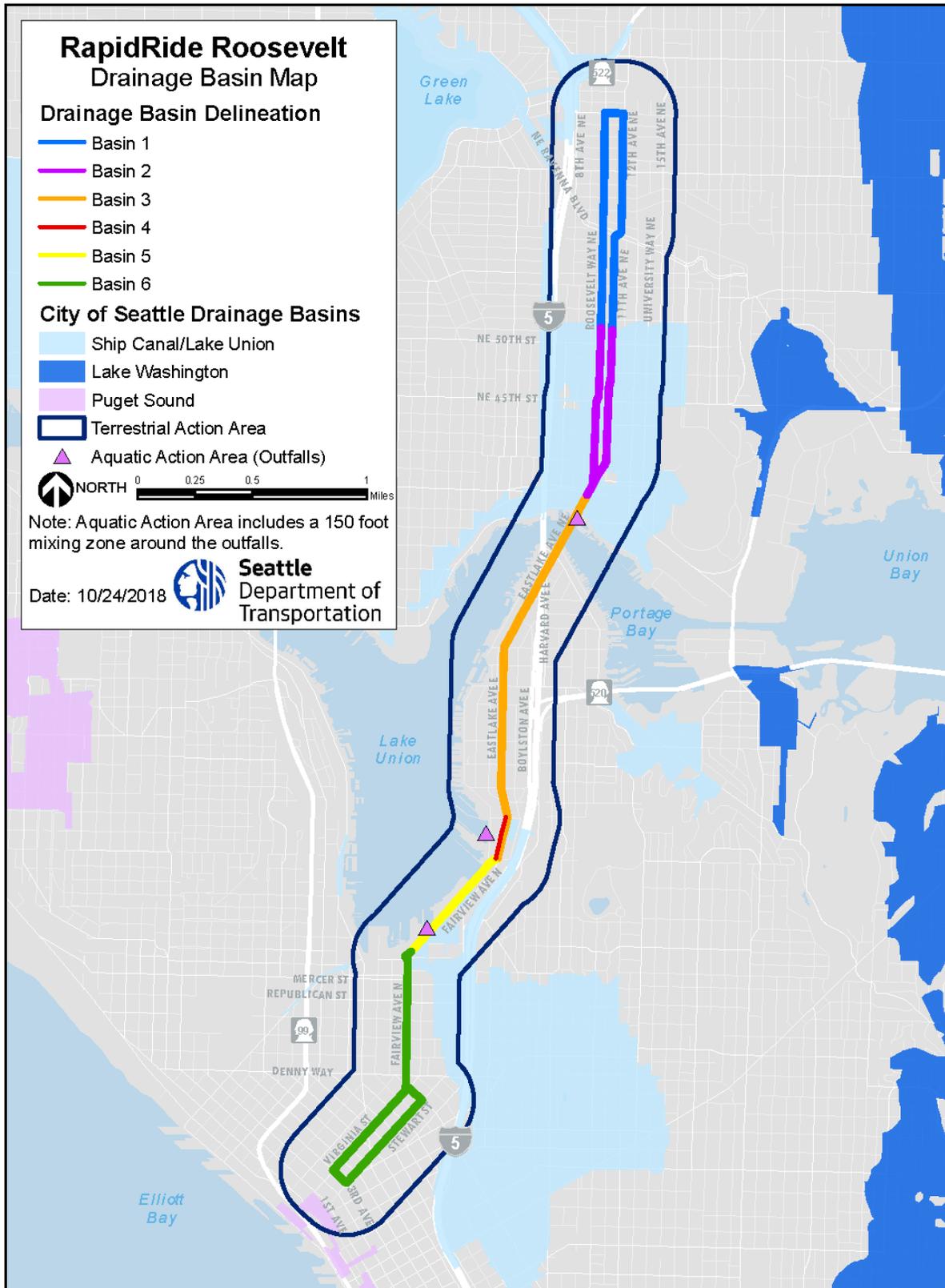


Figure 3. Drainage Basin Map

Regulatory Requirements

Stormwater management for the Project is governed by the Stormwater Code and 2017 City of Seattle Stormwater Manual (Seattle Municipal Code [SMC] 22.800-22.808). SMC 22.805.060 sets minimum requirements for roadway projects, which include:

- Requirements for combined sewer basins:
 - Flow control is required for projects adding more than 10,000 square feet of new plus replaced hard surface that discharges to combined sewer basins that have capacity-constrained conveyance systems.
 - Peak-flow control is required for combined sewer basins that have capacity constrained systems to prevent the system from exceeding peak discharge flow thresholds.²
- Requirements for basins that do not discharge to combined sewer basins:
 - Flow control is required for projects adding more than 10,000 square feet of new plus replaced hard surface that discharges to capacity-constrained conveyance systems.
 - Water quality treatment is required for projects adding more than 5,000 square feet of new pollutant-generating hard surface (PGHS).

IMPACT AVOIDANCE AND MINIMIZATION MEASURES

The Project will not involve in-water work. However, the Project crosses over the Ship Canal via the University Bridge in Basin 3 and is near Lake Union, including crossing over the edge of the lake via the Fairview Avenue N bridge in Basin 5. Numerous best management practices (BMPs), described below, will be incorporated into the Project to avoid and minimize short-term and long-term impacts to fish and wildlife habitats in the Project action area. All BMPs comply with the City of Seattle Stormwater Manual (City of Seattle, 2017).

Erosion and Sediment Control Measures

A Construction Stormwater and Erosion Control Plan (CSECP) will be implemented. Elements of this plan will include:

- Implement construction phasing that minimizes the amount of earthwork that exposes the ground surface to erosion.
- Implement sediment-control BMPs such as silt fences, check dams, sediment traps, sedimentation basins, and flocculation methods.

² Peak-flow thresholds described in the SMC for combined sewer basins are: 0.40 cubic feet per second per acre for the 25-year storm event, and 0.15 cubic feet per second per acre for the 2-year storm event. Continuous modeling software is used to determine the size and shape of required detention facilities to meet the peak-flow requirements.

- Use erosion-control practices (seeding, mulching, soil conditioning with polymers, use of geo-synthetics, sod stabilization, erosion-control blankets, vegetative buffer strips, and preservation of trees with construction fences).
- Use construction entrances, exits, parking areas, and wheel wash stations as appropriate to reduce tracking sediment onto public roads.
- Perform routine inspections of erosion- and sediment-control BMPs and subsequent BMP maintenance.
- Implement construction BMPs to control dust and limit impacts to air quality.
- Inspect all construction vehicles operated within the study area daily for fluid leaks before leaving the vehicle staging area. Repair any leaks detected before resuming operation. When not in use, store all vehicles in the staging areas or store with spill containment pans or pads.
- Maintain spill response equipment onsite to control or contain potential fluid leakage.
- Fuel all mechanical equipment at designated sites. Additionally, fit drip pans with absorbent pads and place under all equipment being fueled.

Vegetation Clearing/Removal

The Project will implement BMPs to minimize vegetation clearing and removal:

- Install high-visibility construction fencing to define the perimeter of the work area and protect surrounding areas from construction related impacts.
- Replace all trees removed at a minimum 1:1 ratio in accordance with City of Seattle street tree planting guidelines. Any temporarily cleared vegetation will be replanted to its pre-construction condition following construction.
- Clearly mark the limits of construction and protect vegetation remaining outside of these limits. Protect street trees as required by the City's Tree Protection Code (SMC 25.11).

Stormwater Measures

The Project is required to comply with SMC 22.805 and the Seattle Stormwater Manual (City of Seattle, 2017). The Project includes replacement and upgrade of existing stormwater facilities wherever they will be disturbed by construction. This will trigger flow-control and water quality treatment requirements. Table 2 summarizes the amount of PGHS that will be added in each basin.

Table 2. New and Replaced Hard Surface Areas

BASIN ID	WATERBODY RECEIVING RUNOFF	AREA (square feet)		REQUIRE WATER QUALITY TREATMENT (WQ) OR FLOW CONTROL (FC) ^b
		NET NEW PGHS	TOTAL NEW ^a + REPLACED HARD SURFACE	
1	WPTP/Puget Sound	0	50,375	FC
2	Ship Canal/Lake Union	1,080	56,190	N/A
3	WPTP/Puget Sound	9,300	147,530	FC
4	Ship Canal/Lake Union	120	9,839	N/A
5	Ship Canal/Lake Union	12,320	47,330	WQ
6	WPTP/Puget Sound	2,400	36,179	FC
Total Area		25,220	347,443	
<i>Ship Canal/Lake Union</i>		<i>13,520</i>	<i>234,084</i>	
<i>WPTP – Puget Sound</i>		<i>11,700</i>	<i>113,359</i>	

^a Includes both new PGHS and new non-PGHS. Net new non-PGHS was not computed because runoff from non-PGHS is not required to receive water quality treatment.

^b Flow Control is not required in Basins 2, 4, and 5 because these are non-capacity restrained systems and will continue through the City’s stormwater system to the Ship Canal/Lake Union, which is classified as a Designated Receiving Water. Water quality treatment is not required in Basins 2 and 4 because there is less than 5,000 square feet of new PGHS in each basin.

Flow Control

Basins 1, 3, and 6 drain to the combined sewer system. In each of these three basins, the proposed new plus replaced hard surfaces exceed 10,000 square feet. As a result, all three basins trigger the Peak Control Standard (SMC 22.805.080.B.4). Flow control in the three basins includes the installation of detention pipes.

Water Quality Treatment

Within the project corridor, Basin 5 is subject to water quality treatment standards (SMC 22.805.060.D; City of Seattle, 2016) because it is not in a public combined sewer basin and will add more than 5,000 square feet of net new PGHS (Table 2).

Filtterra treatment units³ are proposed along Fairview Avenue N to provide enhanced treatment of stormwater. In addition to removing total suspended solids, Filtterra units also remove dissolved metals. Because there are many inlets along the road to collect stormwater runoff, seven Filtterra units are proposed that will provide water quality treatment to runoff from 14,300 square feet of PGHS.

³ Filtterra biofilter units are manufactured by Contech Engineered Solutions and are capable of treating more than 10,000 square feet of tributary area.

ACTION AREA

An action area is defined as “all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action” (Code of Federal Regulations Title 50, Subsection 402.02). Based upon the geographic extent of anticipated project impacts, the action area for the Project includes the footprint and the terrestrial and aquatic habitat where potential direct or indirect impacts could occur (see Figure 3).

Terrestrial

The terrestrial portion of the action area for the proposed Project is defined as the area where construction noise will attenuate to background noise levels along the corridor. Noise is the only potential impact to the terrestrial environment as there is no “natural” habitat that will be disturbed. The only terrestrial habitat along the Project corridor consists entirely of roadways, sidewalks, driveways, urban/commercial landscaping, and urban and semi-urban residential lawns. No one area of non-paved habitat greater than a couple of hundred square feet will be cleared during construction in any given location.

As stated, the proposed Project is in an urban setting where relatively high levels of noise are already being generated from vehicles (to varying degrees) along the corridor, as well as from nearby residential and commercial roads and I-5. There is also ongoing construction of office and residential buildings throughout the Project corridor as well as boat and float plane traffic on Lake Union, all of which contribute to background noise. Background noise along the Project corridor is estimated to be about 65 A-weighted decibels or dBA (dBA is a noise scale using an A-weighted average; see WSDOT, 2018b). This average noise level was based on the findings of Cavanaugh and Tocci (1998; as cited in WSDOT, 2018b) in their study of noise in urban/commercial and urban/residential areas. Portions of the route closest to I-5 and major arterial roads such as Mercer Street may have a higher background noise than 65 dBA; however, 65 dBA presents an adequately conservative background noise level for the whole corridor.

Noise generated from the proposed Project construction was estimated to be 92 dBA.⁴ Noise generated by the operation of the buses would be equal to, or less than, that of other surrounding traffic, so an action area was not calculated based on the operation of the Project. Construction will use a variety of heavy machinery and power tools. Three of the loudest pieces of equipment expected to be used during construction were used to calculate the Project noise; these are concrete saws, jackhammers, and excavators. These have an operating noise level of 90, 87, and 81 dBA, respectively (WSDOT, 2018b). Using the additive approach of noise compounding, a combined construction noise level of 92 dBA was determined. Applying a linear attenuation model to this point source noise of 92 dBA at 50 feet from the point source, it was determined that Project construction noise will attenuate to the background noise of 65 dBA at a maximum distance of 1,200 feet from the Project (Figure 3). The attenuation rate was assumed

⁴ Initial noise at a distance of 50 feet from the source of the noise, the standard distance for determining the initial noise being generated from a point source disturbance (WSDOT, 2018b).

to be a loss of 6 dBA per the doubling of distance from the starting point⁵ of the noise source, as recommended by WSDOT (2018b) for an urban environment. This area captures the farthest distance where noise from any of the construction activities of the proposed Project could be distinguished from background noise.

Aquatic

No in-water work is associated with the Project. Therefore, the aquatic portion of the action area was determined for potential indirect effects to water quality using the Washington State Department of Ecology mixing zone distances as established in the Water Quality Standards for Surface Waters of the State of Washington, Chapter 173-201A-400 Washington Administrative Code,⁶ for the outfalls in the Ship Canal/Lake Union where Project-generated stormwater would discharge. Stormwater from Basins 2, 4, and 5 would enter Lake Union through outfalls (see Figure 3) located along the south shore of Lake Union or at the entrance of Portage Bay.

The water quality requirements for the individual outfalls in Lake Union that will be receiving runoff from the proposed Project are all covered under the City of Seattle's National Pollutant Discharge Elimination System (NPDES) permit (WA0031682) for the City's sewage and stormwater outfalls. This permit covers 86 different outfalls that discharge mostly into Lake Washington, various parts of Puget Sound around the city (such as Elliott Bay and Salmon Bay), and Ship Canal/Lake Union. This permit stipulates the general compliance conditions (e.g., inspection, reporting, ownership changes, fees, etc.) under which all the outfalls must operate. At the current 30 percent design level of the Project, the individual stipulations, including mixing zones, for each of the Project outfalls have not been reviewed. However, a standard mixing zone for outfalls of these drainage basin sizes for the Ship Canal/Lake Union is typically around 150 feet in radius. The Project was designed in compliance with the City's Stormwater Manual and the Stormwater Code as stated above under Stormwater Measures. Areas of the Project containing over 5,000 square feet of net new PGHS will have water quality measures installed within the pipe system. Therefore, it is assumed (at the current 30 percent design level) that the pollutant loading from the Project will maintain water quality compliance at each of the outfalls. As stated above, these individual mixing zones constitute the aquatic portion of the action area and incorporate the maximum distance where turbidity, sedimentation, and/or pollutant loading associated with construction activities and stormwater discharges would occur during operation of the Project.

⁵ For this project the centerline of the Project corridor was used as the starting point, which would slightly underestimate the action area width for any given point but allowed a consistent reference point along the entire route. Not all portions of the corridor will have construction, so overall, the approach over-estimated the size of the terrestrial portion of the action area by a substantial amount. This means that if proposed station locations change during construction, their new location will have been captured in the computed action area.

⁶ "Mixing zone" means that portion of a waterbody adjacent to an effluent outfall where mixing results in the dilution of the effluent with the receiving water. Water quality criteria may be exceeded in a mixing zone as conditioned and provided for in Washington Administrative Code [173-201A-400](#).

SPECIES AND HABITAT INFORMATION

The National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) provided listings of threatened and endangered species under their jurisdiction that potentially occur in the Project vicinity (Table 3 and Attachments 1 and 2). The current listings from NMFS indicate the potential presence of the Puget Sound Evolutionarily Significant Unit of Chinook salmon (*Oncorhynchus tshawytscha*) and the Puget Sound Distinct Population Segment (DPS) of steelhead trout (*Oncorhynchus mykiss*) in the Project action area.

Table 3. Federally Listed and Proposed Species Potentially Occurring in the Action Area

SPECIES	STATUS	CRITICAL HABITAT
Fish		
Chinook salmon (<i>Oncorhynchus tshawytscha</i>), Puget Sound Evolutionarily Significant Unit	Threatened	Designated
Steelhead trout (<i>Oncorhynchus mykiss</i>), Puget Sound DPS	Threatened	Proposed
Bull trout (<i>Salvelinus confluentus</i>), Coastal-Puget Sound DPS	Threatened	Designated
Birds		
Marbled murrelet (<i>Brachyramphus marmoratus</i>)	Threatened	Designated

Sources: USFWS, 2018; NMFS, 2018; StreamNet, 2018.

The USFWS also lists the Coastal/Puget Sound DPS of bull trout (*Salvelinus confluentus*) and marbled murrelet (*Brachyramphus marmoratus*) as potentially occurring within the Project vicinity (USFWS, 2018). Murrelets nest in old growth areas inland 55 or so miles from Puget Sound, and there are few suitable habitats within this distance of the Project corridor, although it is possible murrelets might fly over the action area.

Critical habitat has been designated for Chinook salmon and bull trout in Lake Union, and designated critical habitat steelhead trout has been proposed in the lake.

The additional ESA-listed species included on the USFWS Information for Planning and Conservation database report for the Project (USFWS, 2018) were either not historically distributed within the action area or the action area does not contain suitable habitat to support these species (Attachment 2). These were the yellow-billed cuckoo (*Coccyzus americanus*) and streaked horned lark (*Eremophila alpestris strigata*). The Project action area does not contain suitable habitat for these species, making it unlikely for them to occur in the action area. Therefore, these species are not addressed further. In addition, no designated or proposed critical habitat for these species is identified as occurring in the Project vicinity.

ANALYSIS OF EFFECTS

Terrestrial Impacts

The only listed terrestrial species that could potentially be in the terrestrial action area during construction would be marbled murrelets flying to Lake Union to feed during nesting season (April 1 to September 23). As noted, this is highly unlikely since murrelets nest in old growth areas inland over 50 miles from Puget Sound and there are relatively few suitable habitats within this distance in an easterly direction of the Project corridor. The in-air noise disturbance level for marbled murrelets at nesting sites is 92 dBA (WSDOT, 2018b). Although the noise level for disturbance to flying murrelets is not as well documented, it is assumed to be lower than that at a nesting site. Assuming the nesting site disturbance threshold of 92 dBA for murrelets flying to foraging areas, the construction noise of 94 dBA would attenuate to 92 dBA within 100 to 150 feet from its source. It is likely that murrelets do not fly this low over the Project corridor, and even if they did, it would be easy to avoid these small areas of noise disturbance; the construction sites would generate noise as point sources, not as a continuous line source along the whole corridor during the construction period. The line-source noise from the Project would be the operation of the buses, which will operate at, or well below, the background noise levels in the corridor.

Aquatic Impacts

During construction of the proposed Project, the only potential for impacts to aquatic resources, and thus listed fish species, would be in the Ship Canal/Lake Union. The proposed Project would disturb some ground and pavement at the station locations and the areas of roadway improvements. Disturbed ground during construction has the potential to cause temporary increases in turbidity and sedimentation in nearby water bodies during rain events and sometimes from the deliberate use of large quantities of water, such as that used for dust control. As stated above, the Project would implement several BMPs, including the CSECP; therefore, the potential for temporary increases of sedimentation and turbidity in Ship Canal/Lake Union from the Project will be eliminated or minimized to the extent practicable.

The proposed Project would result in a net increase of about 25,220 square feet of PGHS⁷ (Table 2), with runoff from 13,520 square feet draining to outfalls on the Ship Canal/Lake Union and runoff from about 11,700 square feet collected and transported to the WPTP. Even though the Project will add approximately 25,220 square feet of PGHS, nearly 50% of the runoff from this PGHS will be routed to the WPTP for treatment. At the WPTP, the runoff is and will continue to undergo secondary wastewater treatment far exceeding standard roadside water quality

⁷ The impact of runoff from non-PGHS was not assessed because both Puget Sound and the Ship Canal/Lake Union are exempt from a water quantity perspective; since new non-PGHS is not a pollutant source concern, it was assumed that there was no effect to listed species. It is estimated that net new non-PGHS will be about 50,000 square feet. The water quantity concerns are being addressed in the design of the piping system, as meeting pipe capacity is an engineering concern. There will be several detention areas underground to address water quantity issues.

treatment measures such as ecology embankments and other features that slowly lose their effectiveness over time, even when maintained. The remaining amount of PGHS runoff will be routed to three separate outfalls (Figure 3) that have capacity under the existing NPDES permit to accept new runoff from both newly created non-PGHS and PGHS surfaces created by the Project.

In the Ship Canal/Lake Union area, there would be an increase of 13,520 square feet in net new PGHS (Table 2). However, runoff from each of the three basins would be routed to separate outfalls (Figure 3). Runoff from Basin 2 would be discharged through an outfall along the north shore of Lake Union. The amount of net new PGHS will be 1,080 square feet. Basin 4 would discharge runoff from 120 square feet of net new PGHS along the east shore of Lake Union. And finally, Basin 5 would discharge the greatest amount of new runoff to Lake Union, through an outfall along the south shore, from an area of 12,320 square feet of net new PGHS. However, seven water quality Filterra units are proposed to be installed in Basin 5 along Fairview Avenue N that would treat currently untreated runoff from 14,300 square feet of PGHS. This would result in the treatment of runoff from 1,980 more square feet of PGHS than would be created in Basin 5 by the Project, and treatment of runoff from 780 more square feet of PGHS than would be created by all three of the basins draining to the Ship Canal/Lake Union.

CONCLUSIONS AND EFFECT DETERMINATIONS

We have determined that the proposed Project will have **no effect** on Chinook salmon, steelhead trout, bull trout, or marbled murrelet, based on the following rationale:

- The Project will meet all local, state, and federal water quality regulations during construction and operation.
- The Project's stormwater systems in Basins 2, 4, and 5 will discharge to outfalls in the Ship Canal/Lake Union that have been determined sufficient to handle the predicted runoff from these basins and will be in compliance with the City's Stormwater Code and Stormwater Manual.
- The Project will provide enhanced water quality treatment for runoff above what will be created by the net increase in PGHS resulting from the Project for Basins 2, 4, and 5 that drain to the Ship Canal/Lake Union.
- The implementation of a CSECP and a Spill Prevention, Control, and Countermeasures Plan during construction will minimize or eliminate the potential for increased turbidity and sedimentation within the Ship Canal/Lake Union.
- The Project's construction noise will not result in any in-air disturbance to any listed species.

- The Project occurs in a highly developed urban area, which has no habitat for listed marbled murrelets other than flyover habitat. No changes in land use will occur that will change habitat into suitable habitat for listed terrestrial species.

For these same reasons, we have determined that the proposed Project will have **no effect** on the designated critical habitat for Chinook salmon, bull trout, or marbled murrelet.

ESSENTIAL FISH HABITAT (MAGNUSON- STEVENS ACT)

The Sustainable Fisheries Act of 1996, Public Law 104-297, amended the Magnuson-Stevens Fishery Conservation and Management Act (MSA) to establish new requirements for “Essential Fish Habitat” (EFH) descriptions in federal fishery management plans. The MSA defines EFH as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” (United States Code Title 16, Section 1802(10)). The MSA requires federal agencies to consult with NMFS on all activities that may adversely affect EFHs. While EFH is a separate assessment than Section 7(c) consultation under ESA, it is almost always included in Section 7(c) consultation documents to streamline the review process.

The EFH affected by the proposed Project is in the mixing zones of the outfalls illustrated on Figure 3 where stormwater runoff from the Project corridor currently discharges. The mixing zones for the outfalls that will be used in the Ship Canal/Lake Union only contain EFH for Pacific coast salmon fishery (Pacific Fishery Management Council, 1999).

Based on the above assessment for listed species, it was determined that the proposed Project will have **no adverse effect** on the designated EFH for Pacific coast salmon. This determination was made based on the same reasoning presented above for federally listed species. The aquatic action area consists only of the mixing zones of Project-utilized outfalls at the Ship Canal/Lake Union. In the Ship Canal/Lake Union, the combined mixing areas for the outfalls that will be used by the Project will be receiving stormwater from newly created PGHS. Overall, the proposed Project will be treating runoff from not only the newly created PGHS along the Project corridor compliant with water quality treatment regulations, but will also be treating an additional, albeit relatively small amount, of runoff from existing PGHS that currently receives no water quality treatment. There are no other Project actions that would affect aquatic habitat.

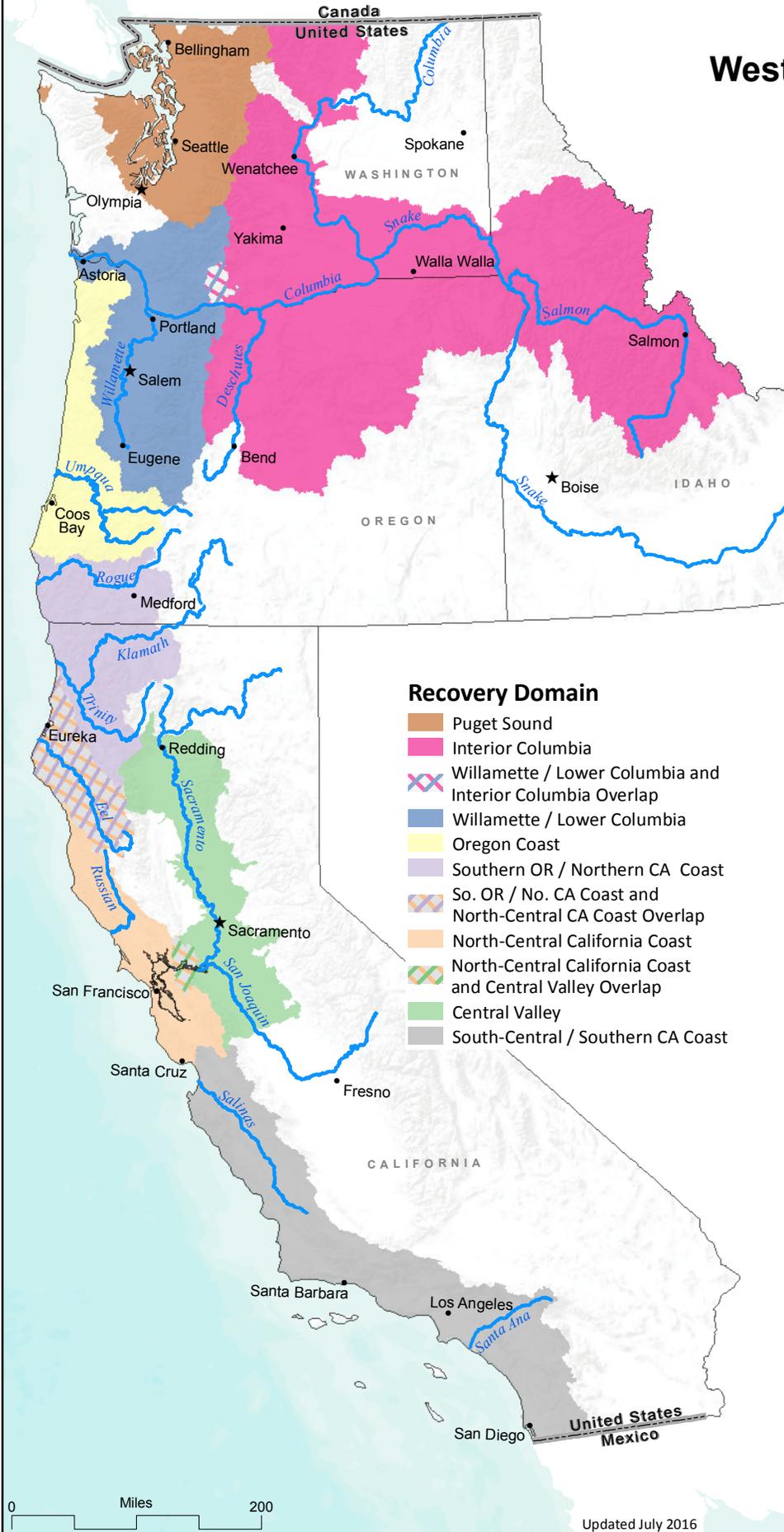
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Attachment 1
National Marine Fisheries Service
Species List

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Status of ESA Listings & Critical Habitat Designations for West Coast Salmon & Steelhead



Evolutionarily Significant Unit / Distinct Population Segment	ESA Status	Date of ESA Listing	Date of CH Designation
Puget Sound Recovery Domain			
Hood Canal Summer-run Chum Salmon	T	3/25/1999	9/2/2005
Ozette Lake Sockeye Salmon	T	3/25/1999	9/2/2005
Puget Sound Chinook Salmon	T	3/24/1999	9/2/2005
Puget Sound Steelhead	T	5/11/2007	2/24/2016

Interior Columbia Recovery Domain			
Middle Columbia River Steelhead	T	3/25/1999 1/5/2006	9/2/2005
Snake River Fall-run Chinook Salmon	T	4/22/1992	12/28/1993
Snake River Spring / Summer-run Chinook Salmon	T	4/22/1992	10/25/1999
Snake River Sockeye Salmon	E	11/20/1991	12/28/1993
Snake River Steelhead	T	8/18/1997 1/5/2006	9/2/2005
Upper Columbia River Spring-run Chinook Salmon	E	3/24/1999	9/2/2005
Upper Columbia River Steelhead	T	8/18/1997 1/5/2006	9/2/2005

Willamette / Lower Columbia Recovery Domain			
Columbia River Chum Salmon	T	3/25/1999	9/2/2005
Lower Columbia River Chinook Salmon	T	3/24/1999	9/2/2005
Lower Columbia River Coho Salmon	T	6/28/2005	2/24/2016
Lower Columbia River Steelhead	T	3/19/1998 1/5/2006	9/2/2005
Upper Willamette River Chinook Salmon	T	3/24/1999	9/2/2005
Upper Willamette River Steelhead	T	3/25/1999 1/5/2006	9/2/2005

Oregon Coast Recovery Domain			
Oregon Coast Coho Salmon	T	2/11/2008	2/11/2008

Southern Oregon / Northern California Coast Recovery Domain			
Southern OR / Northern CA Coasts Coho Salmon	T	5/6/1997	5/5/1999

North-Central California Coast Recovery Domain			
California Coastal Chinook Salmon	T	9/16/1999	9/2/2005
Central California Coast Coho Salmon	E	10/31/1996 (T) 6/28/2005 (E) 4/2/2012 (RE)	5/5/1999
Central California Coast Steelhead	T	8/18/1997 1/5/2006	9/2/2005
Northern California Steelhead	T	6/7/2000 1/5/2006	9/2/2005

Central Valley Recovery Domain			
California Central Valley Steelhead	T	3/19/1998 1/5/2006	9/2/2005
Central Valley Spring-run Chinook Salmon	T	9/16/1999	9/2/2005
Sacramento River Winter-run Chinook Salmon	E	11/5/1990 (T) 1/4/1994 (E)	6/16/1993

South-Central / Southern California Coast Recovery Domain			
South-Central California Coast Steelhead	T	8/18/1997 1/5/2006	9/2/2005
Southern California Steelhead	E	8/18/1997 5/1/2002 (RE) 1/5/2006	9/2/2005

ESA = Endangered Species Act, CH = Critical Habitat, RE = Range Extension
E = Endangered, T = Threatened

Critical Habitat Rules Cited

- 2/24/2016 (81 FR 9252) Final Critical Habitat Designation for Puget Sound Steelhead and Lower Columbia River Coho Salmon
- 2/11/2008 (73 FR 7816) Final Critical Habitat Designation for Oregon Coast Coho Salmon
- 9/2/2005 (70 FR 52630) Final Critical Habitat Designation for 12 ESU's of Salmon and Steelhead in WA, OR, and ID
- 9/2/2005 (70 FR 52488) Final Critical Habitat Designation for 7 ESU's of Salmon and Steelhead in CA
- 10/25/1999 (64 FR 57399) Revised Critical Habitat Designation for Snake River Spring/Summer-run Chinook Salmon
- 5/5/1999 (64 FR 24049) Final Critical Habitat Designation for Central CA Coast and Southern OR/Northern CA Coast Coho Salmon
- 12/28/1993 (58 FR 68543) Final Critical Habitat Designation for Snake River Chinook and Sockeye Salmon
- 6/16/1993 (58 FR 33212) Final Critical Habitat Designation for Sacramento River Winter-run Chinook Salmon

ESA Listing Rules Cited

- 4/2/2012 (77 FR 19552) Final Range Extension for Endangered Central California Coast Coho Salmon
- 2/11/2008 (73 FR 7816) Final ESA Listing for Oregon Coast Coho Salmon
- 5/11/2007 (72 FR 26722) Final ESA Listing for Puget Sound Steelhead
- 1/5/2006 (71 FR 5248) Final Listing Determinations for 10 Distinct Population Segments of West Coast Steelhead
- 6/28/2005 (70 FR 37160) Final ESA Listing for 16 ESU's of West Coast Salmon
- 5/1/2002 (67 FR 21586) Range Extension for Endangered Steelhead in Southern California
- 6/7/2000 (65 FR 36074) Final ESA Listing for Northern California Steelhead
- 9/16/1999 (64 FR 50394) Final ESA Listing for Two Chinook Salmon ESUs in California
- 3/25/1999 (64 FR 14508) Final ESA Listing for Hood River Canal Summer-run and Columbia River Chum Salmon
- 3/25/1999 (64 FR 14517) Final ESA Listing for Middle Columbia River and Upper Willamette River Steelhead
- 3/25/1999 (64 FR 14528) Final ESA Listing for Ozette Lake Sockeye Salmon
- 3/24/1999 (64 FR 14308) Final ESA Listing for 4 ESU's of Chinook Salmon
- 3/19/1998 (63 FR 13347) Final ESA Listing for Lower Columbia River and Central Valley Steelhead
- 8/18/1997 (62 FR 43937) Final ESA Listing for 5 ESU's of Steelhead
- 5/6/1997 (62 FR 24588) Final ESA Listing for Southern Oregon / Northern California Coast Coho Salmon
- 10/31/1996 (61 FR 56138) Final ESA Listing for Central California Coast Coho Salmon
- 1/4/1994 (59 FR 222) Final ESA Listing for Sacramento River Winter-run Chinook Salmon
- 4/22/1992 (57 FR 14653) Final ESA Listing for Snake River Spring/summer-run and Snake River Fall Chinook Salmon
- 11/20/1991 (56 FR 58619) Final ESA Listing for Snake River Sockeye Salmon
- 11/5/1990 (55 FR 46515) Final ESA Listing for Sacramento River Winter-run Chinook Salmon

Attachment 2
U.S. Fish and Wildlife Service
Species List

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United States Department of the Interior



FISH AND WILDLIFE SERVICE
Washington Fish And Wildlife Office
510 Desmond Drive Se, Suite 102
Lacey, WA 98503-1263
Phone: (360) 753-9440 Fax: (360) 753-9405
<http://www.fws.gov/wafwo/>

In Reply Refer To:

September 04, 2018

Consultation Code: 01EWF00-2018-SLI-1626

Event Code: 01EWF00-2018-E-03237

Project Name: RapidRide Roosevelt

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated and proposed critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. The species list is currently compiled at the county level. Additional information is available from the Washington Department of Fish and Wildlife, Priority Habitats and Species website: <http://wdfw.wa.gov/mapping/phs/> or at our office website: http://www.fws.gov/wafwo/species_new.html. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether or not the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species, and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.). You may visit our website at <http://www.fws.gov/pacific/eagle/for> information on disturbance or take of the species and information on how to get a permit and what current guidelines and regulations are. Some projects affecting these species may require development of an eagle conservation plan: (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Also be aware that all marine mammals are protected under the Marine Mammal Protection Act (MMPA). The MMPA prohibits, with certain exceptions, the "take" of marine mammals in U.S. waters and by U.S. citizens on the high seas. The importation of marine mammals and marine mammal products into the U.S. is also prohibited. More information can be found on the MMPA website: <http://www.nmfs.noaa.gov/pr/laws/mmpa/>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Related website:

National Marine Fisheries Service: http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

Attachment(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Washington Fish And Wildlife Office

510 Desmond Drive Se, Suite 102

Lacey, WA 98503-1263

(360) 753-9440

Project Summary

Consultation Code: 01EWF00-2018-SLI-1626

Event Code: 01EWF00-2018-E-03237

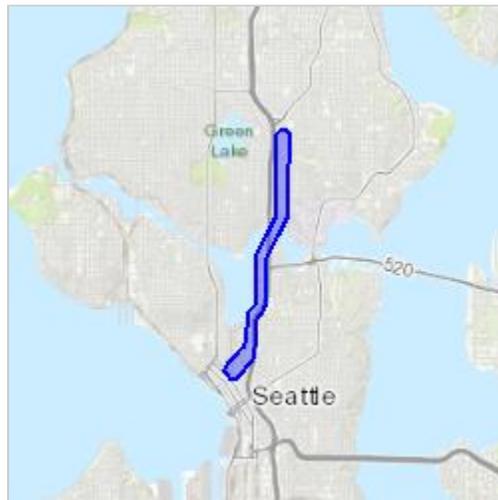
Project Name: RapidRide Roosevelt

Project Type: TRANSPORTATION

Project Description: FTA BTR stations - Roosevelt

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/47.645816973016856N122.32551081368746W>



Counties: King, WA

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
North American Wolverine <i>Gulo gulo luscus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5123	Proposed Threatened

Birds

NAME	STATUS
Marbled Murrelet <i>Brachyramphus marmoratus</i> Population: U.S.A. (CA, OR, WA) There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Streaked Horned Lark <i>Eremophila alpestris strigata</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7268	Threatened
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is proposed critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Fishes

NAME	STATUS
Bull Trout <i>Salvelinus confluentus</i> Population: U.S.A., conterminous, lower 48 states There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8212	Threatened

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Bull Trout <i>Salvelinus confluentus</i> https://ecos.fws.gov/ecp/species/8212#crithab	Final
