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## 5.5 Upland Vegetation and Wildlife

*Construction of the Bellevue Nickel Improvement Project will result in a relatively small loss of vegetation and wildlife habitat in the study area. Over the long term, wildlife habitat connectivity will be preserved and additional vegetative cover on top of the new Wilburton Tunnel will be provided.*

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We consider upland vegetation and wildlife as we plan this project because both are important components of the natural environment. Upland vegetation refers to the dominant vegetation communities present in the study area that are not directly associated with wetlands or streams.



**Vegetation along a dry streambed**

## Upland Vegetation

### What is our study area and how did we determine it?

We defined the study area for upland vegetation to include all areas within the existing I-405 right of way where the effects from construction will be evident.

We included an area extending 0.25 mile from the project boundary to provide a larger but reasonable area within which to analyze wildlife habitat. We mapped the 0.25-mile area because this is the area in which effects to habitat may affect wildlife species. We included the additional area as far as 1 mile from the project footprint boundary for wildlife species such as bald eagles that are sensitive to noise, and can therefore be disturbed by activities at this distance.

### What types of vegetation and wildlife habitat did we find in the study area?

We have used three land cover types to describe the type of upland vegetation found within the study area: forested, shrub/grass/herbaceous, and developed. To describe the wildlife habitat types present within the study area, we elected to use the

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*Please refer to the Bellevue Nickel Improvement Project Upland Vegetation and Wildlife Discipline Report in Appendix O (on CD) for a complete discussion of the Upland Vegetation and Wildlife analysis.*

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**Upland vegetation** is vegetation associated with dry areas away from water or wetlands, vegetation that is not located within the area influenced by a body of water.

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### Special Status Plant Species

Special status plant species are plant species that are:

- Listed as threatened or endangered under the Endangered Species Act.
  - Either proposed for or are candidates for such listing.
  - Federal species of concern.
  - Included in the Washington Natural Heritage Program database.
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### Non-Native Invasive Plant Species

Non-native invasive plant species are plant species that do not naturally grow in a particular area, but thrive once introduced to said area. These plants are characteristically adaptable, aggressive and have a high reproductive capacity. Their vigor combined with a lack of natural enemies often leads to outbreak populations.

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Tall bugbane (*Cimicifuga elata*)

same three categories, plus the additional category of “wetlands.” We show the area for each land cover type within the study area in Exhibit 5.5-1.

Forested areas within the study area are young stands of mixed deciduous and coniferous trees. There is no old growth forest within the study area.

Planted grasses interspersed with shrubs and herbaceous vegetation dominate the shrub/grass/herbaceous vegetation community.

## Do any special status plant species occur in the study area?

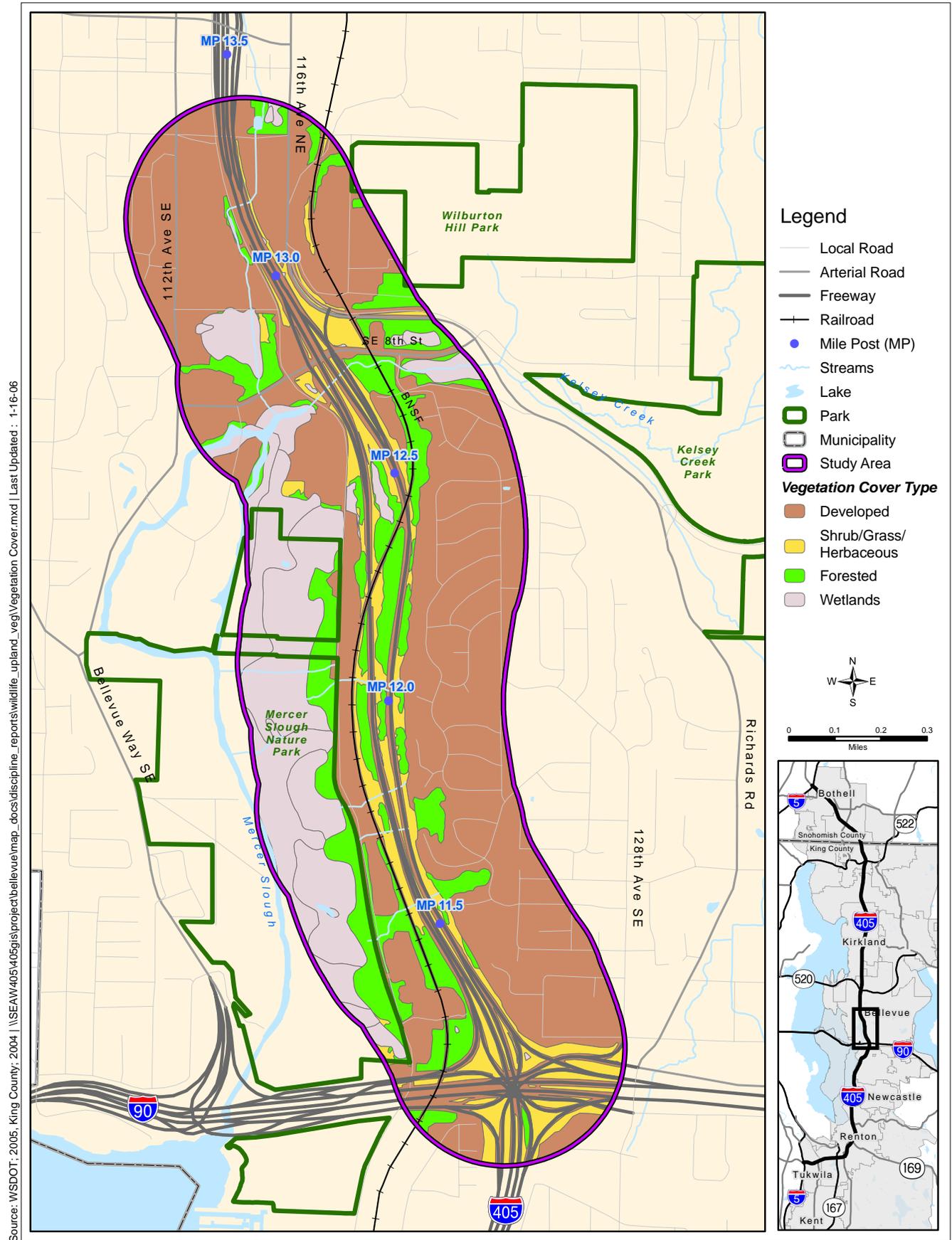
There are no known occurrences of special status plant species in the study area (WDNR 2005). One special status plant species, tall bugbane (*Cimicifuga elata*), may occur in the study area (USFWS 2005). Tall bugbane is a distinctively tall plant that grows under the forest canopy in lowland forests west of the Cascade mountain range. This species is unlikely to occur within the study area due to past habitat disturbance from the construction and maintenance of I-405 and the prevalence of non-native weed species within the right of way.

## Wildlife

### What are the wildlife habitat types in the study area?

We mapped the wildlife habitats within the study area using the same land cover types used to describe upland vegetation: forested, shrub/grass/herbaceous, and developed. We added a category for wetlands because existing wetlands within the study area provide important habitat for a wide variety of wildlife. Exhibit 5.5-2 identifies the amount of these habitat types located within the study area.

Exhibit 5.5-1. Vegetation Cover in the Study Area



Source: WSDOT; 2005; King County; 2004 | \\SEAW4051405gis\project\bellevue\map\_docs\discipline\_reports\wildlife\_upland\_veg\Vegetation Cover.mxd | Last Updated: 1-16-06

### Exhibit 5.5-2. Land Cover and Wildlife Habitat Type within the Study Area



Raccoon (*Procyon lotor*)

Land Cover/Habitat Type	Upland Vegetation (Acres)	Wildlife Habitat (Acres)
Forest	7.3	108.6
Shrub/grass/herbaceous	10.9	65.5
Wetlands	1.3	140.5
Developed	11.3	509.3
<b>Total</b>	<b>30.8</b>	<b>824.0</b>



Common crow (*Corvus brachyrhynchos*)

### Which common wildlife species do we know to live in the study area?

Based on the habitat available in the study area we expect wildlife species that commonly occur in urban areas to occur in the study area. This includes species such as raccoon, coyote, opossum, American crow, American robin, and other common mammal and migratory and non-migratory bird species.

A report prepared by students at the University of Washington at Bothell in 2001 includes a list of wildlife species observed in Mercer Slough Park (Waggoner 2001). We assumed that many of the species observed by the students may also occur in the study area given the close proximity.

During the field reconnaissance survey, we observed both a red-tailed hawk and a pileated woodpecker in the study area.

## Do any special status wildlife species occur in the study area?

Based upon our review of the sources listed above, there are three documented special status species within the study area, and seven that may occur in the study area that no one has yet documented. We show these species, their status, and their documentation status in the study area in Exhibit 5.5-3. A brief discussion of each of these species follows the exhibit.

### Exhibit 5.5-3. Special Status Species Documented or Potentially Occurring in the Study Area

Species	Status	Occurrence in study area
Bald eagle <i>Haliaeetus leucocephalus</i>	Federally threatened State threatened	Documented (WDFW 2005)
Yellow-billed cuckoo <i>Coccyzus americanus</i>	Federal candidate	Not documented; not expected to occur
Western toad <i>Bufo boreas</i>	Federal concern State candidate	Documented in Mercer Slough Park (Waggoner 2001); may occur in study area
Long-eared myotis bat <i>Myotis evotis</i>	Federal concern	Not documented; may occur
Long-legged myotis bat <i>Myotis volans</i>	Federal concern	Not documented; may occur
Pacific Townsend's big-eared bat <i>Corynorhinus townsendii townsendii</i>	Federal concern State candidate	Not documented; may occur
Olive-sided flycatcher <i>Contopus cooperi</i>	Federal concern	Not documented; may occur.
Peregrine falcon <i>Falco peregrinus</i>	Federal concern State sensitive	Not documented in study area; known to nest within one mile of the study area (WDFW 2005)
Great blue heron <i>Ardea herodias</i>	Priority species	Documented (WDFW 2005)
Pileated woodpecker <i>Dryocopus pileatus</i>	State candidate	Documented during field reconnaissance survey

**Documented Occurrence:** Observers have documented occurrences of the species in the WDFW PHS database or we have observed the species in the study area during field reconnaissance survey.

**Not Documented:** Species may occur based upon the presence of habitat commonly used by the species in the study area.

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#### Special Status Wildlife Species

Special status wildlife species include those listed as endangered or threatened under the Endangered Species Act; species that are candidates or are proposed for listing under the endangered species act; species of federal concern; species listed by the Washington Department of Fish and Wildlife (WDFW) as endangered, threatened, candidate, or sensitive, and other priority species.

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## Do any priority habitats occur in the study area?

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### Priority Habitats

Priority habitats are those habitat types or elements with unique or significant value to a diverse assemblage of species.

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### Priority Species

WDFW defines priority species as those that are priorities for conservation and management and include state-listed endangered, threatened, sensitive, and candidate species; animal aggregations considered vulnerable; and species of recreational, commercial, or tribal importance that are vulnerable.

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We consulted the WDFW PHS database for priority habitats within the study area and found documentation of one priority habitat type, wetlands, in the study area. See Section 5.6, “Wetlands,” for a detailed description of this resource.

## How are wildlife habitats connected within the study area?

Secluded corridors along which wildlife can safely move between patches of habitat are important for several reasons. For animals that need large home ranges, such corridors allow animals to use smaller patches of habitat that they can travel between to make up a home range. They also allow habitat for young animals that are moving away from the home range they were born in and establishing their own home ranges to travel through.

For smaller animals that do not move large distances, habitat connectivity provides continuous habitat and helps to prevent the isolation of animal populations. Connective corridors are most effective when they contain enough vegetation to provide protective cover for animals traveling through them.

Connective corridors are often located along streams or rivers if there is a corresponding strip of streamside vegetation. Other linear features on the landscape can also provide connective corridors if they contain sufficient vegetation. Within the study area the interstate right of way and the BNSF right of way provide potential connective corridors.

Features that are common in urban areas, such as roads and large areas of development, can create barriers to wildlife movement.

The study area lies between two large patches of wildlife habitat within the City of Bellevue: Mercer Slough Park and Kelsey Creek Park. The existing interstate and associated noise wall create a barrier to movement between these habitats for the majority of the interstate alignment through the study area. Within the study area, two locations exist where wildlife can cross the interstate without entering lanes of traffic. The first site is located where the BNSF right of way crosses the interstate; the other site is located at the underpass at Southeast 8th Street.

The BNSF right of way crosses over the southbound lanes of I-405 and under the northbound lanes. The noise wall for the northbound lanes attaches to the bridge that goes over the



**Wildlife corridor under the northbound lanes of I-405**



**Existing BNSF rail line beneath the northbound lanes of I-405**

railroad right of way, so the noise wall does not create a barrier on the east side of the interstate. Along the BNSF right of way, vegetation extends from the west to the east side of I-405, providing continuous cover, except for a narrow strip of unvegetated area directly under the northbound lanes and the area directly adjacent to the railroad tracks. This creates a vegetated connective corridor between the east and west sides of the interstate.

This corridor has the potential to provide habitat connectivity for a variety of terrestrial species, such as coyote and raccoon. Home-range territories can extend across the interstate and wildlife can use the corridor for dispersal.

This corridor may help to avoid isolation of animal populations by providing habitat continuity for low-mobility animals with small home ranges, such as shrews or small rodents.

There are two noise walls in this connective corridor along the northbound lanes that could be a movement barrier for some species, however.

Because the underpass at Southeast 8th Street is highly developed with large paved spaces that may create a barrier to movement for many species, we determined that wildlife is less likely to utilize this area. This area also has high traffic volumes that may limit use of the area by wildlife and may increase the probability of fatality for wildlife attempting to move through the area. Wildlife may utilize this area however, particularly during periods of low human activity.

## **How will the project affect upland vegetation?**

Under the Build Alternative, we determined that construction activities will permanently convert upland forest and shrub/grass/herbaceous habitats to a developed condition within the area of the project construction. We list the approximate acreage of each of these affected habitat types in Exhibit 5.5-4 below.

#### Exhibit 5.5-4. Acres of Effect by Vegetation Type

Vegetation type	Acres affected
Forest	7.3
Shrub/grass/herbaceous	10.9
<b>Total</b>	<b>18.2</b>

Temporary effects to upland vegetation will also occur outside of the project footprint and within the I-405 right of way.

Construction equipment moving over areas of upland vegetation will temporarily affect these areas. This outcome is most likely in areas containing grass or herbaceous vegetation. We expect damaged vegetation to reestablish following completion of construction.

Most project effects will occur in the shrub/grass/herbaceous vegetation type. This vegetation type contains a high level of non-native plants, including noxious weeds, and so is not a unique vegetation type within the region.

### How would the No Build Alternative affect upland vegetation?

Under the No Build Alternative, we would continue to manage upland vegetation within the I-405 right of way in its current condition. Management activities include periodic mowing, removal of dead or dying trees and tree limbs that could fall on the roadway, and clearing of brush that encroaches on the roadway. These activities affect vegetation by preventing trees from establishing themselves in mowed areas and preventing forested areas from developing natural features such as snags and downed wood.

### How will the project affect wildlife habitat?

Construction of the project will convert wildlife habitat from forest, wetland, or shrub/grass/herbaceous to a developed land cover type.

The forested habitat affected is younger mixed forest stands that are common in the study area. The amount of this habitat affected is a small portion of the total amount available in the study area.

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#### Noxious Weeds

Noxious weeds are non-native plants that when established are highly destructive, competitive, or difficult to control by cultural or chemical practices (Chapter 17.10 RCW; Chapter 16-750 WAC).

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## How would the No Build Alternative affect wildlife habitat?

Under the No Build Alternative, we would continue to manage wildlife habitat within the I-405 right of way by conducting periodic mowing, removing dead or dying trees and tree limbs that could fall on the roadway, and clearing brush that encroaches on the roadway. These activities would prevent additional trees from establishing themselves in mowed areas and prevent forested areas from developing more natural features such as snags and downed wood that would otherwise support a greater variety of wildlife.

Under the No Build alternative there would be no loss of wetlands within the area of construction.

## How will the project affect common wildlife species?

The Build Alternative will affect common wildlife species by reducing the amount of habitat available for them in the study area. The shrub/grass/herbaceous habitat type will sustain the greatest affects. This habitat type contains many non-native and weedy species that likely limit its value as habitat. Removal of this habitat type could reduce the amount of food and cover available for species such as raccoon and opossum in the study area.

Removal of forest habitat will reduce the amount of habitat available for species commonly found in urban forest environments. Effects include a reduction in habitat for common wildlife species including the amount of nesting habitat available for birds such as the American robin and resting sites for species such as raccoon.

## How would the No Build Alternative affect common wildlife species?

Ongoing routine maintenance would occur under the No Build Alternative at similar levels as currently occur. No additional effects to common wildlife species would occur under the No Build Alternative.

## How will the project affect special status wildlife species?

The Build Alternative may affect special status species by habitat loss, noise, and disturbance from construction activities.

Removal of forested habitat will reduce the amount of habitat available in the study area for forest-dependent species, such as the long-eared myotis bat, long-legged myotis bat, olive-sided flycatcher, and pileated woodpecker. For example, loss of forested habitat will reduce the amount of roosting habitat available for both long-eared and long-legged myotis bats in the study area; will reduce the amount of nesting habitat available for olive-sided flycatchers and other migratory birds in the study area; and will reduce the amount of foraging and nesting habitat available for pileated woodpecker in the study area. Compared to the large areas of suitable habitat for these species remaining to the west of the study area (in Mercer Slough Park) and to the east (in Kelsey Creek Park), this loss will represent a small amount of the total habitat available in the project vicinity.

Converting wetland habitat to a developed condition will reduce the amount of foraging habitat for great blue herons in the study area. The amount of wetland affected is small, however, compared to the hundreds of acres of wetland habitat available in the study area, specifically in Mercer Slough and Kelsey Creek Parks. Therefore, we do not expect the conversion of these wetlands to a developed land cover type to affect the productivity of the great blue heron colony located in Mercer Slough Park. Wetland mitigation, as described in Section 5.6, “Wetlands,” will also provide replacement habitat.

Converting wetland habitat to a developed condition will reduce the amount of breeding habitat available for western toads in the study area. However, these wetlands may be too small to offer sufficient breeding habitat. This species is more likely to utilize larger ponds in the study area for breeding. The wetland mitigation we mentioned above will also provide possible replacement habitat for the western toad.

There will be no direct effects to special status wildlife species from converting shrub/grass/herbaceous habitat to a developed land cover type since none of the special status species that occur or that may occur in the study area depends on this habitat type.

Noise associated with construction activity may affect bald eagles at the one nest site within a 1-mile distance of areas where pile driving will occur. Noise can disturb nesting bald eagles. Noise can cause adult eagles to flush from the nest, leaving either

eggs or young eagles exposed to weather and predators, and in extreme cases, noise can cause bald eagles to abandon their nest. We will avoid noise effects to this nest by implementing the avoidance measures described in Appendix B.

## How would the No Build Alternative affect special status wildlife species?

Ongoing routine maintenance would occur under the No Build Alternative at similar levels as currently occur. No additional effects to special status species would occur under the No Build Alternative.

## How will the project affect wildlife habitat connectivity?

Under the Build Alternative, temporary construction effects to wildlife habitat connectivity will occur within the study area. However, we will preserve connectivity in the long term.

The Build Alternative includes reconstructing the southbound lanes of I-405 in what is currently the median. This will necessitate construction of a new tunnel under the BNSF right of way in the vicinity of the existing Wilburton Tunnel. The existing tunnel will remain after we complete the improvements.

During construction, the new tunnel will lack vegetative cover; however, once construction is completed, we will reestablish vegetation and over time, plant communities with characteristics similar to the existing condition will return. The new tunnel will continue to provide wildlife habitat connectivity over and across the southbound lanes.

We will also widen the northbound bridge over the BNSF right of way to accommodate an additional lane of the interstate. This may affect the short-term use of this area by wildlife, as animals will tend to avoid the area due to increased levels of human activity. However, we do not expect this aspect of the project to alter the long-term suitability of this area for wildlife use.

Removing the vegetated median and constructing a retaining wall between the southbound and northbound lanes in the vicinity of the existing Wilburton Tunnel may reduce the success rate with which animals attempt to cross the interstate by crossing the lanes of traffic. The retaining wall could trap animals attempting to cross, forcing them to either travel along the interstate,



**Upland vegetation wildlife crossing on the Wilburton Tunnel.**

increasing the risk of collision with vehicles, or forcing them to return in the direction from which they came.

The project may also temporarily affect wildlife using the Southeast 8th Street underpass to travel from one side of the interstate to the other. This may occur if animals avoid the area due to human activity associated with construction, particularly if construction were to occur at night.

## **How would the No Build Alternative affect wildlife habitat connectivity?**

Under the No Build Alternative, the existing condition for wildlife habitat connectivity in the study area would not change.

## **How will we avoid or minimize adverse effects from construction?**

We will avoid or minimize effects to upland vegetation and wildlife from construction by following the BMPs and avoidance measures described in Appendix B, and by taking the following actions:

Before construction begins, we will avoid or minimize potential effects to bald eagles by determining whether the bald eagle nest located within 1 mile of the project is active. We will also obtain current PHS data to determine if any new nest sites have been established and to determine if any observer has documented new roosting or foraging sites. We will work with WDFW to avoid and minimize effects that may occur during construction and operation of the project if we find any of these bald eagle use areas to be located within any of the following distances relative to the study area:

- Within 0.25 mile of the study area and the study area is not within line of sight of the nest.
- Within 0.5 mile of the study area and the study area is within line of sight of the nest.
- Within 1.0 mile of an area where either blasting or pile driving would occur.

In consultation with WDFW, we may also implement the following measures to avoid or minimize effects, including:

- Setting timing restrictions on construction activities that may cause disturbance so that activities occur outside of the nesting season (January 1 through August 15).
- Installing noise barriers.
- Protecting perch trees from removal.
- Installing or establishing visual barriers, for example, by planting trees.

If the project is located within 800 feet of any bald eagle nests or roosts, we will work with WDFW to develop a management plan for the bald eagle nest or roost.

In addition, we will consult with appropriate federal and state agencies to discuss ways to reduce potential harm to migratory birds (including songbirds) by minimizing the amount of vegetation clearing during the spring nesting season. We will also consult with appropriate federal and state agencies if structures that may contain nests of migratory birds will be removed during the nesting season.

## **Will we mitigate any unavoidable negative effects?**

As discussed in detail in Section 5.6 of this EA and the Wetlands Discipline Report prepared for this project (attached as Appendix R), we will replace wetlands to achieve no net loss of habitat or function.

Under the Build Alternative, there will also be permanent loss of upland vegetation in the study area. In-kind replacement of lost upland vegetation is not required. We will however, provide additional vegetative cover on top of the new Wilburton Tunnel to preserve the existing wildlife corridor across I-405 along the BNSF right of way. We will also plant native shade-tolerant vegetation in areas near elevated roadways and ramps where feasible and practical.