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# **Environmental Assessment**

200 Street Property Assembly

*4975, 4961, & 4951 200 Street and 19991 49 Avenue  
Langley, B.C.*

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**Prepared for:**

**City of Langley  
20399 Douglas Crescent  
Langley, BC V3A 4B3**



Prepared by:

**EBB** Environmental  
Consulting Inc.

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20399 Douglas Crescent  
Langley, BC V3A 4B3

PREPARED BY

**EBB Environmental Consulting Inc.**  
P.O. Box 18180 1215C 56<sup>th</sup> Street  
Delta, British Columbia, V4L 2M4  
Phone: 604-943-3209  
Fax: 604-948-3273  
Toll-Free: 1-877-943-3209  
Website: [www.ebbconsulting.ca](http://www.ebbconsulting.ca)  
Email: [enquiry@ebbconsulting.ca](mailto:enquiry@ebbconsulting.ca)

PRINCIPAL CONTACT

**Oliver Busby, MBA, RPBio, PAg**  
Mobile: 604-219-2412  
Email: [busby@ebbconsulting.ca](mailto:busby@ebbconsulting.ca)

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## Document Limitations

This document was prepared exclusively for the City of Langley for proposed development works at 4975, 4961, and 4951 200 Street and 19991 49 Avenue in Langley, B.C. No aspect of this report shall be reproduced by any third-party without the express written consent of EBB Environmental Consulting Inc. (EBB). The findings, conclusions, and recommendations in this document are based on the expertise and experience of EBB personnel based on 1) information available at the time of preparation; 2) data supplied by outside sources; and 3) assumptions, conditions, and qualifications set forth in this document. While professional judgement and standard practices were used in interpreting third-party external data, EBB did not verify the accuracy and quality of externally provided data.

Respectfully submitted;

Prepared:

**PREPARED BY**



**Rachel Weisbeck**, MSc, RPBio  
Biologist  
EBB Environmental Consulting Inc.

Reviewed:

**REVIEWED BY**



**Oliver Busby**, MBA, RPBio, PAg  
Principal  
EBB Environmental Consulting Inc.

*I certify that the work described herein fulfills standards acceptable of a Professional Biologist.*

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# 1 Introduction

EBB Environmental Consulting Inc. (EBB) was retained by the City of Langley (the City) to prepare a project environmental assessment consistent with provincial requirements to describe the environmental values associated with four lots located at 4975, 4961, and 4951 200 Street and 19991 49 Avenue in Langley, B.C (collectively, the Property Assembly), including aquatic and riparian habitat, fish, amphibian, wildlife, and species at risk. This report is intended to detail the existing environmental conditions and provide recommendations regarding environmental constraints and mitigation measures.

## 1.1 Project Location

The Subject Property consists of an assembly of four (4) adjoining land parcels within the City of Langley, located at the northeast corner of the intersection between 200 St and 49 Ave (Table 1; Figure 1; Figure 2). The lots are owned by the City of Langley and are proposed to be developed in partnership with the Living Hope Church of Nazarene and BC Housing.

Table 1. Individual lot descriptions for the Property Assembly.

Lot Reference	Area (Ha)	Civic Address	PID	Legal Lot Description
1	0.16	4975 200 ST	002-325-683	Plan NWP26103 Lot 16
2	0.08	4961 200 ST	004-808-011	Plan 49001 Lot 118
3	0.08	4951 200 ST	003-886-689	Plan 49001 Lot 119
4	0.62	19991 49 AVE	002-409-844	Plan NWP5752 Lot 1

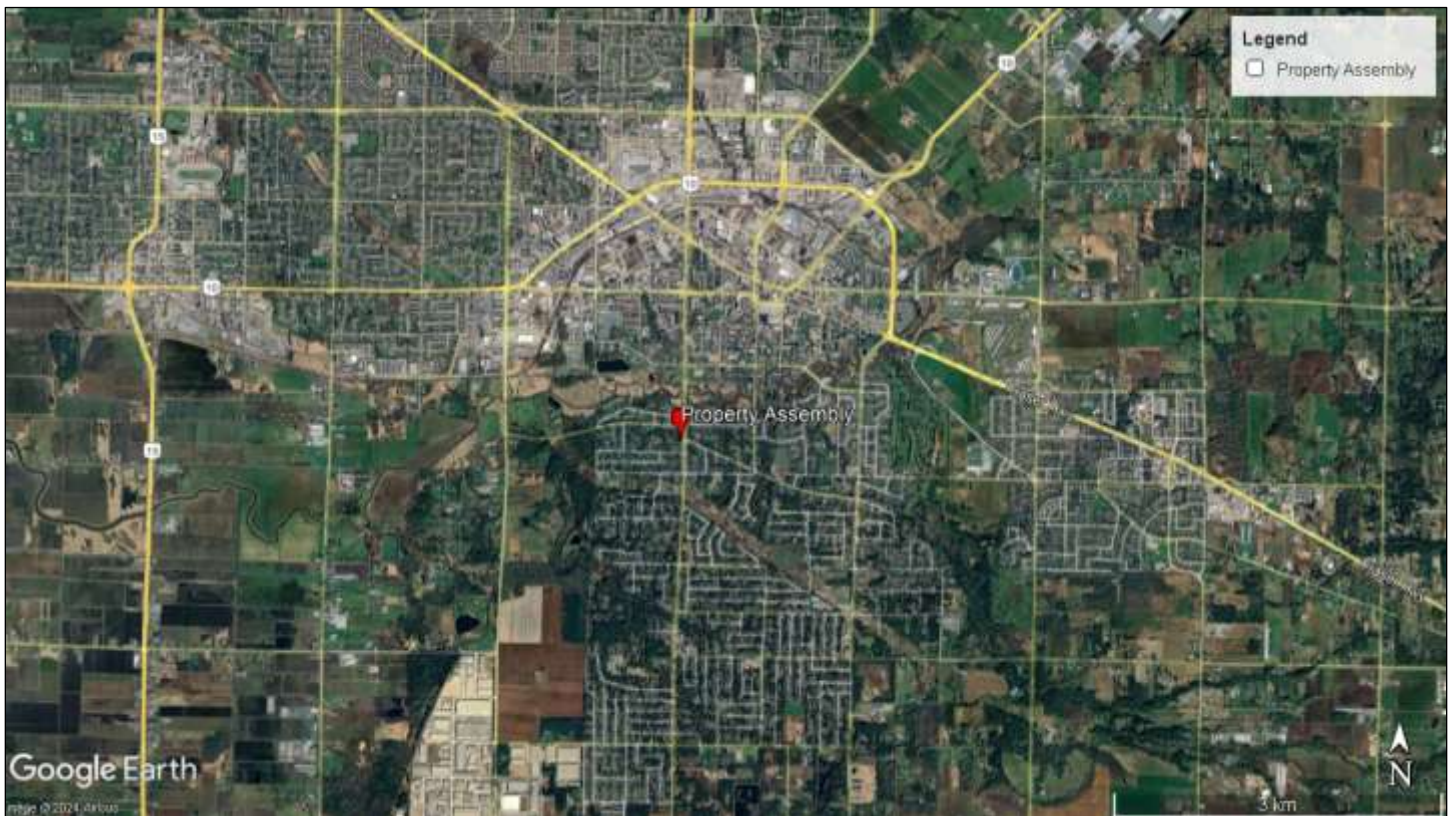


Figure 1. Location of the Property Assembly in the context of surrounding communities.





Figure 2. Location of the four lots that comprise the assessed Property Assembly.

## 1.2 Site History

Aerial imagery from Google Earth indicates that clearing and anthropogenic disturbance have been present within the Property Assembly for over 20 years. Imagery from April 2001 shows the presence of residential structures on all four of the identified lots, with maintained yard spaces and rows of large conifers along the lot boundaries. Imagery indicates that the residential structures present on lots 4951, 4961, and 4975 were demolished between April 2007 and April 2008 (Figure 3). After demolition, the lots have remained vacant until the present day. No additional development or significant modification of habitat composition appears to have occurred within lot 1991 since 2001.



Figure 3. Aerial imagery showing the Property Assembly (yellow) and surrounding area in April 2001 (left) and April 2008 (right) (images adapted from Google Earth). Between April 2007 and April 2008, the residential structures present on lots 4951, 4961, and 4975 were demolished.

## 1.3 Site Description

### 1.3.1 Ecosystems and Climate

Provincially, two biophysical classification systems are used to describe BC landscapes: the BC Ecoregion Classification System and the Biogeoclimatic Zone (BEC) Classification System. Based on the BC Ecoregion Classification System, the Subject Property is situated within the:

- Fraser Lowland Ecoregion,
  - of the Lower Mainland Ecoregion,
    - of the Georgia Depression Ecoprovince,
      - of the Cool Hypermaritime and Highlands Ecodivision,
        - of the Humid Temperate Ecodomain.

Based on the BEC classification system, the Property Assembly is located within the Eastern Very Dry Maritime Coastal Western Hemlock Variant (CWHxm1) zone. The CWHxm1 occurs at lower elevations along the east side of Vancouver Island, on the southernmost islands in the Johnstone Strait, up the south side of the Fraser River, and along the Sunshine Coast, extending north to Desolation Sound. This zone is characterized by warm, relatively dry summers and moist, mild winters with little snowfall (Green and Klinka 1994).



## 2 Legislation and Bylaws

### 2.1 Fisheries Act

The federal *Fisheries Act* applies to all watercourses that functions to provide fish habitat, legally defined as water frequented by fish and any other areas on which fish depend directly or indirectly to carry out their life processes, including spawning grounds and nursery, rearing, food supply and migration areas. Under this definition, any stream that is, or flows into fish-bearing streams, is legally protected under the *Fisheries Act*, specifically Section 34.3(1) which states that, *no person shall carry on any work, undertaking or activity, other than fishing, that results in the death of fish* and Section 35 (1) which states, *no person shall carry on any work, undertaking or activity that results in the harmful alteration, disruption or destruction of fish habitat*.

### 2.2 Water Sustainability Act

The *Water Sustainability Act* (WSA, 2016) and it's associated regulations (Water Sustainability Regulation and Groundwater Protection Regulation) is intended to protect both surface and groundwater resources. Under Section 11 of the WSA, changes in or about a stream, defined as any modification to the nature of a stream, including any modification to the land, vegetation and natural environment of a stream or the flow of water in a stream, or any activity or construction within a stream channel that has or may have an impact on a stream or a stream channel, may only be made under authorization as issued by the comptroller, a water manager or an engineer of the government of British Columbia.

### 2.3 Riparian Areas Protection Regulation

The provincial *Riparian Areas Protection Regulation* (RAPR, 2004) calls on local governments to protect riparian areas during residential, commercial, and industrial development by ensuring that a Qualified Environmental Professional (QEP) conducts a science-based assessment of proposed activities. The purpose of the regulation is to protect the many and varied features, functions and conditions that are vital for maintaining stream health and productivity, including:

- Sources of large organic debris, such as fallen trees and tree roots
- Areas for stream channel migration
- Vegetative cover to help moderate water temperature
- Provision of food, nutrients and organic matter to the stream
- Stream bank stabilization
- Buffers for streams from excessive silt and surface run-off pollution

### 2.4 Migratory Birds Convention Act

The federal *Migratory Birds Convention Act* (MBCA, 1994) is intended to protect and conserve migratory birds, both as populations and individual birds, as well as their nests and extends legal protection to waterfowl (e.g., ducks and geese), cranes (e.g., sandhill cranes), shorebirds (e.g., plovers and sandpipers) and most songbirds (e.g., robins). The MBCA extends legal protection to migratory birds through the prohibition of possessing, purchasing, selling, exchanging, or giving a migratory bird or its nest.

## 2.5 Wildlife Act

The provincial *Wildlife Act* (1996) extends legal protection to designated wildlife within British Columbia, including raptors, threatened species, endangered species, game, and other species of vertebrae prescribed under Schedule A of the *Designation and Exemption Regulation*, which includes species of mammals, birds, reptiles, and amphibians. Under Sections 29 and 33 of the Act, it is an offence to attempt to capture or possess wildlife.

## 2.6 Species at Risk Act

The *Species at Risk Act* (2002) provides protection to species designated as at risk under the Act. Specifically, Section 6, to prevent wildlife species from being extirpated or becoming extinct, to provide for the recovery of wildlife species that are extirpated, endangered, or threatened as a result of human activity and to manage species of special concern to prevent them from becoming endangered or threatened. Under Sections 32 and 33 of the Act, listed species are afforded legal protection that prohibits harming, harassing, capturing or taking a listed species; possessing, collecting, buying, selling or trading an individual of a listed species; or damaging or destroying the residence of a listed species. In addition to the protection of listed wildlife species and their residences, the Act further protects habitat determined to be critical to the survival or recovery of the species.

# 3 Assessment Methodology

## 3.1 Database Queries

Digital databases were queried for species with potential to occur within Property Assembly. Databases included British Columbia Conversation Data Centre (BC CDC), British Columbia Ecological Reports Catalogue (EcoCat), BC Environmental Information Resources System for Biodiversity (EIRS BD) and the Global Biodiversity Information Framework (GBIF). Queries searched for information related to the Project Footprint and surrounding landscape. BC CDC results specifically provided listings of at-risk species listed under the provincial Wildlife Act and the federal Species at Risk Act (SARA).

Publicly available datasets from municipal, provincial, and federal sources were reviewed for the presence of known environmental values. Data queries included, but were not limited to:

- Wildlife species inventory (WSI) incidental, study and telemetry observations;
- Masked and unmasked sensitive species;
- Critical habitat for species at risk; and,
- Fish observations and distribution.

Analysis of species at risk looked at documented occurrences and ecosystem-based occurrences. Documented occurrences were determined through queries of available datasets, with results spatially limited to the assessment area and included:

- Wildlife Species Inventory, Incidental Observations;
- Wildlife Species Inventory, Survey Observations;
- Wildlife Species Inventory, Telemetry Observations; and,
- B.C. Conservation Data Centre Unmasked Spatial Data.

Potential for species at risk occurrences within the assessment area was determined by querying the B.C. Conservation Data Center's Species and Ecosystem Explorer. Results were limited by the following variables:

- restricted to red, blue, and legally designated species;
- known ranges overlapping with the Project Footprint and,
- occurring within:
  - Anthropogenic
    - Urban/Suburban
    - Roadside/Ditch
  - Forest
    - Deciduous/Broadleaf Forest
    - Mixed Forest (deciduous/coniferous mix)

The resulting list was cross-referenced with known occurrences within the wildlife species inventory, and BC CDC unmasked occurrence spatial datasets.

## 3.2 Field Review

Field assessments of the Property Assembly were undertaken on January 3<sup>rd</sup>, 2025 to observe, inventory, and evaluate terrestrial and aquatic habitats.

### 3.2.1 Watercourses and Wetlands

Watercourses within the Property Assembly were assessed by traversing the property with an attempt to cover all areas of the properties. Any encountered watercourses were walked for the entire length within Property Assembly.

Wetlands were assessed following a primary indicators' method, focussing on two of three wetland indicators, specifically the presence of hydrophytic vegetation and suitable hydrological conditions. Broad vegetative indicators include: (1) obligate species comprise more than 50 % of the abundant species ( $\geq 20$  % cover) of the plant community, (2) obligate and facultative wetland species comprise more than 50 % of the abundant species of the plant community, (3) obligate perennial species collectively represent at least 10 % cover in the plant community and are evenly distributed throughout the community and are not restricted to depressional microsites, (4) one abundant plant species in the community has one or more of the following morphological adaptations: pneumatophores (knees), prop roots, hypertrophied lenticels, buttressed stems or trunks, and floating leaves and (5) surface encrustations of algae are materially present (Tiner, 2017).

#### 3.2.1.1 Stream Classification

Fisheries sensitivity classification was determined using the following:

##### *Fishbearing*

<b>Class A</b>	Inhabited by salmonoids year round or potentially inhabited year round.
<b>Class A(O)</b>	Inhabited by salmonoids primarily during the over-wintering period or potentially inhabited during the over-wintering period with access enhancement.

### *Non-Fishbearing*

- Class B** Significant source of food, nutrient, or cool water supplies to downstream fish populations. These watercourses have no documented fish presence or reasonable potential for fish presence.
- Class C** Insignificant food/nutrient value. No documented fish presence and no reasonable potential for fish presence. These watercourses dry up soon after rainfall.

### **3.2.2 Raptor Nests and Cavities**

Field inventories for nesting raptors were conducted consistent with provincial inventory standards (RISC, 1998; 2001). Raptor nest searches focused on identification of direct nest observations and indirect cues suggesting a nest including raptor response, whitewash, prey plucking's and pellets. Cavities of appropriate size and condition with potential to house nesting owls were identified and noted.

### **3.2.3 Vegetation**

To identify the suitability of the Subject Property to support potential species at risk, a reconnaissance level assessment of vegetative composition and habitat quality was conducted. Vegetation within the Subject Property was assessed to verify composition, dominant vegetation, and to identify habitat quality for, or presence of, at risk plant species. Vegetation within the Subject Property was assessed to verify composition, dominant vegetation, and to identify habitat quality for, or presence of, at-risk plant species.

### **3.2.4 Species At Risk**

Habitats were surveyed to determine their suitability and availability for species at risk with potential to occur based on the various database queries. Consideration was given to all aspects of a species' requirements, such as breeding, foraging, dispersing or overwintering requirements.

## **4 Digital Database Results**

### **4.1 Species at Risk**

Digital database queries returned 55 listed species having a broad potential to occur in or around the Property Assembly. The filter used when searching for potential species limits potential species to general habitat types, Biogeoclimatic Zone and User Defined Location. Many at-risk species have limited data for their dispersal or habitat needs, and for many species, known occurrences are rare on the landscape.

Using the broad list of at-risk species with potential to occur within the Property Assembly produced from the BC CDC query, field assessments were used to further refine the list and determine the probability of occurrence (Table 2). Whether a species is likely to occur in a specific location within the property is based on habitat suitability and availability. Using the available data for each species' known occurrences and specific habitat requirements for breeding, foraging, and dispersing, a rating for each species' potential to occur within the project footprint is determined based largely on field observations. Potential to occur is ranked as either Probable, Possible or Unlikely and are defined as:

**Probable:** Habitat exists within the Project Footprint that is suitable for either foraging, breeding or dispersal for the species. The species is known to exist within the neighbouring region.

**Possible:** The species makes occasional use of the habitat type within the Project Footprint or there is quality habitat for the species adjacent to the Project Footprint. Data may be limited for this species.

**Unlikely:** Habitat used by the species does not exist within the Project Footprint and/or data is very limited for the species and/or the species is considered extirpated.

Table 2. BC CDC query results for species at risk with potential to occur within the Subject Property. SARA status consists of the SARA Schedule followed by the SARA Status code and may be followed by the date that the rank was last reviewed. E=Endangered, T=Threatened, SC=Special Concern.

Scientific Name	Common Name	BC List	SARA	Potential to Occur Based on Habitat Qualities
<i>Accipiter atricapillus laingi</i>	American Goshawk, <i>laingi</i> subspecies	Red	1-T	<b>Unlikely</b> Breeding habitat typically consists of larger, intact patches of forest dominated by mature or old-growth trees. Foraging habitat similarly consists of mature and old forest habitat types, typically surrounding the nesting area. Appropriate forested habitat not present within Property Assembly.
<i>Allogona townsendiana</i>	Oregon Forestsnail	Red	1-E	<b>Unlikely</b> Found in mixed and deciduous forest habitat, typically dominated by bigleaf maple, black cottonwood, and western redcedar. Associated with stinging nettle, deep leaf litter, and dense shrub cover. Forested habitat within the Property Assembly does not contain key features for this species.
<i>Anaxyrus boreas</i>	Mountain Beaver	Blue	1-SC	<b>Unlikely</b> Typically occupy mature forests dominated by red alder with substantial understorey vegetation, often dominated by sword fern and bracken fern. Requires deep soils with subsurface drainage that allows for tunnel and burrow construction. Suitable habitat is not present onsite.
<i>Ardea herodias fannini</i>	Great Blue Heron, <i>fannini</i> subspecies	Blue	1-SC	<b>Probable</b> Herons forage in aquatic areas usually less than 0.5 m deep. They frequently use wetlands, riparian forests, and all forest types (coniferous, deciduous, and mixed). Herons may use the ditch located at the south Property boundary edge as well as the adjacent open field for foraging.
<i>Buteo lagopus</i>	Rough-legged Hawk	Blue	-	<b>Unlikely</b> Prefers open, shrubby habitat for foraging. More likely to nest along coasts. Appropriate habitat does not exist onsite.
<i>Colaptes auratus</i>	Golden-crowned Kinglet	Blue	-	<b>Unlikely</b> Inhabits coastal old growth and late successional second growth coniferous forests with a large component of Western Hemlock. Appropriate terrestrial and aquatic habitat is not present onsite.
<i>Carychium occidentale</i>	Western Thorn	Blue	-	<b>Unlikely</b>

Scientific Name	Common Name	BC List	SARA	Potential to Occur Based on Habitat Qualities
				Found in low elevation forests in rich, relatively undisturbed leaf litter; usually dominated by bigleaf maple. Suitable forest habitat does not exist within the Property Assembly. Limited data available.
<i>Chordeiles minor</i>	Common Nighthawk	Blue	1-SC	<p><b>Possible</b></p> <p>Breeds in a range of open and partially open habitats, including forest openings and post-fire habitats, prairies, bogs, and rocky or sandy natural habitats, as well as disturbed and urban areas. Also found in settled areas that meet its habitat needs, with open areas for foraging and bare or short-cropped surfaces for nesting.</p>
<i>Chrysemys picta pop. 1</i>	Painted Turtle - Pacific Coast Population	Red	1-T	<p><b>Unlikely</b></p> <p>Highly aquatic and found in shallow waters of ponds, lakes, marshes, and slow-moving stream reaches. Optimal habitat contains muddy substrates with emergent aquatic vegetation, exposed Cattail mats, floating logs, and open banks. Suitable aquatic habitat is not present within or near the site.</p>
<i>Corynorhinus townsendii</i>	Townsend's Big-eared Bat	Blue	-	<p><b>Possible</b></p> <p>Preferred foraging habitat includes coniferous and deciduous forests and forest edges, riparian areas, and open woodland. Forested habitat onsite is limited in size and disconnected from larger forested stretches.</p>
<i>Hirundo rustica</i>	Barn Swallow	Yellow	1-T	<p><b>Possible</b></p> <p>Frequent users of anthropogenic habitats and occasional users of riparian and deciduous forest. Prefers open habitats, frequently near water, for foraging. Nests in barns or other buildings, in caves, and in cliff crevices. Some open field is present within the Project Footprint, although surrounding residential areas provide few foraging opportunities for this species.</p>
<i>Lasiurus cinereus</i>	Hoary Bat	Blue	-	<p><b>Probable</b></p> <p>Relies on forested habitats for roosting and foraging, including riparian areas, low-elevation meadows, open-canopied forest, and forest edges. May use deciduous or coniferous forests of any age class. Project area may provide some, although limited, suitable habitat for foraging and roosting.</p>
<i>Megascops kennicottii kennicottii</i>	Western Screech-Owl, <i>kennicottii</i> subspecies	Blue	1-T	<p><b>Probable</b></p> <p>Found in a variety of forest and woodland habitats, especially riparian habitats. Require large trees with suitable cavities for nesting and roosting. Although no cavities of sufficient size were observed, many large trees are present within the Property Assembly.</p>
<i>Myotis lucifugus</i>	Little Brown Myotis	Blue	1-E	<p><b>Possible</b></p> <p>Foraging habitat includes areas over still water, rivers, and forest gaps and edges. Maternity colonies and roosting sites are found in building attics, beneath bridges, in rock crevices, or in cavities of</p>



Scientific Name	Common Name	BC List	SARA	Potential to Occur Based on Habitat Qualities
				large trees. Suitable overwintering hibernacula are typically limited to caves and mines.
<i>Neogale frenata altifrontalis</i>	Long-tailed weasel, <i>altifrontalis</i> subspecies	Red	-	<b>Unlikely</b> Frequent users of forests and riparian habitats with shrubby cover, especially edge habitat between forests and open fields. Forest habitat onsite is small in size and disconnected from larger stretches of forest.
<i>Patagioenas fasciata</i>	Band-tailed Pigeon	Blue	1-SC	<b>Possible</b> Found in a variety of coniferous and mixed forest types. May also forage in suburban parks and cultivated areas.
<i>Progne subis</i>	Purple Martin	Blue	-	<b>Possible</b> Frequently use intertidal shoreline and wetland areas. Occasionally use stream and forest habitats.
<i>Rana aurora</i>	Northern Red-legged Frog	Blue	1-E	<b>Unlikely</b> Typically live along streams or in most, mature forest habitat in the summer. Adults breed in cool ponds or lake margins, slow-moving streams, marshes, or swamps. Appropriate aquatic habitat not present within or nearby the Property Assembly.
<i>Scapanus townsendii</i>	Townsend's Mole	Red	1-E	<b>Unlikely</b> Usually associated with large wetlands with emergent or floating vegetation within forested landscapes. Wetland habitat is absent within or near the Project Area.
<i>Sorex rohweri</i>	Olympic Shrew	Red	-	<b>Unlikely</b> Frequently associated with riparian and mature forests. Limited data available.
<i>Sorex trowbridgii</i>	Trowbridge's Shrew	Blue	-	<b>Unlikely</b> Associated with forested habitats, with a preference for mature mixed or riparian forest. Suitable forest habitat not available within the Property Assembly. Limited data available.
<i>Tyto alba</i>	Barn Owl	Red	1-T	<b>Unlikely</b> Forages in open spaces, including grassy fields and ditches, marshlands, and agricultural fields. Occasional use of riparian and forested habitat. Appropriate foraging habitat is limited to absent within the Property Assembly and surrounding area. Project Footprint does not contain structures suitable for nesting.

Spatial data for at-risk species were analysed to identify CDC and Wildlife Species Inventory (WSI) listed occurrences within three (3) kilometres of the Property Assembly (Table 3; Figure 4). Two (2) at-risk species have recorded occurrences within three (3) km of the property.

Table 3. At-risk species with documented CDC and WSI occurrences within three (3) km of Subject Property.

Species	Distance to Closest Subject Property Boundary	Comments
Mountain Beaver - <i>Aplodontia rufa</i>	Overlapping	<p>Occurrence data is associated with a museum specimen collected in July 1969. The location is described as very poorly documented. Mountain beaver is no longer being tracked by the BC CDC, but is a federally listed species and therefore historical records are retained.</p> <p>The Property Assembly fully overlaps with the documented polygon.</p>
Vancouver Island beggarticks - <i>Bidens amplissima</i>	2.7 km south	<p>Numerous observations of this species documented between 2008-2023 in an old gravel pit located northeast of the intersection between 32<sup>nd</sup> Ave and 202 St and in nearby Passive Park. Most recent observation (August 2023) described 5,000-10,000 plants present within the pond.</p>
Northern Red-legged Frog – <i>Rana aurora</i>	2.9 km northeast	<p>Occurrence data consists of annual observations of this species between 2007 and 2010, primarily located in the area surrounding Moses Creek. Up to five adults observed per year in the area.</p>

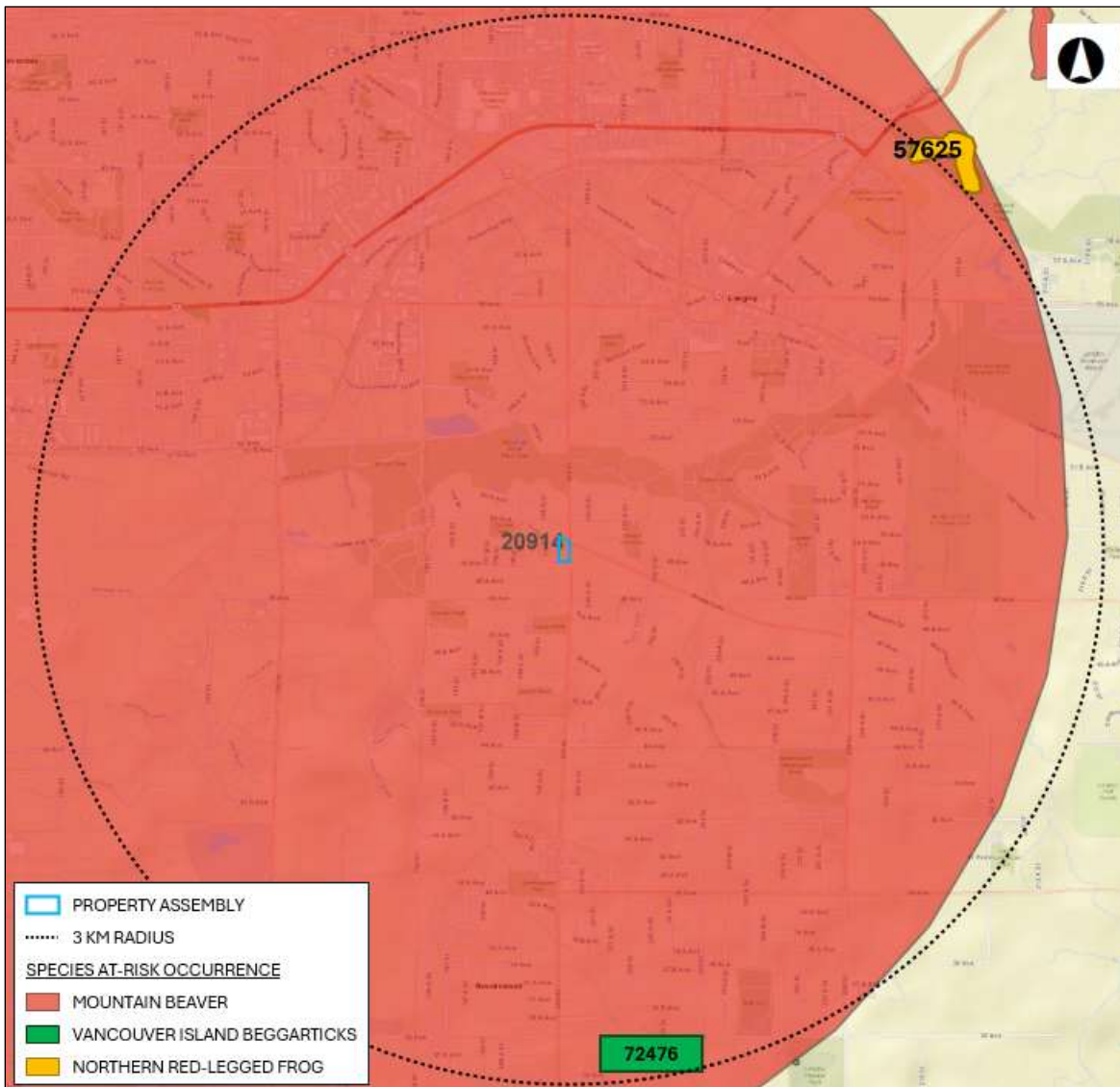


Figure 4. Distribution of observed occurrence areas for known species at risk within 3 km of the Property Assembly, derived from Provincial spatial data.

## 4.2 Critical Habitat

Under SARA, critical habitat is defined as *the habitat that is necessary for the survival or recovery of a listed wildlife species and that is identified as the species' critical habitat in the recovery strategy or in an action plan for the species. For aquatic species, critical habitat is further defined to include spawning grounds and nursery, rearing, food supply, migration and any other areas on which aquatic species depend directly or indirectly in order to carry out their life processes, or areas where aquatic species formerly occurred and have the potential to be reintroduced.*

Critical habitat has been legally defined and mapped for two (2) species within 3 km of the Subject Property: barn owl and Oregon forestsnail (Table 4; Figure 5). No critical habitats were identified within the Property Assembly.

Table 4. Critical habitat within 3 km of Property Assembly.

Critical Habitat Species	Distance to Closest Subject Property Boundary	Polygon Area (Ha)
Barn Owl – <i>Tyto alba</i>	1.1 km (northeast)	1513.4674
Barn Owl – <i>Tyto alba</i>	2.3 km (southeast)	6387.9348
Barn Owl – <i>Tyto alba</i>	2.9 km (southwest)	1996.7871
Oregon Forestsnail - <i>Allogona townsendiana</i>	2.3 km (southwest)	67.2634

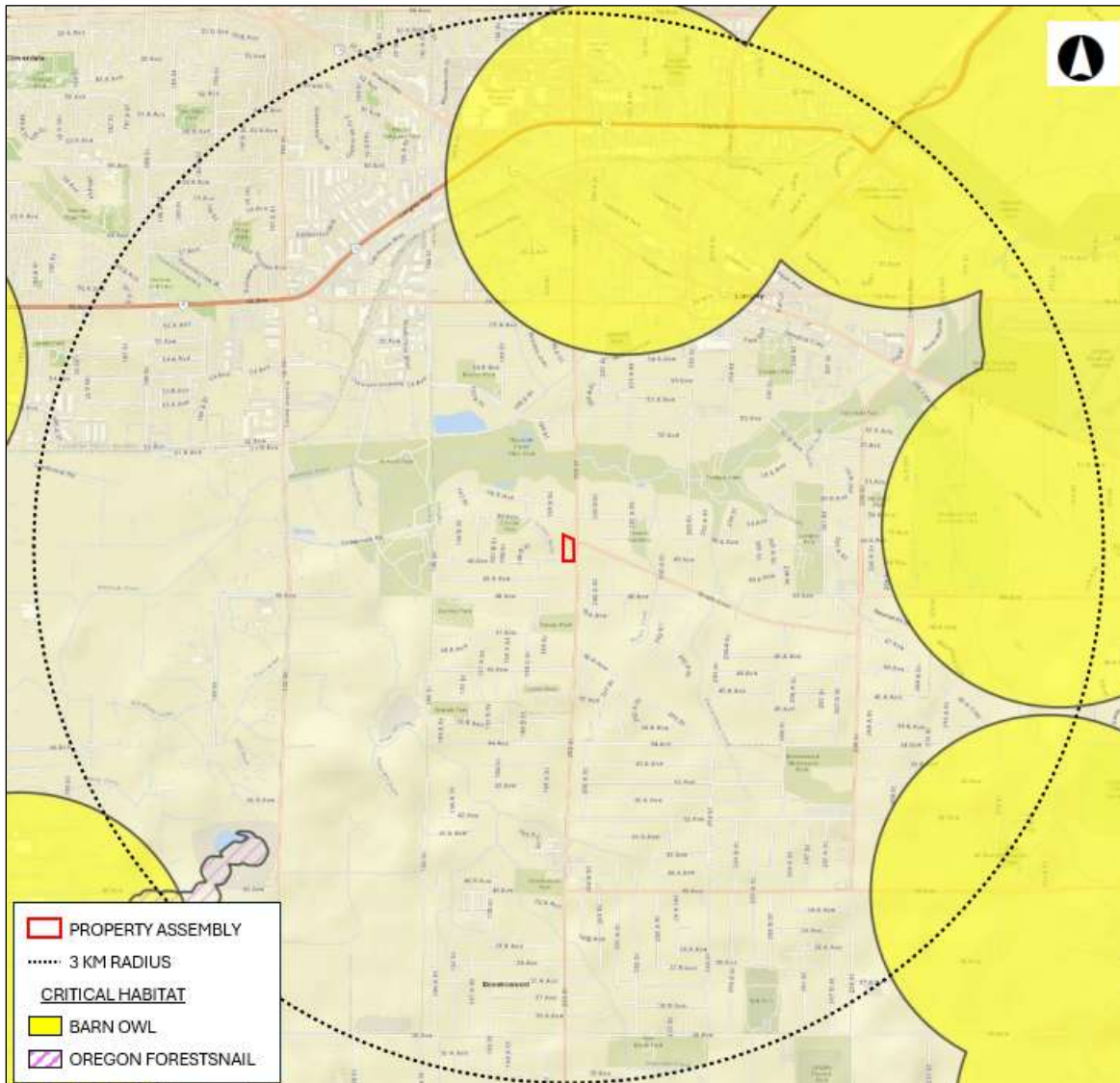


Figure 5. Distribution of observed Critical Habitat polygons within 3 km of the Property Assembly, derived from Provincial spatial data.

### 4.3 Species Summaries

The following are the species at risk with either a probable likelihood of occurrence within the Project Footprint or with documented occurrences within three (3) km.

### **Great Blue Heron *fannini* subspecies**

Foraging habitat for herons includes aquatic areas such as marine intertidal areas, estuaries, riparian areas, and wetlands that are generally less than 0.5 m deep within 5 km of their nest sites. This species typically forages while standing in water and may drop from the air or a perch into the water. Herons eat fishes, insects, crustaceans, amphibians and reptiles, mice and shrews, and other animals. The watercourse located at the south boundary of the Property Assembly (WC-1) offers some, although low-quality, foraging habitat for the species. Herons foraging within the area surrounding the Property Assembly are likely to be resilient to anthropogenic disturbance.

### **Hoary Bat**

Hoary bats occupy a wide diversity of habitats across their geographic range but are generally reliant on treed habitats for roosting or foraging, with a particularly strong dependence on suitable trees as roosting sites. They typically roost alone or with their pups among the foliage of trees and occasionally shrubs. Foraging habitats are less well known, but likely include the area above aquatic habitats, low-elevation meadows, grasslands, and open fields with patchily distributed trees, as well as open-canopied forest, the area above forest canopies, and forest edges. Hoary bats use both deciduous and coniferous forests of any age class. Many trees of sufficient size to provide roost sites are present within the Property Assembly. Additionally, the young deciduous forest and disturbed area may provide suitable foraging habitat for bats of this species.

### **Western Screech Owl**

Western screech-owls along the BC coast are found in almost every type of low elevation forest and woodland but generally prefer mixed deciduous-coniferous forests, often near a stream. They can also be found in older residential areas with mature trees and woodland, but use of this habitat has significantly declined in the last 20 years. They require large trees with suitable cavities for nest sites and often roost in these cavities. Habitat for the species within the Property Assembly is considered low to moderate quality within the disturbed area at the north end of the Assembly, due to the presence of numerous mature trees. Although disconnected from the Project Area, larger stretches of riparian forest are present nearby, associated with Willock Brook and the Nicomekl River. Western screech-owls using these larger stretches of riparian forest may also use the habitat present on the Subject Property.

### **Mountain Beaver**

Mountain beavers are associated with forests of any age, although they are most commonly found in early to mid-seral stages with abundant herbaceous food. They require soils that allow tunnel, runway, and burrow construction as well as subsurface drainage that keeps most tunnels and burrows wet. The known distribution for this species in BC is restricted to five separated subpopulations, extending from Abbotsford eastwards to the Princeton and Hedley areas and northwards to the Lytton and Merritt areas.

### **Oregon Forestsnail**

One critical habitat polygon for Oregon forestsnail is present within 3 km of the Project Footprint. Oregon Forestsnail habitat typically consists of moist deciduous and mixed forests with dense shrub cover, well-developed litter layer soils, and coarse woody debris. Forestsnails are associated with an overstorey dominated by bigleaf maple, and mating habitat is typically in close proximity to stinging nettle, which may play an important role in mating, egg-laying, and healthy shell growth. Although dense shrub cover was observed in some regions of the Property Assembly, other key habitat features for this species, including the presence of stinging nettle, dominant bigleaf maple, and a deep layer of leaf litter, are absent. Due to the distance of recorded Oregon forestsnail occurrences (closest occurrence is approximately 2.3 km away), the small size and fragmented nature



of the forest patch, and the absence of some key habitat features, it is not expected that the Property Assembly supports this species.

### **Barn Owl**

In B.C., barn owls prefer low elevation open country, particularly agricultural areas. Less frequently, they may use the edges of open woodlands, grassy estuaries, and suburban areas. Natural nest sites include hollow tree cavities, cliffs, riverbanks, and disused hawk nests. Although multiple mature deciduous and coniferous trees are present within the Property Assembly, no large cavities or trees of appropriate condition were observed during the site assessment. Appropriate foraging habitat for this species, including agricultural fields and open woodlands, are not present within or nearby the Property Assembly. Due to the lack of nesting and foraging opportunities as well as the dense surrounding residential development, it is unlikely that the Property Assembly provides habitat for this species.

## **5 Description of the Environment**

### **5.1 Field Assessment**

A field assessment was conducted on January 3<sup>rd</sup>, 2025 to describe both aquatic and terrestrial habitat within and surrounding the Project, and to verify habitat conditions for fish, birds, and species at risk.

### **5.2 Aquatic Habitat**

Field assessments identified the presence of one watercourse (WC-1) located adjacent to the southern property line of the Property Assembly. This watercourse is mapped in the City of Langley's Open Data Portal and no additional watercourses were located within, or immediately adjacent to the Property Assembly (Figure 6). Two nearby Class B watercourses are mapped in the City of Langley's Open Data Portal but are both located over 30 m from the nearest edge of the Property Assembly. WC-1 was assessed to determine its hydrological connectivity to downstream fish streams, and therefore its status as a stream under the federal *Fisheries Act*. The watercourse was also surveyed to the extent possible for any indicators of whether it was a natural stream or if it had a natural source of water supply and therefore a stream under the Provincial *Water Sustainability Act*.

WC-1 was dry at the time of assessment and the ditch bed was covered with grasses, herbaceous vegetation, and leaf litter, indicating that the watercourse is ephemeral in nature. No evidence of scouring or litter movement was observed. It is likely that the watercourse is fed primarily or exclusively by stormwater and is only temporarily wetted following precipitation events. Mapping indicates that the watercourse flows downstream through two narrow culverts, then connects to Willock Brook, a Class B watercourse, approximately 88 m west of the Project Footprint. Due to the ephemeral nature and small size of the ditch, as well as the culverts restricting both the upstream and downstream ends, it is unlikely that this watercourse provides fish habitat at any point during the year.



Figure 6. Distribution of observed and mapped watercourses surrounding the Property Assembly. Image derived from field observations and mapping from City of Langley’s Open Data Portal.

Table 5. Watercourse description based on desktop review (City of Langley’s Open Data Portal and BC Habitat Wizard) and field survey conducted January 3, 2025.

<b>WC-1: South Perimeter Watercourse</b>			
<b>Watercourse Type:</b> <input type="checkbox"/> Ditch <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Wetland	<b>Langley Stream Classification:</b> <input type="checkbox"/> A <input type="checkbox"/> B <input checked="" type="checkbox"/> C	<b>QEP Determined Stream Classification:</b> <input type="checkbox"/> A <input type="checkbox"/> B <input checked="" type="checkbox"/> C	<b>Designated As Stream Under</b> <b>DFO</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Determined
			<b>WSA</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Determined
<b>Wetted During Field Assessment?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Determined	<b>Source of Water Supply:</b> Stormwater	<b>Flow Direction and Connectivity:</b> Watercourse flows east to west, connecting to the heavily culverted municipal drainage ditch network both upstream and downstream. Based on City of Langley mapping, water from WC-1 passes through two narrow culverts, then flows into Willock Brook (Class B watercourse).	
<b>Document Fish Occurrences:</b> No documented fish presence. Fish presence is not expected due to the ephemeral nature of the watercourse and small diameter of connecting culverts.			



<p><i>Description of Aquatic Habitat:</i></p>	<ul style="list-style-type: none"> <li>• Dense grass and low vegetation growth throughout the bed of the watercourse indicates that it is ephemeraally wetted, likely following heavy precipitation events.</li> <li>• Layer of leaf litter shows no sign of water flow.</li> <li>• Watercourse was dry during the site assessment.</li> </ul>
<p><i>Description of Riparian Habitat:</i></p>	<p>Riparian habitat consists of regularly mowed grasses and creeping buttercup throughout the bank and adjacent area. A line of ornamental oak trees is present along the north bank of the ditch. Complexing features within the ditch are minimal/absent.</p>



Figure 7. Overview of the aquatic and riparian conditions associated with the watercourse present along the south property boundary (WC-1). Both banks of the watercourse are regularly mowed, and the watercourse was not wetted during the time of the assessment. Narrow culverts (pictured on the right) are present at both the upstream and downstream ends of the section running adjacent to the Project Footprint.

**5.3 Terrestrial Habitat**

A field assessment was conducted on January 3<sup>rd</sup>, 2025 to examine terrestrial habitat located within and surrounding the Property Assembly. January is not an optimal time for surveying plant species, especially herbaceous plants, and the list of species identified is not exhaustive. However, general plant composition and many individual species were identifiable; a list of the main observed plant species is provided in Table 6. Three general plant communities were observed throughout the Property Assembly: maintained field, young deciduous forest, and disturbed area (Figure 8).





Figure 8. Distribution of observed terrestrial habitat types within the Property Assembly.

**Maintained Field**

Maintained field habitat is present only in lot 19991, located in the southern half of the Property Assembly (approximately 0.30 ha). The field consists of regularly mowed grasses and is present north and east of the church located at the southern end of the lot. Natural vegetation and habitat features have been cleared from the field, with one low stump retained directly north of the church. A small line of ornamental cedar hedges is present along east side of the church and a row of oak trees runs along the south property line. A small, fenced playground is present along the west property boundary, with a line of large western redcedar trees between the playground and 199a St. The field abuts a small patch of young deciduous forest habitat to the west and mature coniferous trees associated with the disturbed area to the north. A busy roadway (200 St) runs along the full eastern boundary of the Property Assembly.





Figure 9. Overview of the maintained field, looking north/northeast from the west property boundary (left) and the south property boundary (right). All natural vegetation has been cleared from the field, which consists of regularly mowed grass.

**Young Deciduous Forest**

A small patch of deciduous forest (approximately 0.10 ha) is present within the northwest corner of lot 19991. The overstorey is primarily dominated by black cottonwood, with interspersed red alder and oak. Most trees within the patch are young, with a few mature western redcedar and red alder present along the western edge of the property. The understorey is dominated by invasive species, including Himalayan blackberry, English holly, and English ivy. Blackberry growth is particularly dense along the forest edges. Secondary growth consists of sword fern, bracken fern, and mixed deciduous shrubs. Downed trees and branches are abundant throughout the forest patch and are mostly in an early stage of decay. A thin layer of deciduous leaf litter is present throughout the forest.



Figure 10. Young deciduous forest patch contains dense undergrowth, dominated by invasive species with particularly dense blackberry growth along the forest edges (left). Woody debris consisting of fallen trees and branches is abundant throughout (right).

### Disturbed Area

Habitat within the north half of the Property Assembly (lots 4975, 4961, and 4951) consists of land that previously contained residential structures and yards but is no longer anthropogenically maintained (approximately 0.32 ha in total). As previously noted, residential structures present on the parcels were demolished between April 2007 and April 2008, and the lots have since been disused. Vegetative communities within the disturbed area consists of formerly cleared areas in the center of each lot, with rows of mature conifers along the parcel boundaries. Conifers primarily consist of western redcedar, with interspersed Douglas fir and pine. Decorative cedar hedge is periodically present along the eastern parcel boundaries. The interior formerly-cleared areas have become overgrown with early succession species, including deciduous saplings and dense, shrubby growth. Invasives are prevalent throughout, with extensive patches of Himalayan blackberry, reed canary grass, lesser periwinkle, and yellow archangel. Woody debris from downed conifer branches was abundant, and a few small brush piles were noted along the north and east property lines.

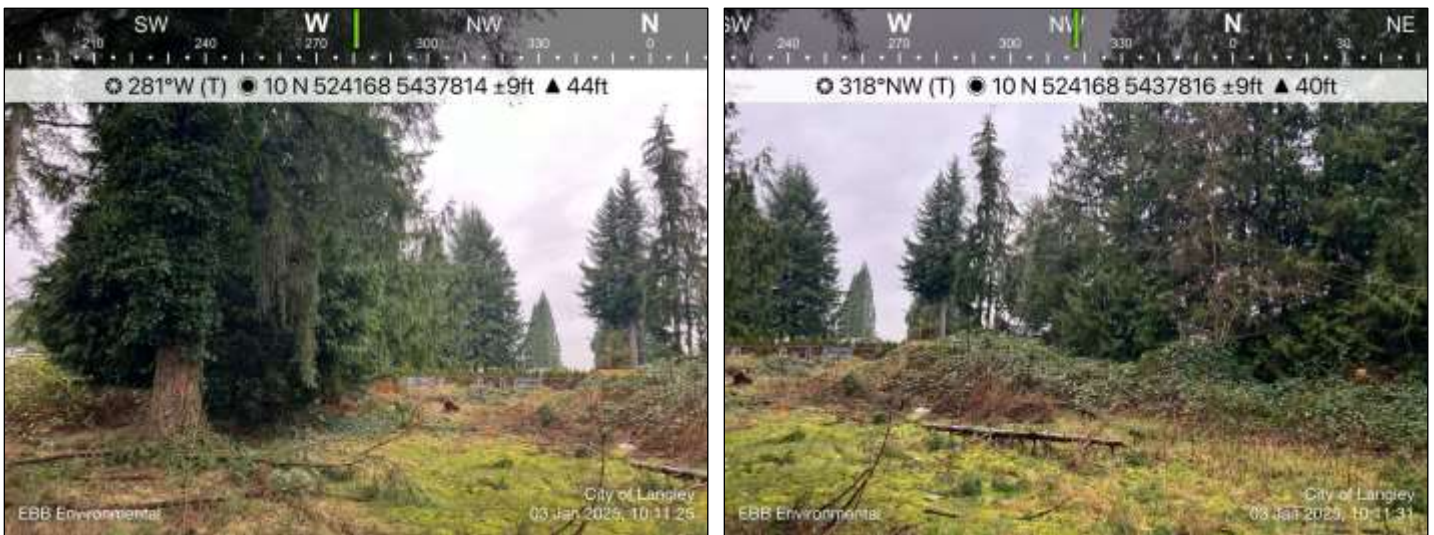


Figure 11. Lines of mature conifers were present along the boundaries of each parcel, with cleared interiors resulting from former residences and maintained yards.





Figure 12. Interiors of the disused lots exhibit early successional growth, including deciduous saplings and dense shrubs. Invasives are prevalent throughout the disturbed area and are particularly dense along the north and west boundaries of the Property Assembly.

Table 6. Plant species observed during the field assessment conducted on January 3<sup>rd</sup>, 2025.

Scientific Name	Common Name	Type	BC List
<i>Equisetum arvense</i>	Common horsetail	Herb	Y
<i>Polystichum munitum</i>	Sword fern	Herb	Y
<i>Pteridium aquilinum</i>	Bracken fern	Herb	Y
<i>Ranunculus repens</i>	Creeping buttercup	Herb	Ex
<i>Phalaris arundinacea</i>	Reed canary grass	Herb	Ex
<i>Hedera helix</i>	English ivy	Herb	Ex
<i>Vinca minor</i>	Lesser periwinkle	Herb	Ex
<i>Lamium galeobdolon</i>	Yellow archangel	Herb	Ex
<i>Rhododendron sp.</i>	Rhododendron sp.	Shrub	-
<i>Polystichum munitum</i>	Scotch broom	Shrub	Y
<i>Symphoricarpos albus</i>	Common snowberry	Shrub	Y
<i>Ilex aquifolium</i>	English holly	Shrub	Ex
<i>Rubus armeniacus</i>	Himalayan blackberry	Shrub	Ex
<i>Quercus sp.</i>	Oak sp.	Tree	-
<i>Acer macrophyllum</i>	Bigleaf maple	Tree	Y
<i>Populus trichocarpa</i>	Black cottonwood	Tree	Y
<i>Alnus rubra</i>	Red alder	Tree	Y
<i>Thuja plicata</i>	Western redcedar	Tree	Y
<i>Pseudotsuga menziesii</i>	Douglas fir	Tree	Y

## 5.4 Sensitive Ecosystems

Metro Vancouver’s Sensitive Ecosystem Inventory (SEI) mapping and provincial databases were reviewed to determine whether any sensitive or at-risk ecosystems occur within the Property Assembly. No sensitive or at-risk ecosystems were identified within the Assembly. Nearby sensitive ecosystems included riparian forest associated with Willock Brook (65 m west of Project Footprint) and a Nicomekl River tributary (135 m north).

The City of Langley’s Environmentally Sensitive Areas Mapping Study (ESA) identified the presence of ESAs within the Property Assembly. Areas representing “moderately low” and “low” sensitivity value were mapped, with “moderately low” areas generally overlapping with the disturbed area and young deciduous forest habitats and “low” areas overlapping the maintained field habitat (Figure 13). A total of 7826 m<sup>2</sup> of ESA habitat is present within the Property Assembly, consisting of 2,781 m<sup>2</sup> of “low” quality habitat and approximately 5,045 m<sup>2</sup> of “moderately low” quality habitat.

Young deciduous forests are early-stage forests with an overstorey that is dominated by deciduous tree species. Trees are typically evenly aged and are dominated by a single species. The understorey is often dense with shrubby growth. Young forests provide habitat and resources for many wildlife species and are an important contributor to biodiversity. Although fragmented by roads and residential development, the treed habitats within the Property Assembly may function as a component of a green corridor, providing resources and facilitating movement of wildlife between larger stretches of higher-quality riparian habitat associated with nearby watercourses.



Figure 13. Map of Environmentally Sensitive Areas and associated values within and surrounding the Property Assembly. Image adapted from the City of Langley’s Environmentally Sensitive Areas value map.



## 5.5 Fish and Wildlife

### 5.5.1 Wildlife and Wildlife Habitat

#### 5.5.1.1 Mammals

Field observations did not note the presence of any mammal species. In general, there is low to moderate quality habitat for small mammals and wildlife within the Property Assembly. Dense shrubby growth, woody debris, and brush piles within the young forest patch and disturbed area may provide cover, burrowing, and foraging opportunities. Numerous larger diameter trees are present within the Property Assembly and may provide roosting opportunities for bats. While available habitat is limited due to small size and fragmentation, it is likely that the Property Assembly provides habitat resources for small mammals.



Figure 14. Downed woody debris, brush, and dense shrubby growth within the Property Assembly may provide cover and habitat for a variety of small mammals and wildlife.

#### 5.5.1.2 Reptiles and Amphibians

Habitat within the Property Assembly is considered low for both amphibians and reptiles. Although the site contains dense shrub cover in some regions, it lacks consistent aquatic habitat or muddy substrates, representing poor quality habitat for either breeding or overwintering amphibians. While the watercourse present along the south property boundary may provide aquatic habitat during some times of the year, it is expected to be only temporarily wetted following precipitation events, limiting its utility for amphibians. No hibernaculum features were observed within the Property Assembly and overwintering reptiles are not expected.

#### 5.5.1.3 Breeding Birds and Raptors

The assessment was undertaken outside of the typical breeding bird window (March 1 to August 31) and, as a result, no nesting activity was observed during the field assessment. Multiple songbird species were observed within the Property Assembly, including American crow (*Corvus brachyrhynchos*), Steller's jay (*Cyanocitta stelleri*), song sparrow (*Melospiza melodia*), and spotted towhee (*Pipilo maculatus*). Regions of the site with dense shrub cover and canopy from mature trees provide some nesting and foraging opportunities for avifauna. No stick nests or cavities were observed during the field assessment.

## 6 Environmental Effects

### 6.1 Potential Impacts

The proposed works will involve vegetation clearing and grubbing, excavation, soil deposition, and the use of heavy machinery. Based on the proposed works and the observed environmental features within the Project Footprint, primary environmental impacts are to:

- Streamside and Riparian Areas
- Breeding and Migrating Birds
- Species At Risk

Measures to mitigate these environmental impacts are described in the following sections.

### 6.2 Stream and Riparian Area Protection

The site assessment did not identify any wetlands or streams within the Property Assembly. However, a drainage ditch was identified running along the south perimeter of lot 19991, located within the roadside ROW. The identified watercourse is legally protected under the WSA, RAPR, and the *Fisheries Act*. While the designation of the watercourse as a stream under the respective legislation does not preclude the development within or adjacent to the stream, it does represent the requirement to obtain regulatory approvals. Furthermore, development proposals in or about a stream channel may, or may not be approved by the appropriate regulatory agencies. If development is proposed to occur within the watercourse or associated riparian area, additional environmental assessment may be required. Habitat offsetting and balance (i.e., no net loss of habitat) planning and mitigation measures may be required for any development proposal that involves changes within and about a stream.

### 6.3 Breeding Birds

If conducted during the breeding bird window (March 1 to August 31), vegetation clearing works have the potential to affect breeding birds and their habitat. Even habitat outside of project footprint may be within the required buffer (30 m for songbird nests and 100 m for most raptors). For the Fraser Lowland Ecodistrict, the highest probability of nest initiation, resulting in potential impacts to construction schedules, is between May 15 and July 25 of any given year, but could begin as early as February for vegetation nesters and as late as mid September for ground and vegetation nesters (Figure 15).

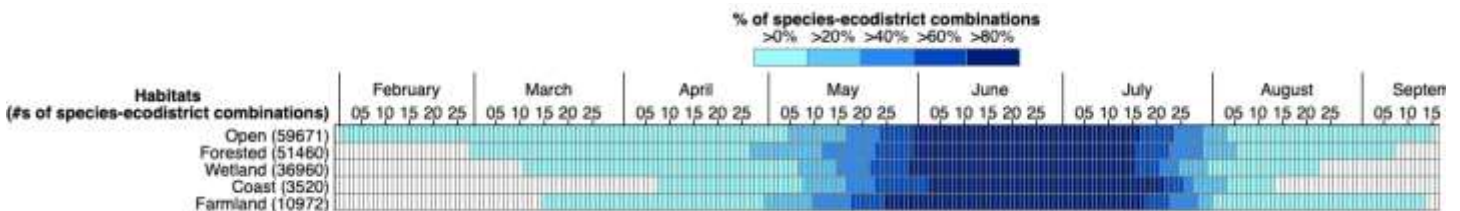


Figure 15. Breeding bird nesting calendar, by habitat type, for the Fraser Lowland Ecodistrict.

## 6.4 Species At Risk

Species at risk considered to have a probable likelihood of occurrence within the Project Footprint are western screech-owl, great blue heron *fannini* subspecies, and hoary bat.

Western screech-owls are found in a wide variety of low elevation forest types, as well as older residential areas with mature trees and woodland. Although no cavities of sufficient size were noted during the site assessment, numerous mature trees are present within the Property Assembly that may provide habitat for this species. Similarly, Hoary bats use both deciduous and coniferous forests of any age class and many trees of sufficient size to provide roost sites are present within the Property Assembly. Prior to removal of trees or snags of suitable size or condition for raptor nesting or bat roosting, additional surveys for bats, raptors, and other species at-risk may be required.

Great blue heron may forage within ditches adjacent to the site. There no documented heron nests or colonies within or near the Project Footprint. However, foraging habitat for herons includes ditches and other waters that are generally less than 0.5 m deep and within 5 km of their nest sites. Disturbance in the area from aircraft and vehicles is considered moderate to high. The species appears to be quite resilient to anthropogenic disturbance and it is likely that herons utilize ditches within the surrounding area for foraging. Given the extensive ditch system surrounding the project and the high level of existing disturbance, it is not expected that the works will have a detrimental effect on the species

## 6.5 Environmental Constraints

Based on the observed environmental values occurring within the assessment area, environmental constraints related to migratory birds will be in effect during proposed works. Table 7 outlines both the least risk windows and the restriction windows for these focal species.

Table 7. Summary of timing windows and environmental restrictions on construction.

Environmental Timing Constraints		
Focal Species	Least Risk Window	Restrictions
Migratory Birds	September 1 to February 28	Breeding bird surveys must precede works within the sensitive window for breeding birds (March 1 to August 31)

## 7 Recommendations and Mitigation

### 7.1 Stream and Riparian Area Protection

The preliminary assessment identified streams that are legally protected under the WSA and the Fisheries Act located directly adjacent to the Property Assembly. While the designation of the watercourses as streams and fish habitat under the respective legislation does not preclude the development within or adjacent to the stream (including, but not limited to the closure, relocation, or modification of the stream channel), it does represent the requirement to obtain regulatory approvals for such activities.



For any proposed development occurring within 30 m of a stream or wetland, a formal RAPR assessment, following the standardized assessment methods, must be undertaken for any proposed development occurring within 30 m of the streams. Where changes to the stream channel are proposed, environmental impact and mitigation planning must be included in the development proposal. Habitat offsetting and balance (i.e., no net loss of habitat) planning and mitigation measures must be developed for any development proposal that involves changed within and about a stream.

## 7.2 Pre-work Surveys

Surveys of the Property Assembly should be conducted no less than a week ahead of works to determine if there are any early nesters, active dens, or burrows and to facilitate the implementation of mitigative strategies and minimize impacts on work schedules.

### 7.2.1 Breeding Birds

Certain sections of the property represent suitable breeding habitat for numerous birds, legally protected under both the provincial *Wildlife Act* and the federal *Migratory Birds Convention Act*. Land clearing activities should be undertaken outside of the breeding window for the Fraser Lowland Ecodistrict, generally considered between March 1 and August 31, with peak nesting occurring between May 1 and July 31. Where land clearing activities do occur within the breeding bird window, surveys are to be undertaken by a Qualified Environmental Professional (QEP) to identify active nests and implement mitigative measures as needed.

Breeding bird nest surveys are to be conducted in a manner consistent with the following methodology:

- Prior to any construction-related activity within undisturbed habitat, the surveyor(s) are to walk the entire area where works are proposed to identify birds exhibiting nesting behaviours and to locate nests within and adjacent to the right-of-way, this includes:
  - Observing visual and audible behavioural cues.
  - Inspecting suitable nesting habitats, including ground, shrubs, wetland perimeters, and trees for nests.
- A minimum of two surveys on separate days are to be conducted to identify any potential nests.
- Surveys are to be conducted at a minimum intensity of 1 ha per hour.
- Should an active nest be identified during nest surveys, a “no-work” radial buffer appropriate to the species and as determined by the QEP is to be established around the nest as described below. No work is to be conducted within the buffer until the nest has fledged.
- Surveyors are to record the following information for identified nests:
  - Species
  - Coordinates
  - Distance to the applicable Project components
  - Date and time of day
  - Representative photos
  - Site description (i.e., tree or shrub species, height of nest, type of nest, direction cavity faces)
  - Stage of nesting (i.e., construction stage; eggs, including number; hatchlings; almost fledged)

## 7.2.2 Species At Risk

Bat surveys should be conducted by a QEP prior to the removal of snags or live trees with cavities where bats may be roosting. A QEP will advise as to the best strategy for the trees removal without harming the bat(s), which may be tree removal timing (bats may utilize cavities only temporarily), or via bat eviction. Bats hibernate during winter and trees removed during this period will not be at risk of being occupied by roosting bats.

Under Section 34 of the B.C. Wildlife Act, nests of eagles, peregrine falcons, gyrfalcons, ospreys, herons or burrowing owls are protected year-round, whether or not the nest is occupied. Surveys should be undertaken prior to removal of trees of suitable size or condition for raptor nesting. These surveys should follow RISC standards and be conducted by a QEP with the appropriate experience. Nest surveys for the species should be conducted during the species-specific breeding window ahead of works. Should an occupied nest be identified, a nest management plan, including impact mitigation measures, must be developed to limit the impact of any proposed development on the nest.

As the proposed development within the project footprint has potential to affect breeding birds and their habitat, works between March 1 and August 31 should include a QEP to conduct preclearing breeding bird nest surveys (see Section 7.2.1). These surveys are intended to identify nesting birds and apply mitigative measures to prevent contravention of the federal *Migratory Birds Convention Act* and the associated Migratory Birds Regulation.

## 7.3 Construction Environmental Management Plan

Prior to the initiation of works, a construction environmental management plan (CEMP) will be developed to, at a minimum, address site-specific best management practices, sediment and erosion control, spill prevention and response, environmental monitoring, and site restoration.

## 7.4 Habitat Compensation

Development of the Property Assembly is expected to remove a total of 7826 m<sup>2</sup> of habitat identified as ESA by the City of Langley, consisting of 2,781 m<sup>2</sup> of “low” quality habitat and approximately 5,045 m<sup>2</sup> of “moderately low” quality habitat. Where loss of habitat is unavoidable, the City’s OCP Bylaw 3200 requires that impacted habitat must be replaced at a ratio of 2:1. This results in an adjusted compensation area of 15,652 m<sup>2</sup> for the Property Assembly.

Within the compensation area, planting of native species should be conducted at a density of 1 plant per m<sup>2</sup>. Restoration guidelines typically recommend planting to be conducted in a ratio of 1 tree for every 3 shrubs. Trees should be between 1-2 metres in height, in 5-gallon pots. Shrubs should be in 1 or 2-gallon pots. A project Planting Plan should be developed prior to construction to detail the species, quantities, and locations of compensation plantings.

## Literature Cited

- B.C. Conservation Data Centre: CDC iMap [web application]. 2024. Victoria, British Columbia, Canada. Available: <https://maps.gov.bc.ca/ess/hm/cdc/> (October 07, 2024).
- B.C. Ministry of Environment. (2013). Guidelines for Raptor Conservation during Urban and Rural Land Development in British Columbia.
- B.C. Ministry of Environment. (2014). Develop with Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia.
- COSEWIC. 2008. COSEWIC assessment and update status report on the Great Blue Heron *fannini* subspecies *Ardea herodias fannini* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 39 pp.
- COSEWIC. 2010. COSEWIC assessment and status report on the Barn Owl *Tyto alba* (Eastern population and Western population) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xiv + 34 pp.
- COSEWIC. 2012. COSEWIC assessment and status report on the Mountain Beaver *Aplodontia rufa* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 30 pp.
- COSEWIC. 2013. COSEWIC assessment and status report on the Oregon Forestsnail *Allogona townsendiana* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xii + 87 pp.
- COSEWIC. 2023. COSEWIC assessment and status report on the Hoary Bat *Lasiurus cinereus*, Eastern Red Bat *Lasiurus borealis* and Silver-haired Bat, *Lasionycteris noctivagans*, in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxi + 100 pp.
- Green, R.N. and Klinka, K., 1994. *A field guide to site identification and interpretation for the Vancouver Forest Region* (No. 28). Ministry of Forests, Research Program.
- Metro Vancouver. (2023). *Invasive Species and Toxic Plant Disposal Options for Practitioners and Commercial Customers*. Accessed: <https://metrovancover.org/services/regional-planning/Documents/invasive-species-toxic-plant-disposal-options.pdf>
- Metro Vancouver and the Invasive Species Council of Metro Vancouver. (2021). *Best Management Practices for Knotweed Species in the Metro Vancouver Region*. Burnaby: Metro Vancouver Regional District.
- RISC. 1999a. Standard inventory methodologies for components of British Columbia's biodiversity: Inventory methods for forest and grassland songbirds. No. 15. Version 2.0. Province of British Columbia, Resources Inventory Standards Committee
- Rousseu, F. and B. Drolet. 2015. Prediction of the nesting phenology of birds in Canada. In: J. Hussell and D. Lepage. 2015. Bird Nesting Calendar Query Tool. Project NestWatch. Bird Studies Canada / Études d'Oiseaux Canada
- Stevens, V., and S. Lofts. 1988. Species Notes for Mammals. Vol. 1 in A.P. Harcombe, tech. ed. Wildlife Habitat



Handbooks for the Southern Interior Ecoprovince. B.C. Minist. Environ., Lands and Parks, Wildl. Branch.  
Tech. Rep. R-15. 174pp.