

BIOLOGICAL EVALUATION

87TH AVENUE TOWNHOMES

OCTOBER 2022



**Soundyview
Consultants**

Environmental Assessment
Planning + Land Use Solutions

BIOLOGICAL EVALUATION

87TH AVENUE TOWNHOMES

OCTOBER 27, 2022

PROJECT LOCATION

4112 AND 4018 87TH AVENUE NORTHEAST
MARYSVILLE, WASHINGTON 98270

PREPARED FOR

MIKE REID

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Environmental Assessment
Planning + Land Use Solutions

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Chapter 1. Introduction

Soundview Consultants LLC (SVC) has been assisting PNW Investors, LLC (Applicant) with a wetland and fish and wildlife habitat assessment for a proposed residential development of an approximately 12.85-acre site located at 4112 and 4018 87th Avenue Northeast in the City of Marysville, Washington (Figure 1). The subject property consists of three parcels situated in the Northwest ¼ of Section 1, Township 29 North, Range 5 East, W.M. (Snohomish County Tax Parcel Numbers 00590700021202, 00590700021300, and 00590700022000).

Figure 1. Vicinity Map.



To access the subject site from Interstate-5 North from the Lynwood area, take exit 194 for US-2 East toward Snohomish/Wenatchee. Continue onto US-2 East, and after 1.9 mile use any lane to merge onto WA-204 East toward Lake Stevens. After 0.1 mile, turn left onto Sunnyside Boulevard Southeast. Proceed for 3.0 miles and turn right onto Soper Hill Road. After 1.0 mile, turn left onto 87th Avenue Northeast/Eva Green Road, where the subject property will be located on the left.

SVC has prepared this BE on behalf of the Applicant to fulfill requirements of Section 7 of ESA, which requires that Federal actions do not jeopardize ESA-listed species or adversely modify or destroy critical habitat. The remainder of this document contains project details such as description, location, discussion and analysis of the project, and potential effects to ESA-listed species and critical habitat.

Chapter 2. Proposed Project

The Applicant proposes residential development of the subject property to include a 188-unit residential townhome development and associated infrastructure including an internal access road, stormwater management, and associated utilities. The purpose of the proposed project is to address the shortage of available housing in the area.

The Applicant proposes 188 townhomes with internal access roads and stormwater infrastructure. The project was carefully designed to fully utilize the developable upland area on the site; however, wetlands encumber the western portion of the site which inhibits site access. The City of Marysville is requiring frontage improvements and extending 40th Street Northeast through the center of the property to connect with 87th Avenue Northeast. The density of units proposed is also consistent with the goals of the Growth Management Act under RCW 36.70A.020, which clearly states primary development goals of concentrating urban growth within incorporated areas to limit urban sprawl in adjacent unincorporated areas which has the potential to directly impact high value critical areas or larger undisturbed tracts. To allow enough room for the proposed lots to meet density requirements and associated access roads, stormwater infrastructure, and open space requirements, full site utilization is necessary, and the total fill of Wetlands A and B is unavoidable.

The project site is located within the service area for the SBMB, and credits are available for purchase based on recent email communication with the bank sponsor. Therefore, compensatory mitigation for the total fill of Wetlands A and B will be provided through the purchase of mitigation bank credits from the SBMB as it is considered the most ecologically preferable option. The wetlands created through mitigation banking will have much higher habitat value than the small areas of onsite wetlands that will be filled. The project is anticipated to result in a net increase in ecological functions within the Snohomish River watershed (Water Resource Inventory Area 7) when compared to the existing degraded, isolated wetlands proposed to be impacted.

Direct and permanent wetland impacts will be compensated through the purchase of credits from the Snohomish Basin Mitigation Bank (SBMB). Overall, the proposed project will result in no net loss of ecological functions within the Snohomish River watershed (Water Resource Inventory Area 7). All necessary code analytics for the proposed mitigation are described in the *Bank Use Plan: 87th Avenue Townhomes* (SVC, 2022b).

2.1 Construction Techniques

Equipment used will be typical for land clearing and grading activities and will be kept in good working conditions and free of leaks. Equipment to be used will likely include an excavator, concrete pump truck, and dozer. Project staging should occur in an area that will create the least impact to traffic. The area will be kept free of spills and/or hazardous materials following methods outlined in a Spill Prevention, Control, and Countermeasure Plan prepared and implemented by the contractor. Temporary erosion and sediment control (TESC) measures consisting of a construction entrance, silt fencing and seeding of disturbed soils will be installed using Best Management Practices (BMPs) outlined in the Stormwater Pollution Prevention Plan (SWPPP) and TESC Plan prepared by the Project Engineer. Wetland fill material will be comprised of native soils that will come from onsite sources during the initial clearing and grading activities or from a clean source offsite. Hand tools will be used for finish grading and landscape planting to the maximum extent practicable.

2.2 Action Area

The “Action Area” for evaluation of potential impacts to ESA-listed species encompasses the locations where project activities will occur plus areas that may be directly or indirectly affected by the proposed project either through physical, chemical, or biological mechanisms. The geographic limits of the Action Area were defined by considering the potential spatial extent of mechanisms that may affect listed species. Mechanisms identified as having potential for impacting ESA-listed species or species habitat include noise from construction equipment; water quality impacts are expected to be de minimis and therefore will have no negative impacts to ESA-listed species. The Action Area for this potential impact mechanism is depicted in Appendix A.

2.2.1 Terrestrial Noise

To define the Action Area, this assessment discusses the project actions potentially generating noise levels above normal daily noise levels found in the vicinity of the project area. At certain levels, noise from project activities can adversely affect wildlife with various behavioral and/or health-related consequences (WSDOT, 2020). Terrestrial noise (transmitted through air) is measured in decibels (dBA) on an “A”-weighted logarithmic scale. Project activities will necessitate the use of the following three pieces of equipment with the loudest noise levels for grading, and construction: an excavator, concrete pump truck, and dozer. The Washington State Department of Transportation (WSDOT) *Biological Assessment Preparation Advanced Training Manual* (“BA Manual”), Version 2020, lists average noise levels for typical construction equipment; average ambient sound levels based on population density of the surrounding area as well as the general landscape setting; and noise levels for automobile traffic given certain speeds. According to WSDOT, the average decibel level at 50 feet from a working excavator is 87 dBA. The average decibel level at 50 feet from a concrete pump truck is 89 dBA. The average decibel level at 50 feet from a dozer is 86 dBA. Using decibel addition, 93 dBA was calculated to be the loudest projected noise level that will be heard at a 50-foot radius from where the construction actions will be performed. The use of construction equipment in this area will potentially lead to a higher noise level than traffic noise and ambient sound levels during portions of the project actions.

According to 2022 U.S. Population Density data adjusted by estimated population growth rates, population density in the vicinity of the subject property is 2,456 persons per square mile (Esri, 2022). The background sound level associated with this population density is 50 dBA (WSDOT, 2020). The closest significant noise generator is State Route 9, which has approximately 1,558 vehicles per hour according to WSDOT Traffic Count Database System from 2008, and a speed limit of 55 mph. According to Table 7-3 of the BA Manual traffic would result in approximately 75.7 dBA (WSDOT, 2020) noise levels. However, given the distance of SR 9 approximately 900 feet from the site, the background noise level associated with population density is anticipated to exceed traffic noise. Therefore, the background noise was used for determining the terrestrial noise impact of the proposed project.

Construction noise levels will be elevated above normal ambient noise but will not reach levels that are likely to significantly impact terrestrial species. Sound impacts on ESA-listed species are discussed in Chapter 4. For terrestrial noise, standard attenuation is approximately 6-7.5 dBA per doubling of distance from the source of noise, depending on whether the site is classified as hard or soft (WSDOT, 2020). The area surrounding the project area is generally considered a soft site due to the presence of forested areas. Using an ambient noise level of 50 dBA (WSDOT, 2020) and normal attenuation of

7.5 dB per distance doubling for a soft site, the construction noise will attenuate to background levels approximately 2,624 feet offsite (Table 1). Therefore, the Action Area for noise has an approximate 528-foot radius around project activities. The following table present the estimated construction noise attenuation distance.

Table 1. Terrestrial Noise Attenuation Calculations.

<i>Proposed Project and Site Noise Levels</i>	
Project Noise Level	93 dBA
Background Noise Level ¹	50 dBA
Traffic Noise Level ²	56.9 dBA
<i>Attenuation Distances</i>	
Construction to Background	2624 feet
Traffic to Background	2584 feet
<i>Construction Noise Extent</i>	
Construction to Traffic	2624 feet

1 - Background noise based on 2456 persons per square mile (ESRI, 2022).

2 - Traffic noise at the property line based on 1558 vehicles/hour traveling 55 mph 900 feet away.

2.2.2 Water Quality

The proposed project requires the complete fill of Wetlands A and B, and do not have surface water connections to any other waterbodies. These actions are not anticipated to result in any offsite turbidity impacts due to the lack of a surface water connection to any downgradient waters. With the lack of in-water work and implementation of BMPs onsite, no sedimentation or turbidity impacts are expected within nearby waterbodies.

As no further mechanisms for project impacts are anticipated, the overall Action Area is characterized by the 2624 linear foot terrestrial radius surrounding the Action Area.

Chapter 3. Environmental Baseline

3.1 Landscape Setting and Topography

The 12.85-acre subject property is located in a residential setting in the City of Marysville (Figure 2). The subject property is partially developed with two single-family residences and associated maintained lawn in the central and southern portion of the subject property and a motorcross track developed along the southwestern portion of the subject property; the remainder of the site consist of undeveloped and forested. The subject property abuts 87th Avenue Northeast to the east and residential developments and undeveloped forested areas to the north, west, and south. Topography on the subject property is gently sloped from southwest to northeast, with elevations ranging between approximately 395 feet above mean sea level (amsl) in the southwest to 370 feet amsl in the northeast. A Snohomish County contours map is provided in Appendix B1. The subject property is located within the Snohomish watershed, or Water Resource Inventory Area (WRIA) 7.

3.2 Soils

The NRCS Soil Survey of Snohomish County, Washington identifies one soil series on the subject property: Tokul gravelly medial loam, 0 to 8 percent slopes. A soil map is provided in Appendix B2. Below is a detailed description of the soil profile.

Tokul gravelly medial loam, 0 to 8 percent slopes (72)

According to the NRCS survey, Tokul gravelly medial loam, 0 to 8 percent slopes is a moderately well drained soil formed in glacial till and volcanic ash. In a typical profile, the surface layer is approximately 4 inches thick and is a dark brown gravelly loam. From 4 to 22 inches the subsoil is a brown, strong brown and dark yellowish-brown gravelly loam. From 22 to 31 inches the soil is light olive brown gravelly fine sandy loam. A hard pan is present at a depth of approximately 31 inches. Tokul gravelly medial loam, 0 to 8 percent slopes is listed as a non-hydric soil, but as much as 5 percent of areas mapped as Tokul gravelly medial loam, 0 to 8 percent slopes may contain hydric inclusions of McKenna and Norma loams (NRCS, N.d.).

3.3 Existing Habitat in Project Area

The Project Area encompasses the entire parcel, which consists of single family residences, including dwelling, driveways, maintained lawns and gardens, and associated outbuilding and infrastructure, a maintained motocross track, and undeveloped, immature forest. Upland forested areas are dominated by a Douglas fir (*Pseudotsuga menziesii*), western red cedar (*Thuja plicata*), and red alder (*Alnus rubra*) canopy with an understory dominated by vine maple (*Acer circinatum*), salmonberry (*Rubus spectabilis*), non-native invasive Himalayan blackberry (*Rubus armeniacus*), trailing blackberry (*Rubus ursinus*), and western swordfern (*Polystichum munitum*). The maintained field is dominated by Kentucky bluegrass (*Poa pratensis*), creeping buttercup (*Ranunculus repens*), and non-native invasive reed canarygrass (*Phalaris arundinacea*).

SVC identified and delineated two wetlands (Wetlands A and B) on the subject property. Additionally, two unregulated drainage ditches and one unregulated drainage area were observed on the subject property.

Wetland A is approximately 19,000 square feet (0.44 acre) in size onsite and is located on the eastern portion of the subject property. Hydrology for Wetland A is provided by surface sheet flow from adjacent uplands, direct precipitation, and a seasonally high groundwater table. Wetland vegetation is dominated by a black cottonwood (*Populus balsamifera*) canopy with an understory dominated by buttercup and non-native invasive reed canary grass. Wetland A is a Palustrine Forested/Emergent, Seasonally Saturated/Seasonally Flooded (PFO/EMBC) wetland. Per MMC 22E.010.060, Wetland A is a Category III depressional wetland (Hruby, 2014).

Wetland B is approximately 1,583 square feet (0.04 acre) in size onsite and is located on the northwest portion of the subject property. Hydrology for Wetland B is provided by surface sheet flow from adjacent uplands, direct precipitation, and a seasonally high groundwater table. Wetland vegetation is dominated by red alder canopy with an understory of creeping buttercup, youth-on-age (*Tolmiea menziesii*), and non-native invasive reed canary grass. Wetland B is a Palustrine Scrub-Shrub Bed, Seasonally Saturated/Seasonally Flooded wetland (PSSBC). Per MMC 22E.010.060, Wetland B is a Category III depressional wetland (Hruby, 2014).

Two drainage ditches were identified on the subject property. One drainage ditch is located north-adjacent to Wetland A and bisects the central portion of the subject property, running west to east, and a second drainage ditch flows south to north, briefly flowing through Wetland A before discharging to the northern ditch. Both ditches appear to be intentionally created and artificially constructed for drainage purposes due to their linear shape. The eastern ditch is generally less than a foot wide, and relatively shallow. The northern ditch varies in width from approximately 1 to 3 feet on average, with steep, nearly vertical sides. The northern ditch is poorly maintained and vegetation and debris inhibit or slow flow in several areas. Ultimately, the northern ditch discharges to an offsite roadside ditch, which runs parallel along 87th Avenue NE. Due to the artificial nature and lack of connection to a waterbody, the ditches do not meet the watercourse definition criteria under the Washington Administrative Code (WAC) 222-16-030 or stream definition under Marysville Municipal Code (MMC) 22A.020.200. Further, the City of Marysville, DNR, Snohomish County and WDFW do not identify the ditches as potential streams or as features that contains fish presence or habitat. Additional details regarding methods and findings are provided in *Wetland and Fish and Wildlife Habitat Assessment Report. 87th Avenue Townhomes* (SVC, 2022a).

3.4 Existing Habitat in Action Area

The Action Area encompasses a 2,624-linear foot radius from the parcel boundary. The areas located within the Action Area, but outside the Project Area, consist of a mixture of residential, agricultural, arterial roadways, local roadways, transmission and powerline right-of-way, fragmented deciduous forest, larger evergreen forest patches, and one mapped fish-habitat stream.

Rural residential is prevalent in the properties immediately surrounding the site, as well as further north and east of SR 9. High-density suburban residential is prevalent to the west and southwest, with additional high density residential developments currently under construction. Agricultural land is also present within the Action Area, east of SR 9. Fragmented deciduous forest patches under 15 acres in size are present in the norther portion of the Action Area. A larger mixed evergreen and deciduous forest stand, approximately 65 acres in size, is partially located in the eastern portion of the Action Area, east of SR 9, and extends east outside of the Action Area. A second mixed evergreen and deciduous forest stand and corridor, approximately 110 acres in size, is partially present within the western portion of the Action Area, extending beyond the Action Area to the west, northwest, and

southwest. This forest stand supports a large, ponded wetland, and King Creek, a mapped Type F stream. No fish are documented within the King Creek according to WDFW.

Chapter 4. Project Effects

This chapter presents an analysis of project effects to potential ESA-listed species. Potential project impacts were evaluated based upon specific habitat components that would be altered or removed and the degree to which the alteration may occur; the distribution and population levels of the species (if known); and the possibility of direct or indirect impacts to the species and/or habitat.

4.1 Potential Mechanisms for Effects

The proposed project actions have two mechanisms for direct impacts to the project site and Action Area: a temporary increase in terrestrial noise (short-term) and tree clearing (long-term), and one mechanism for indirect effects: hydrologic changes due to increased impervious surface. The proposed residential development is not anticipated to significantly change ecological functions onsite. Due to the existing developed conditions of the site and lack of functional habitat, no negative effect on functionality of habitat will occur from the proposed project.

4.1.1 Short-Term Effects

Terrestrial noise is expected to be a short-term impact, present throughout the duration of the project construction. Impacts to the local environment from project noise may occur within a 2,624-foot terrestrial radius in all directions. No in-water work is proposed. The project proposes earthwork activities and the fill of Wetlands A and B. However, Wetlands A and B do not contain any downgradient surface water connections to other wetlands or waterbodies and would not result in increased sedimentation or turbidity. Additionally, with the implementation of all appropriate BMPs and TESC measures and lack of in-water work, no sedimentation or turbidity impacts are expected to any downgradient waters.

4.1.2 Long-Term Effects

The majority of the site consists of residential areas, maintained lawns, gardens, and a motocross track, and provides minimal potential habitat. Tree clearing and site development within the Project Area represent the only long-term direct effects of the proposed project. However, existing forested habitat present in the Project Area consists of a relatively small fragmented and degraded forest block. Non-native invasive blackberry and reed canarygrass dominate a large portion of the Project Area, outcompeting native herbaceous and shrub species, and creating large gaps in the canopy. As the existing condition onsite do not provide suitable habitat for most species, with the exception of disturbance tolerant, urban wildlife, long-term effects of the proposed project on habitat and species are expected to be extremely minimal.

4.1.3 Indirect Effects

The proposed industrial development and associated infrastructure will result in a net increase in impervious surfaces compared to the present conditions which consists of undeveloped forested areas and field areas.

On a watershed scale, cumulative actions that increase impervious surfaces can also have an overall negative impact on hydrology. Increases in impervious surfaces can change hydrologic dynamics

through a decline in evapotranspiration and decreases in infiltration (NOAA, 2003). Changes in hydrology from increases in impervious surfaces can reduce water infiltration and dilution. In addition, changes in hydrology can increase frequency and severity of flooding and accelerate channel erosion and streambed substrate disturbance (NOAA, 2003). Urban runoff and discharges can increase loading of nutrients, bacteria, metals, pesticides, and other toxicants to streams (NOAA, 2003). However, the proposed stormwater infrastructure associated with the residential development is anticipated to adequately address the changes in land cover proposed by the project so that no detrimental effects to downgradient areas occur. Additionally, during project construction, TESC measures and BMPs designed to control site runoff will minimize potential immediate effects to hydrology and water quality.

4.2 Conservation Measures

Project BMPs and TESC measures consist of silt fencing, seeding of disturbed soils, and items outlined in the project's erosion and stormwater control plans, to be prepared by the Project Engineer prior to clearing and grading activities as applicable. Once TESC measures are in place, the site will be graded and site construction will proceed.

Equipment used for construction activities will be typical for excavation and grading activities and will be kept in good working order free of leaks. All equipment staging and materials stockpiles will be kept in upland areas, and the areas will be kept free of spills and/or hazardous materials. All fill material will be sourced from areas onsite or from approved suppliers and will be free of pollutants and hazardous materials.

Once construction is complete, any disturbed, undeveloped upland areas will be replanted using appropriate native or ornamental plants or seeds, as determined by the development manager. These actions will take place to permanently stabilize the soils and reduce erosion and restore any disturbed native vegetation to maintain a no net loss of ecological function.

4.3 Species Information

SVC staff reviewed data obtained from the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) and USFWS Information for Planning and Consultation (IPaC) tool in order to determine potential species and critical habitat listed under the ESA that may be found in or near the Action Area; Table 2 contains a list of these species. A copy of the IPaC Resource List is included in Appendix B. Due to the lack of identified surface connection to marine waters and distance to Puget Sound (approximately 5.5 linear miles away), there is no direct or indirect mechanism for harm to marine species; therefore, such species are not discussed further in this report.

The IPaC identifies three federally listed species and NMFS identifies two federally listed species potentially present within the vicinity of the Action Area. These species are identified in Table 3 below. No ESA-listed species are documented within the Action Area and no designated critical habitat for ESA-listed species is mapped within the Action Area. However, potential suitable habitat for steelhead trout, chinook salmon, and bull trout may be present within As the project location and surrounding environmental conditions do not support the presence of these species, designated critical habitat, potential suitable habitat, or other associated resources; these species are briefly discussed in Section 4.3.1 below.

Table 2. ESA-Listed Species and Critical Habitat Potentially Found in the Action Area.

Species Name	Common Name	ESA Listing Status	Potential for Project to Impact	Designated Critical Habitat
<i>Brachyramphus marmoratus</i>	Marbled Murrelet	Threatened	None	No
<i>Coccyzus americanus</i>	Yellow Billed Cuckoo	Threatened	None	No
<i>Oncorhynchus mykiss</i>	Steelhead Trout	Threatened	Potential	No
<i>Oncorhynchus tshawytscha</i>	Chinook Salmon	Threatened	Potential	No
<i>Salvelinus confluentus</i>	Bull Trout	Threatened	Potential	No

4.3.1 Species Not Likely Present

Several ESA-listed species listed in Table 3 will not be found on or near the vicinity of the Action Area and will not be addressed in the Project Effects discussions in Section 4.4 of this document. The proposed project is located in a commercial, residential, and industrial landscape within 0.78 mile of Interstate 5 and 0.5 mile from Highway 99. Stream Z flows into Des Moines Creek approximately 660 feet north of the subject property, which eventually discharges directly into the Puget Sound, approximately 1.25 mile southwest of the Action Area. No modeled or documented presence of salmonids are identified in Stream Z; however, a documented presence of cutthroat and gradient accessible presence of steelhead, chinook, coho, and chum are identified in Des Moines Creek. Due to a direct surface water connection to the Puget Sound and no mapped fish barriers, Des Moines Creek has the potential to contain chinook, steelhead, and bull trout. Even though several of the species in Table 3 were identified as potential present within the Action Area according to the IPaC, it is highly unlikely that these animals will be found in the vicinity of the project area or will be affected by the proposed project actions. The ESA-listed species clearly not affected due to project location and surrounding environment conditions include marbled murrelet and yellow-billed cuckoo.

- Marbled Murrelet (*Brachyramphus marmoratus*) are members of the Alcidae family of seabirds such as puffins, murrelets, and auklets. In the state of Washington, they are year-round residents on coastal waters. They primarily feed in waters within 500 feet of the shore out to 1.2 miles from shore at depths of less than one hundred feet. Preferred prey includes small fish and crustaceans; nestlings may be fed larger fish. Nests and roosts are found in mature and old growth forests of western Washington. Nesting typically occurs from April to September (WDFW, 1991). Nest trees are typically greater than thirty-two inches diameter at breast height, with nesting preference on large flat conifer branches, often covered with moss (WDFW, 1991) and found in old growth forests. Marbled Murrelets have been found in the largest numbers in marine waters near the coastal waters surrounding the Olympic Peninsula (Pearson & Lance, 2010). Marbled Murrelet are more sparsely distributed elsewhere in this region. Prey species sand lance (*Ammodytes hexapterus*), surf smelt (*Hypomesus pretiosus*), and Pacific herring (*Clupea harengus pallasii*) are important forage fish for marbled murrelets. Documented sightings of marbled murrelet are limited to marine areas within the Puget Sound, with the closest sighting approximately 2.85 miles to the west (eBird, 2022), and are typically associated with transient or foraging birds. While there are some larger blocks of forested habitat within the Action Area, these forests are likely not mature enough and consist of either deciduous or mixed evergreen and deciduous, rather than the necessary coniferous forests

required by the marbled murrelet. Nesting and foraging habitat requirements for this species are not present within the Project Area or Action Area; therefore, the project will have **No Effect on Marbled Murrelet**.

- Yellow-billed cuckoo (*Coccyzus americanus*) are migratory birds and historically ranged from British Columbia to northern Mexico. Yellow-billed cuckoo habitat consists of low to mid-level riparian forests dominated by cottonwoods and willows. Additional riparian habitat species may include ash, walnut, mesquite, and tamarisk. Breeding cuckoos prefer larger and wider patches of riparian habitat. Habitat assessments of yellow-billed cuckoo from California indicate that optimal habitat is greater than approximately 198 acres and wider than 600 meters; suitable habitat is approximately 100 to 198 acres and wider than 200 meters; marginal habitat is approximately 20 to 100 acres and 100 to 200 meters wide; and unsuitable habitat is smaller than approximately 37 acres and less than 100 meters wide (Wiles & Kalasz, 2017). Twenty sightings of the yellow-billed cuckoo have been confirmed in Washington between the 1950s and 2017; none of these sightings were of breeding birds. Sixteen of these 20 confirmed sightings were east of the Cascades; and the sighted birds were likely vagrants or migrants (Wiles & Kalasz, 2017). The closest documented sighting was recorded approximately 19 miles to the southeast in Sultan in 1979 (eBird, 2022). No appropriate suitable habitat is present within the Project Area. While the forest patches east and west of the site and partially within the Action Area meet the size criteria of suitable habitat, the forests are dominated by both evergreen and deciduous trees, which are not preferred by the cuckoo. Additionally, the deciduous forest present to the north is under 20 acres, and therefore is not even considered marginal habitat. As there are no documented occurrences of yellow-billed cuckoo and suitable habitat is lacking in the Project Area or Action Area, the project will have **No Effect on Yellow-Billed Cuckoo**.

4.3.2 Species Potentially Present

While there is no documented or modeled presence of salmonids onsite, WDFW identifies the potential presence for salmonids within the Action Area. One Type F stream is located approximately 1,200 feet northwest of the site, within the Action Area. While no fish are documented within the stream, the stream is identified as gradient accessible to chinook and winter steelhead, and ultimately discharges to Ebey Slough, where both species have been documented. Additionally, bull trout is presumed present further downgradient outside of the Action Area. As potential habitat for listed salmonids may exist within the Action Area, potential impacts to chinook, steelhead, and bull trout are assessed in further detail. Life histories are discussed below for ESA-listed species considered for impacts from this project. Species determinations are presented in Section 4.4.2.

Puget Sound Steelhead Trout DPS

Oncorhynchus mykiss

Threatened, listed May 11, 2007 - Critical Habitat designated February 24, 2016

Steelhead are an anadromous species with lifespans of up to 11 years. Steelhead can be iteroparous, but rates are highly variable between populations. In general, the females are more likely to be iteroparous (Keefer, 2008). Steelhead typically spend 2-3 years but can stay up to 7 years rearing in freshwater environments before migrating to marine ecosystems in late winter and spring to spend their adult lives in the ocean (USACE, 2007). They can remain at sea for up to 3 years before returning to spawn. Steelhead have winter and summer spawning runs. Winter runs are more typical of western

Washington populations (USFWS, n.d.). Once the juveniles reach the Puget Sound, they occupy inshore waters very briefly, only staying for a couple of weeks before quickly moving offshore towards the pelagic waters of the Gulf of Alaska where they remain for their first year at sea. In the following years, steelhead tend to move northwest out of the Puget Sound through the spring and summer and southeast during the fall and winter months. Post-spawning steelhead follow this same pattern but do not move as far west. This species tends to reside within 10 meters of the surface, but they sometimes move to greater depths (Light et al., 1989).

In freshwater habitats, steelhead prefer cool water but can tolerate temperatures up to 22 degrees Celsius. They need productive, well-oxygenated streams for spawning that have riffles, pools, overhanging vegetation, boulders and gravel to lay their eggs. Steelhead prefer fast water in small-to-large mainstem rivers, and medium-to-large tributaries. In streams with steep gradient and large substrate, they spawn between these steep areas, where the water is flatter and the substrate is small enough to dig into. Steelhead are sensitive to sedimentation and channel scouring. Juveniles tend to move throughout natal stream systems and prefer streams with protective cover and lower velocity as they can be swept away and killed (Behnke, 1992). Young steelhead feed on zooplankton and invertebrate larvae. The juveniles tend to wait near boulders in the middle of the water profile to catch drifting prey and conserve energy (Smith, 1991). Adults can eat a variety of foods in both freshwater and marine environments which can include fish eggs, aquatic and terrestrial insects, crustaceans, mollusks, and small fish (USFWS, n.d). Based on WDFW Salmonscape mapping, steelhead are not documented in the Project Area or Action Area. However, gradient accessible reaches for steelhead are mapped within King Creek, a tributary to Ebey Slough located approximately 1,200 feet to the northwest of the Project Area. However, WDFW fish passage mapping indicates a zero percent passable fish barrier downgradient, indicating that steelhead presence is not likely within the Action Area.

Puget Sound Chinook Salmon ESU

Oncorhynchus tshawytscha

Threatened, listed (reaffirmed) June 28, 2005 - Critical Habitat designated September 2, 2005

Chinook salmon are a semelparous species that returns to natal streams to spawn during the summer and fall months, with abundance peaking in October. Adult chinook tend to move quickly through the Puget Sound when returning to natal streams to spawn. Chinook bury their eggs in gravel substrate, and the alevins emerge 3 months later between December to April. There are two main kinds of life history strategies for this species: stream type and the ocean type chinook. The stream type migrates upstream earlier to spawn, from late spring to summer. After emergence they delay estuary migration to the following spring, overwintering in the river (Healy, 1998). Once they reach the Puget Sound, they spend little time there before moving out into deeper marine waters. There are two varieties of ocean type chinook: the delta fry remain in their natal delta for weeks to a few months before entering the estuary to rear, while parr migrants remain in freshwater to rear for up to 6 months before entering the natal estuary between May and July (Groot, 1991). Time spent in the Puget Sound is dependent on several factors including size, fry typically remain in estuarine nurseries until they reach about 70mm in fork length before moving seaward which usually occurs in under 2 months. Juvenile chinook abundance in the Puget Sound peaks around June and July, but they can still be found through October (Fresh, 2006). Once in marine waters, chinook salmon disperse widely, moving both northward and southward and will spend 2 to 4 years in the ocean. First ocean year stream type salmon prefer outer coasts while ocean type chinook utilize more sheltered waters (Groot, 1991). Fall Chinook populations in the Central and South Puget Sound regions are primarily sustained

through hatchery production; indigenous populations have diminished from habitat degradation, over-fishing, and the use of hatchery fish in the ecosystem. Chinook are highly valued by the commercial fishery.

Chinook range from Kotzebue Sound, Alaska down to Santa Barbara, California (PSMFC, 2012). Many of the rivers located within their range are used for Chinook spawning and rearing. In freshwater, spawning chinook require deep, coarse gravel with adequate irrigation to build their redds. Water temperatures must not exceed 14 degrees Celsius and as chinook are larger salmon, they are able to spawn in faster flowing rivers compared to other species. Chinook will spawn in a variety of habitats from small, shallow tributaries to the main stem of a large river. Most redds are built at the head of a riffle or in pools below log jams where the rate of sub gravel flow was increased (Groot, 1991).

Adults have been documented to eat other salmon eggs during their upstream migration; the proportion of chinook showing this trait varies across rivers (Garner, 2009). Juvenile chinook feed first on plankton and then as they grow larger eat dipteran larvae, beetle larvae, stonefly nymphs and leaf hoppers. Bank cover is important for juveniles as it provides shade and protection from predators as well as increased prey. In estuaries chinook are opportunistic feeders and their diet varies from place to place within the estuary, in general they prefer larval and adult insects as well as amphipods (Hammerson, 2010). Eelgrass habitat is especially important to juvenile chinook and it has been documented that a majority of their diet consists of prey associated with eelgrass habitats (Kennedy, 2018). During high tide, juvenile chinook can be found in surface waters at the edges of the shoreline and move into tidal channels and creeks when the tide lowers. Smaller chinook are not able to perform osmoregulation at the same capacity as larger salmon and prefer lower salinity waters. Pocket estuaries are essential for juvenile chinook and they are found in greater abundance in these areas than offshore and nearshore sites. A majority of the chinook found in pocket estuaries are a rearing population as these habitats provide refuge from predators (Beamer, 2003). Based on WDFW Salmonscape mapping, chinook are not documented in the Project Area or Action Area. However, gradient accessible reaches for chinook are mapped within King Creek, a tributary to Ebey Slough located approximately 1,200 feet to the northwest of the Project Area. However, WDFW fish passage mapping indicates a zero percent passable fish barrier downgradient, indicating that chinook presence is not likely within the Action Area.

Bull Trout

Salvelinus confluentus

Threatened, listed November 1, 1999 - Critical Habitat designated October 18, 2010

Bull trout are an iteroparous species that mature around ages 5 to 7 years and have a lifespan of 12 years or more. There are four life history strategies for Bull Trout: 1) non-migratory populations that spend their entire lives in small streams and headwater tributaries, 2) riverine populations that spawn in tributaries and mature in large rivers, 3) lacustrine populations that spawn in tributaries and mature in lakes, and 4) anadromous populations that spawn in natal tributaries and migrate downstream to mature in nearshore estuarine and marine waters (USFWS, 2010). The anadromous populations are only found in western Washington. These populations tend to travel only modest distances throughout the Puget Sound, although some individuals have been known to travel greater distances and maintain prolonged residence in marine waters. They tend to overwinter in nearshore marine waters or lower portions of streams (Brenkman & Corbett, 2011). Bull trout spawn in the fall, and the eggs incubate for approximately 220 days with emergence typically in the spring (Shellberg, 2002).

Juveniles rear for a short time in their natal stream before migrating and maturing in nearshore marine areas in the late spring. Once sexual maturity is reached, they return to upper reaches of mountain freshwater streams to spawn, continuing this migration pattern to and from marine waters for up to 10 years. Nearshore use occurs predominantly in March through July (Goetz, 2003).

Bull trout occur in less than half their historic range, with scattered populations throughout Oregon, Washington, Nevada, Idaho, and Montana. Temperature is a major factor in determining bull trout habitat. Bull trout cannot tolerate temperatures over 15 degrees Celsius and require temperatures below 9 degrees Celsius to initiate spawning. Stream and riverine bull trout habitats are found in channels with cold, stable flow; low levels of fine substrate sediment; clean gravel beds for spawning; and complex habitat features that still allow corridors for mitigation. Complex stream and riverine habitat features include abundant vegetation, debris jams, boulders, root wads, deep pools and undercut banks (Shellberg, 2002). In Washington bull trout can be found in major tributaries from the Cascades that flow into the Puget Sound as well as the major tributaries from the Olympic Mountains that flow into Hood Canal, Strait of Juan de Fuca and the Pacific Ocean (USFWS, 2015). After emergence, bull trout fry are most abundant in side-channels and pools with submerged cover (McPhail & Baxter, 1996). Juveniles eat small aquatic invertebrates, while adults are primarily fish predators. They are opportunistic feeders and will eat mountain whitefish, sculpins, darters, other trout, salmon fry, shrimps, snails, leeches and fish eggs (Hammerson, 2010). Lacustrine populations prefer oligotrophic and high-altitude lakes. They forage in the littoral zone in fall and spring and move to deep water in the summer, likely due to temperature constraints (Goetz, 1989). Within marine waters, bull trout prefer protected estuaries that contain coastal deposits, low banks, and sediment bluffs. Shallow water areas that contain eelgrass and green algae are important to bull trout and provide food for maturing juveniles (Hayes et al., 2011). In western Washington, small saltwater fish such as surf smelt, herring and sandlance are important food sources in marine habitats for adult bull trout (USFWS, 2015). Based on WDFW Salmonscape mapping, bull trout are not documented in the Project Area or Action Area. However, gradient accessible reaches for bull trout are mapped within the downgradient portions of King Creek, a tributary to Ebey Slough, more than 4,000 feet to the southwest of the Project Area and outside of the Action Area. However, WDFW fish passage mapping indicates a zero percent passable fish barrier downgradient, indicating that bull trout presence is not likely within the Action Area.

4.4 Determinations of Effect

The following section summarizes the proposed project impact determinations for ESA-species potentially present in the Action Area.

Puget Sound Steelhead Trout

Terrestrial Noise Impacts

Terrestrial noise is not anticipated to have any effect on steelhead trout.

Habitat Impacts

Steelhead are not documented in the Project Area or Action Area, nor are they documented in any downgradient portion of King Creek. Although King Creek is identified by WDFW as gradient accessible, a zero percent passable fish barrier is documented downgradient indicating that steelhead are likely not present in the upgradient reaches. No in-water work or work immediately adjacent to a fish-habitat stream is proposed, therefore there is no potential for direct impacts to fish habitat.

Additionally, appropriate infrastructure is proposed to adequately capture, treat, and control discharge stormwater from the proposed development so as not to adversely affect potential downgradient fish habitat.

Final Determination of Effects

As steelhead are not documented in any portion of the Project Area or Action Area and no in-water work or turbidity impacts are anticipated, the proposed project actions will have **No Effect on Puget Sound Steelhead Trout**.

Puget Sound Chinook Salmon ESU

Terrestrial Noise Impacts

Terrestrial noise is not anticipated to have any effect on chinook.

Habitat Impacts

Chinook are not documented in the Project Area or Action Area, nor are they documented in any downgradient portion of King Creek. Although King Creek is identified by WDFW as gradient accessible, a zero percent passable fish barrier is documented downgradient indicating that chinook are likely not present in the upgradient reaches. No in-water work or work immediately adjacent to a fish-habitat stream is proposed, therefore there is no potential for direct impacts to fish habitat. Additionally, appropriate infrastructure is proposed to adequately capture, treat, and control discharge stormwater from the proposed development so as not to adversely affect potential downgradient fish habitat.

Final Determination of Effects

As chinook are not documented in any portion of the Project Area or Action Area and no in-water work or turbidity impacts are anticipated, the proposed project actions will have **No Effect on Puget Sound Chinook Salmon ESU**.

Bull Trout

Terrestrial Noise Impacts

Terrestrial noise is not anticipated to have any effect on bull trout.

Habitat Impacts

Bull trout are not documented in the Project Area or Action Area, nor are they documented in any downgradient portion of King Creek. Although downgradient portions of King Creek are identified by WDFW as gradient accessible, a zero percent passable fish barrier is documented downgradient indicating that bull trout are likely not present in the upgradient reaches. No in-water work or work immediately adjacent to a fish-habitat stream is proposed, therefore there is no potential for direct impacts to fish habitat. Additionally, appropriate infrastructure is proposed to adequately capture, treat, and control discharge stormwater from the proposed development so as not to adversely affect potential downgradient fish habitat.

Final Determination of Effects

As bull trout are not documented in any portion of the Project Area or Action Area and no in-water work or turbidity impacts are anticipated, the proposed project actions will have **No Effect on Bull Trout**.

Conclusion

Table 3 below summarizes the determinations of effect for all ESA-listed species identified by IPaC.

Table 3. Species Determination Summary.

Species Name	Common Name	Federal Listing Status	Determination of Effect to Species ¹
<i>Brachyramphus marmoratus</i>	Marbled Murrelet	Threatened	No Effect
<i>Coccyzus americanus</i>	Yellow Billed Cuckoo	Threatened	No Effect
<i>Oncorhynchus mykiss</i>	Puget Sound Steelhead Trout	Threatened	No Effect
<i>Oncorhynchus tshawytscha</i>	Puget Sound Chinook Salmon	Threatened	No Effect
<i>Salvelinus confluentus</i>	Bull Trout	Threatened	No Effect

4.5 Essential Fish Habitat Analysis

The Magnuson-Stevens Fishery and Conservation Act (MSA) and the Sustainable Fisheries Act of 1996 (SFA)(Public Law 104-267) require Federal agencies to consult with NMFS on activities that may adversely affect Essential Fish Habitat (EFH). EFH is defined by the MSA in 50 CFR 600.905-930 as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.”

The object of this EFH assessment is to notify NMFS of the project and potential effects and determine if the proposed actions “may adversely affect” designated EFH for relevant commercial, federally managed fisheries species within the proposed Action Area. It also describes conservation measures proposed to avoid, minimize, or otherwise offset potential adverse effects to designated EFH resulting from the proposed action. The following EFH analysis is provided in conjunction with ESA consultation; some previous sections of the document may be referenced in order to reduce redundancies.

The proposed project actions are detailed in Chapter 2 of this BE. The effects of the actions (Chapter 4) will occur within the Action Area defined in Chapter 2.2 of this BE. Discussion of impacts to EFH for relevant species follows.

Salmon EFH

No streams are located onsite; the nearest stream is King Creek, located 1,200 feet northwest of the project area. The WDFW Salmonscape (WDFW, 2022) map does not identify documented presence of salmonids in King Creek, but does identify it gradient accessible to coho, chinook, chum, and pink salmon. The WDFW Fish Passage Assessment Program identifies a complete physical barrier to fish due to water surface drop at the crossing under Sloper Hill Road (Site ID: 920550), approximately 1 mile to the southwest of the site. Due to the lack of anadromous salmonid habitat in the Project Area, the proposed project **Will Not Adversely Affect Salmon EFH.**

Chapter 5. References

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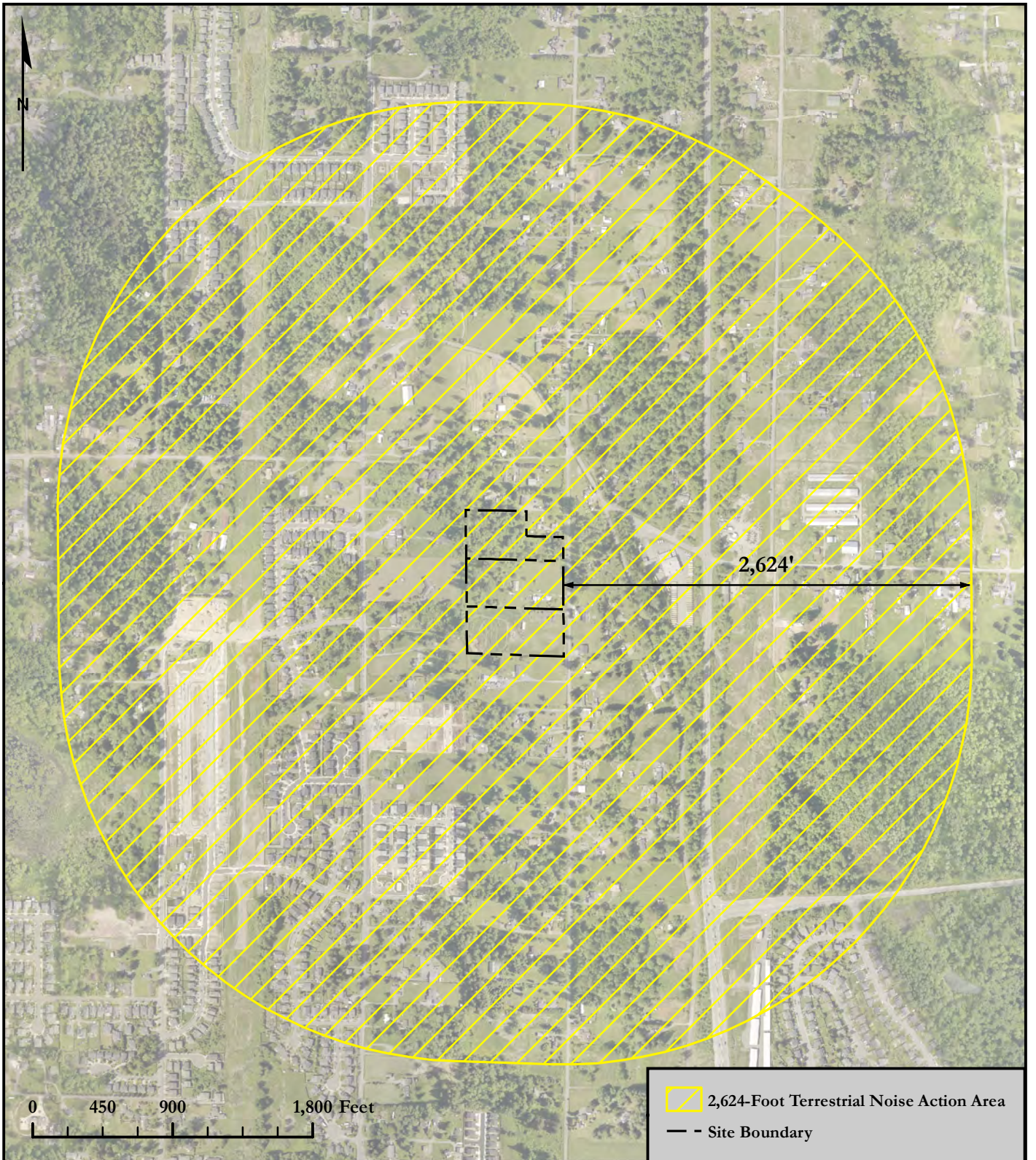
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Appendix A — Action Area Map

ACTION AREA MAP




Soundview Consultants LLC
Environmental Assessment • Planning • Land Use Solutions
2907 Harborview Dr., Suite D, Gig Harbor, WA 98335
Phone: (253) 514-8952 Fax: (253) 514-8954
www.soundviewconsultants.com

87TH TOWNHOMES
4112 & 4018 87TH AVE NE
MARYSVILLE, WA 98270
SNOHOMISH COUNTY PARCEL NUMBERS:
00590700021202, 00590700021300, & 00590700022000

DATE: 10/20/2022
JOB: 1167.0008
BY: DS
SCALE: 1" = 900'
FIGURE NO. 1

Appendix B — USFWS IPaC Resource List

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Snohomish County, Washington



Local office

Washington Fish And Wildlife Office

☎ (360) 753-9440

📅 (360) 753-9405

510 Desmond Drive Se, Suite 102
Lacey, WA 98503-1263

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

-
1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. [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.

The following species are potentially affected by activities in this location:

Mammals

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

Birds

NAME	STATUS
Marbled Murrelet <i>Brachyramphus marmoratus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/4467	Threatened
Yellow-billed Cuckoo <i>Coccyzus americanus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/3911	Threatened

Fishes

NAME	STATUS
Bull Trout <i>Salvelinus confluentus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8212	Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\)](#) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
<p>Bald Eagle <i>Haliaeetus leucocephalus</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds Jan 1 to Sep 30
<p>Black Swift <i>Cypseloides niger</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878</p>	Breeds Jun 15 to Sep 10
<p>Evening Grosbeak <i>Coccothraustes vespertinus</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 15 to Aug 10
<p>Lesser Yellowlegs <i>Tringa flavipes</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679</p>	Breeds elsewhere
<p>Olive-sided Flycatcher <i>Contopus cooperi</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914</p>	Breeds May 20 to Aug 31
<p>Rufous Hummingbird <i>selasphorus rufus</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002</p>	Breeds Apr 15 to Jul 15
<p>Short-billed Dowitcher <i>Limnodromus griseus</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480</p>	Breeds Jun 1 to Aug 10

Western Grebe *aechmophorus occidentalis*

Breeds Jun 1 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/6743>

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn

more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Coastal Barrier Resources System

Projects within the [John H. Chafee Coastal Barrier Resources System](#) (CBRS) may be subject to the restrictions on federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local [Ecological Services Field Office](#) or visit the [CBRA Consultations website](#). The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

There are no known coastal barriers at this location.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the [official CBRS maps](#). The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: <https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation>

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

Facilities

Wildlife refuges and fish hatcheries

Refuge and fish hatchery information is not available at this time

Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local

government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

Appendix C — Author Qualifications

Jon Pickett

Associate Principal

Professional Experience: 10+ years

Jon Pickett is an Associate Principal and Senior Scientist with a diverse background in environmental and shoreline compliance and permitting, wetland and stream ecology, fish and wildlife biology, mitigation compliance and design, and environmental planning and land use due diligence. Jon oversees a wide range of large-scale industrial, commercial, and multi-family residential projects throughout Western Washington, providing environmental permitting and regulatory compliance assistance for land use entitlement projects from feasibility through mitigation compliance. Jon performs wetland, stream, and shoreline delineations and fish & wildlife habitat assessments; conducts code and regulation analysis and review; prepares reports and permit applications and documents; provides environmental compliance recommendation; and provides restoration and mitigation design.

Jon earned a Bachelor of Science degree in Natural Resource Sciences from Washington State University and Bachelor of Science and Minor in Forestry from Washington State University. Jon has received 40-hour wetland delineation training (Western Mountains, Valleys, & Coast and Arid West Regional Supplements) and regularly performs wetland, stream, and shoreline delineations. Jon is a Whatcom County Qualified Wetland Specialist and Wildlife Biologist and is a Pierce County Qualified Wetland Specialist. He has been formally trained by WSDOE in the use of the Washington State Wetland Rating System 2014, How to Determine the Ordinary High-Water Mark (Freshwater and Marine), Using Field Indicators for Hydric Soils, and the Using the Credit-Debit Method for Estimating Mitigation Needs.

Rachael Hyland, PWS, Certified Ecologist

Senior Environmental Scientist

Professional Experience: 9 years

Rachael Hyland is a Senior Environmental Scientist with extensive wetland and stream delineation and regulatory coordination experience. Rachael has a background in wetland and ecological habitat assessments in various states, most notably Washington, Connecticut, Massachusetts, Rhode Island, and Ohio. She has experience in assessing wetland, stream, riparian, and tidal systems, as well as complicated agricultural and disturbed sites. She currently performs wetland, stream, and shoreline delineations and fish and wildlife habitat assessments; conducts environmental code analysis; and prepares environmental assessment and mitigation reports, biological evaluations, and permit applications to support clients through the regulatory and planning process for various land use projects. She also has extensive knowledge of bats and their associated habitats and white nose syndrome (*Pseudogymnoascus destructans*), a fungal disease affecting bats which was recently documented in Washington.

Rachael earned a Bachelor of Science degree in Ecology and Evolutionary Biology from the University of Connecticut, with additional ecology studies at the graduate level. Rachael is a Professional Wetland

Scientist (PWS #3480) through the Society of Wetland Scientists as well as a Certified Ecologist through the Ecological Society of America. She has completed 40-hour wetland delineation training for Western Mountains, Valleys, & Coast and Arid West Regional Supplement, in addition to formal training for the Northcentral and Northeast supplement, and experience with the Midwest, Eastern Mountains and Piedmont, and Atlantic and Gulf Coast supplements. She has also received formal training from the Washington State Department of Ecology in the Using the Revised 2014 Wetland Rating System for Western Washington, How to Determine the Ordinary High Water Mark, Navigating SEPA, Selecting Wetland Mitigation Sites Using a Watershed Approach, and Wetland Classification. Rachael has also received training from the Washington State Department of Transportation in Biological Assessment Preparation for Transportation Projects and is listed by WSDOT as a junior author for preparing Biological Assessments.