

Appendix O

I-205 Toll Project Vegetation and Wildlife Technical Memorandum

Vegetation and Wildlife Technical Memorandum

Date	February 2023
To	Carol Snead (ODOT)
From	HDR and WSP
CC	Mandy Putney (ODOT), Heather Wills (WSP), Nicole McDermott (WSP)
Subject	Vegetation and Wildlife Technical Memorandum

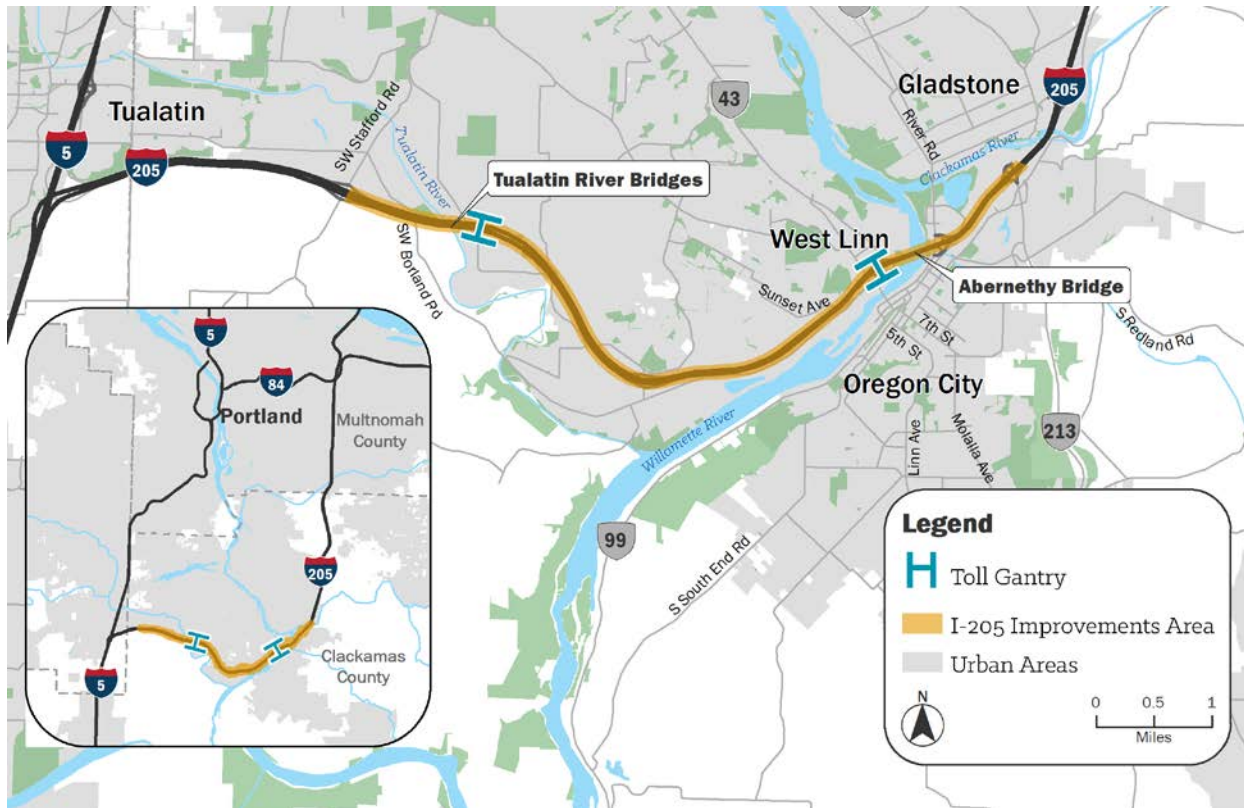
1 Introduction

This technical memorandum supports the I-205 Toll Project Environmental Assessment developed by the Oregon Department of Transportation (ODOT) in partnership with the Federal Highway Administration (FHWA). ODOT proposes to use variable-rate tolls¹ on the Interstate 205 (I-205) Abernethy Bridge and Tualatin River Bridges to raise revenue for construction of planned improvements to I-205 from Stafford Road to Oregon Route (OR) 213, including seismic upgrades and widening, and to manage congestion. The environmental assessment evaluates the effects of variable-rate tolls and the toll-funded I-205 improvements (together, the “Project”) on the human and natural environment in accordance with the National Environmental Policy Act (NEPA). The Project area is illustrated in Figure 1-1.

This technical memorandum describes the existing conditions for vegetation and wildlife, discusses the impacts and benefits the Project would have on those conditions, and identifies measures to avoid, minimize, and/or mitigate adverse effects.

¹ Variable-rate tolls are fees charged to use a road or bridge that vary based on time of day and that can be used as a strategy to shift demand to less congested times of day.

Figure 1-1. I-205 Toll Project Area



2 Project Alternatives

ODOT evaluated two alternatives in the I-205 Toll Project Environmental Assessment and this technical memorandum:

- No Build Alternative
- Build Alternative

Figure 2-1 depicts the existing condition and the proposed lane configuration of I-205 through the Project area for the No Build Alternative and Build Alternative.

2.1 No Build Alternative

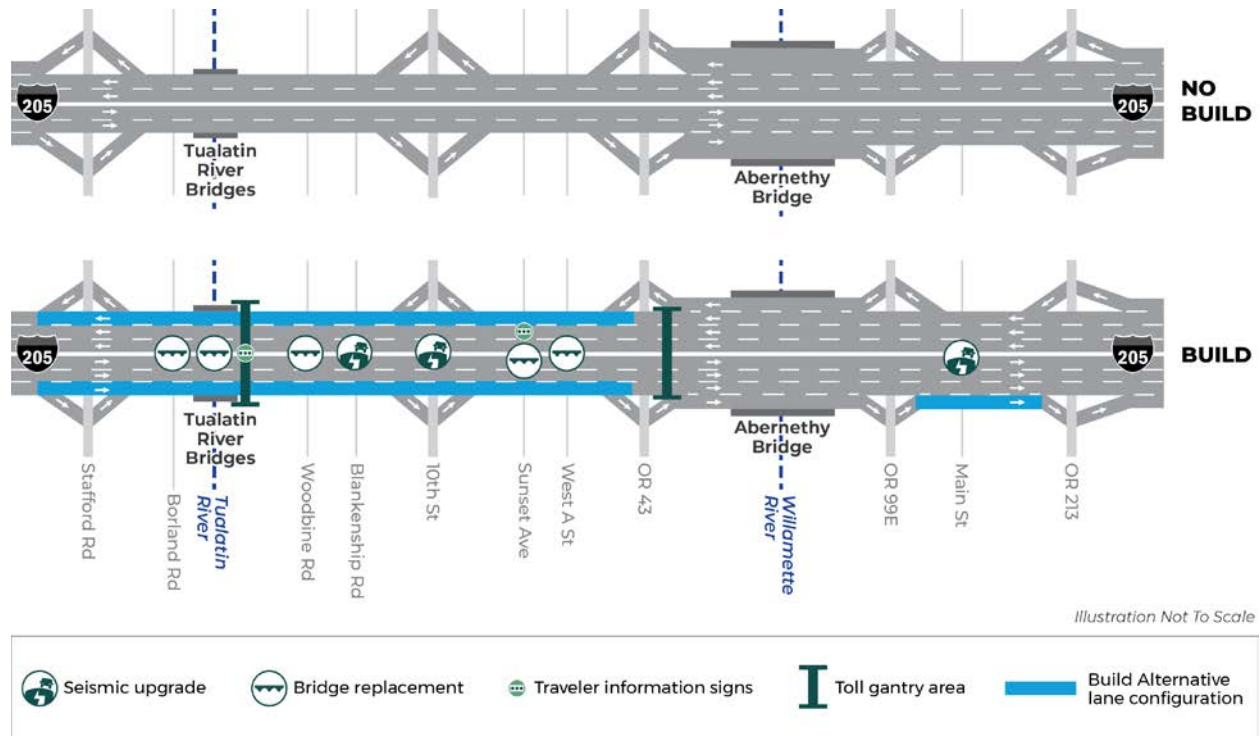
NEPA regulations require an evaluation of a No Build Alternative to provide a baseline to compare with the potential effects of a Build Alternative. The No Build Alternative consists of existing transportation infrastructure and any planned improvements that would occur regardless of the Project. The No Build Alternative includes the I-205: Phase 1A Project (reconstruction of the Abernethy Bridge with added auxiliary lanes and improvements to the adjacent interchanges at OR 43 and OR 99E) as a previously approved project that would be constructed by 2025. Under the No Build Alternative, tolling would not be

implemented and the toll-funded widening and seismic improvements on I-205 between Stafford Road and OR 213 would not be constructed.

2.2 Build Alternative

Under the Build Alternative, drivers of vehicles on I-205 would be assessed a toll for crossing the Abernethy Bridge (between OR 43 and OR 99E) and for crossing the Tualatin River Bridges (between Stafford Road and 10th Street). The Build Alternative includes construction of a third through lane in each direction of I-205 between the Stafford Road interchange and the OR 43 interchange, a northbound auxiliary lane between OR 99E and OR 213, toll gantries and supporting infrastructure, as well as replacement of or seismic upgrades to multiple bridges along I-205 (shown schematically in Figure 2-1).

Figure 2-1. Schematic Diagrams of No Build and Build Alternatives



The following sections provide a more detailed description of the Build Alternative.

2.2.1 Bridge Tolls: Abernethy and Tualatin River Bridges

Under the Build Alternative, ODOT could begin tolling as early as December 2024, before the completion of construction of Project improvements to I-205. Two areas have been identified for placement of the toll gantries and supporting infrastructure. The toll gantries and supporting infrastructure would be located entirely within the existing I-205 right-of-way. Tolling would consist of an all-electronic system that would automatically collect tolls from vehicles traveling on the highway. Toll gantries would consist of vertical columns on the outside of the travel lanes and a horizontal structure that spans the travel lanes; electronic tolling equipment would be attached to the horizontal structure.

2.2.2 Improvements to I-205

Under the Build Alternative, a 7-mile portion of I-205 would be widened between Stafford Road and OR 213, with added through lanes between Stafford Road and OR 43, and a northbound auxiliary lane from OR 99E to OR 213. Eight bridges between Stafford Road and OR 213 would be replaced or reconstructed to withstand a major seismic event. New drainage facilities would be installed in both directions of I-205.

Bridge Reconstructions and Replacements

The following bridges would be reconstructed with foundation improvements and substructure upgrades for seismic resiliency but would not be replaced:

- Northbound I-205 bridge over Blankenship Road – Mile Post (MP) 5.84
- Southbound I-205 bridge over Blankenship Road – MP 5.90
- Northbound I-205 bridge over 10th Street (West Linn) – MP 6.40
- Southbound I-205 bridge over 10th Street (West Linn) – MP 6.42
- I-205 bridge over Main Street (Oregon City) – MP 9.51

The following bridges would be replaced to meet seismic design standards and to facilitate the widening of I-205:

- Northbound I-205 bridge over SW Borland Road – MP 3.82
- Southbound I-205 bridge over SW Borland Road – MP 3.81
- Northbound I-205 bridge over the Tualatin River – MP 4.1
- Southbound I-205 bridge over the Tualatin River – MP 4.08
- Northbound I-205 bridge over Woodbine Road – MP 5.14
- Southbound I-205 bridge over Woodbine Road – MP 5.19
- Sunset Avenue (West Linn) bridge over I-205 – MP 8.28
- West A Street (West Linn) bridge over I-205 – MP 8.64

The I-205 bridges over 10th Street and Blankenship Road would be widened and raised to meet the proposed new highway grade. The I-205 bridges over the Tualatin River and SW Borland Road would be replaced on a new alignment between the existing northbound and southbound directions to accommodate construction. The I-205 bridges over Woodbine Road would be replaced on the existing alignment and raised to meet the proposed new highway grade. The Broadway Street Bridge over I-205 would be removed to enhance the function of the OR 43 interchange.

2.2.3 Construction

Construction of the Build Alternative is expected to last approximately 4 years, beginning in late 2023 with construction of toll gantries and toll-related infrastructure and continuing from 2024 through 2027 with construction of I-205 widening and seismic improvements. Most toll-related construction would be conducted alongside I-205 within the existing right-of-way. For highway widening, it is anticipated that construction would be sequenced to widen one direction of I-205 at a time, enabling traffic to be moved to a temporary alignment while the remaining widening work is completed. Construction activities would include adding temporary crossover lanes to enable access to the temporary traffic configurations during

roadway widening. Staging areas for construction equipment and supplies for the Build Alternative would be located primarily in the median of I-205 in ODOT right-of-way.

3 Regulatory Framework

The following federal, state, and local laws, regulations, plans, policies, and guidance documents informed the assessment of vegetation and wildlife:

- Federal
 - National Environmental Policy Act of 1969
 - Federal Highway Administration NEPA-implementing regulations, Environmental Impact and Related Procedures (23 Code of Federal Regulation [C.F.R.] Part 771)
 - Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 C.F.R. Parts 332)
 - Endangered Species Act (ESA) – Section 7 Consultation with National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (NOAA Fisheries) and U.S. Fish and Wildlife Service (USFWS)
 - Federal-Aid Highway Program Programmatic Agreement and Biological Opinion, 2021
 - Migratory Bird Treaty Act – administered by USFWS
 - Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 C.F.R. Parts 332)
 - Council on Environmental Quality regulations (40 C.F.R. Parts 1500–1508)
- State
 - Oregon’s Statewide Planning Goals and Guidelines (Oregon Administrative Rule [OAR] 660-015-0000)
 - Oregon Highway Plan, 1999
 - Oregon Department of Fish and Wildlife – Fish and Wildlife Habitat Mitigation Policy (OAR 635-415) and Sensitive Species List (OAR 635-100-0040)
 - Oregon Department of State Lands Essential Salmonid Habitat Mapping
 - ODOT Environmental Impact Statement Annotated Template, 2010
- Regional and Local
 - Metro plans and reports including, but not limited to, the Metro Region 2040 Concept Plan, Metro Urban Growth Management and Functional Plan, and the Metro 2018 Urban Growth Report

4 Methodology

4.1 General Approach

The Project Team evaluated the affected environment (existing conditions), potential effects under the No Build and Build Alternatives, and mitigation for vegetation and wildlife resources.

4.2 Area of Potential Impact

The Area of Potential Impact (API) for vegetation and wildlife resources is within 100 feet of the edge of existing I-205 right-of-way between the Stafford Road and OR 213 interchanges, as shown in Figure 5-1.

4.3 Describing the Affected Environment

The Project Team conducted a desktop assessment to document the existing vegetation and wildlife conditions within the API using documentation previously prepared for the I-205 Improvements Project, including the Wetlands and Waterbodies Delineation Report (HDR 2018a), Migratory Bird and Bat Technical Memorandum (HDR 2018b), and Biological Resources Technical Memorandum (HDR 2018c). The following data sources were used in preparation of the prior reports and documentation:

- Existing Vegetation Geographic Information System (GIS) dataset from the U.S. Department of Agriculture
- Aerial photos from Google Earth
- Maps of Essential Salmonid Habitat from Oregon Department of State Lands
- Designated Critical Habitat Mapping and Federal Register notices from USFWS and NOAA Fisheries
- Essential Fish Habitat designations from NOAA Fisheries
- ESA-listed species presence data from the USFWS Information for Planning and Consultation (IPaC) database
- Rare species location data from the Oregon Biodiversity Information Center
- Goal 5 habitat inventory mapping and documentation from the Cities of Oregon City and West Linn, Clackamas County, and Metro

As part of the prior analysis, analysts contacted federal and state agencies, including Oregon Department of Fish and Wildlife, Oregon Biodiversity Information Center, USFWS, and NOAA Fisheries, to obtain information on priority species presence in the API and Project vicinity. These agencies were consulted for input concerning potential Project effects to identify and develop appropriate mitigation as necessary. The Project Team also contacted local jurisdictions, including the Cities of Oregon City and West Linn, Clackamas County, and Metro, to identify any local species and habitat inventory data that these agencies may maintain, including Goal 5 habitat inventory mapping and documentation.

Field investigations were conducted in November and December 2017 to evaluate the potential for migratory birds and bats listed under the ESA to occur in the API (HDR 2018a). A plant survey was conducted in June 2017 (ODOT 2017). When Project design is advanced, it may be necessary to conduct a field survey to confirm the presence/absence of sensitive vegetation, wildlife, or aquatic species resources in the locations of any proposed ground-disturbing activities.

4.4 Effect Assessment Methods

The impacts analysis evaluates short-term (construction) direct effects, long-term direct effects, and cumulative effects for vegetation and wildlife resources for the No Build Alternative and Build Alternative, as described in the following sections. No indirect effects on vegetation and wildlife were identified from the No Build Alternative and Build Alternative.

4.4.1 Direct Effects Assessment Methods

The analysis of potential direct short-term effects on vegetation and wildlife resources, including both terrestrial and aquatic species, that would occur during Project construction considered the following:

- Temporary construction-related water quality and hydroacoustic effects on vegetation, wildlife, and aquatic species
- Terrestrial construction noise effects on terrestrial wildlife
- Temporary construction-related effects on vegetation and ground-disturbance effects on vegetation, wildlife, and aquatic species

The analysis of direct long-term effects on vegetation, wildlife, and aquatic species resulting from the Project considered the following:

- The effects of vegetation removal, damage, or replacement in terms of area and species diversity that may modify habitat for birds and wildlife
- Habitat connectivity modification and its effects on wildlife and aquatic species
- Water quality effects, including effects on aquatic species and habitat in the API

4.4.2 Cumulative Effects Assessment Methods

The *I-205 Toll Project Cumulative Impacts Technical Report* includes an analysis of the Project's potential to contribute to cumulative effects on vegetation and wildlife. Therefore, cumulative effects are not discussed in this technical memorandum.

4.5 Mitigation Approach

The Project would avoid and/or mitigate most anticipated impacts. Mitigation measures, if required, were developed using applicable agency-based regulations and guidance for those agencies with jurisdiction. For impacts on vegetation and wildlife, the approach to mitigation common to federal, state, and local agency guidance is a requirement for a mitigation sequencing process that begins with avoidance and minimization of impacts to the extent practicable, followed by compensatory mitigation for any unavoidable impacts.

5 Affected Environment

Existing vegetation in the vegetation and wildlife API includes maintained herbaceous vegetation in the highway median and along the shoulders, as well as patches of deciduous forest and scrub-shrub vegetation. Most of the API is paved or unvegetated. Many of the plant species found throughout the API

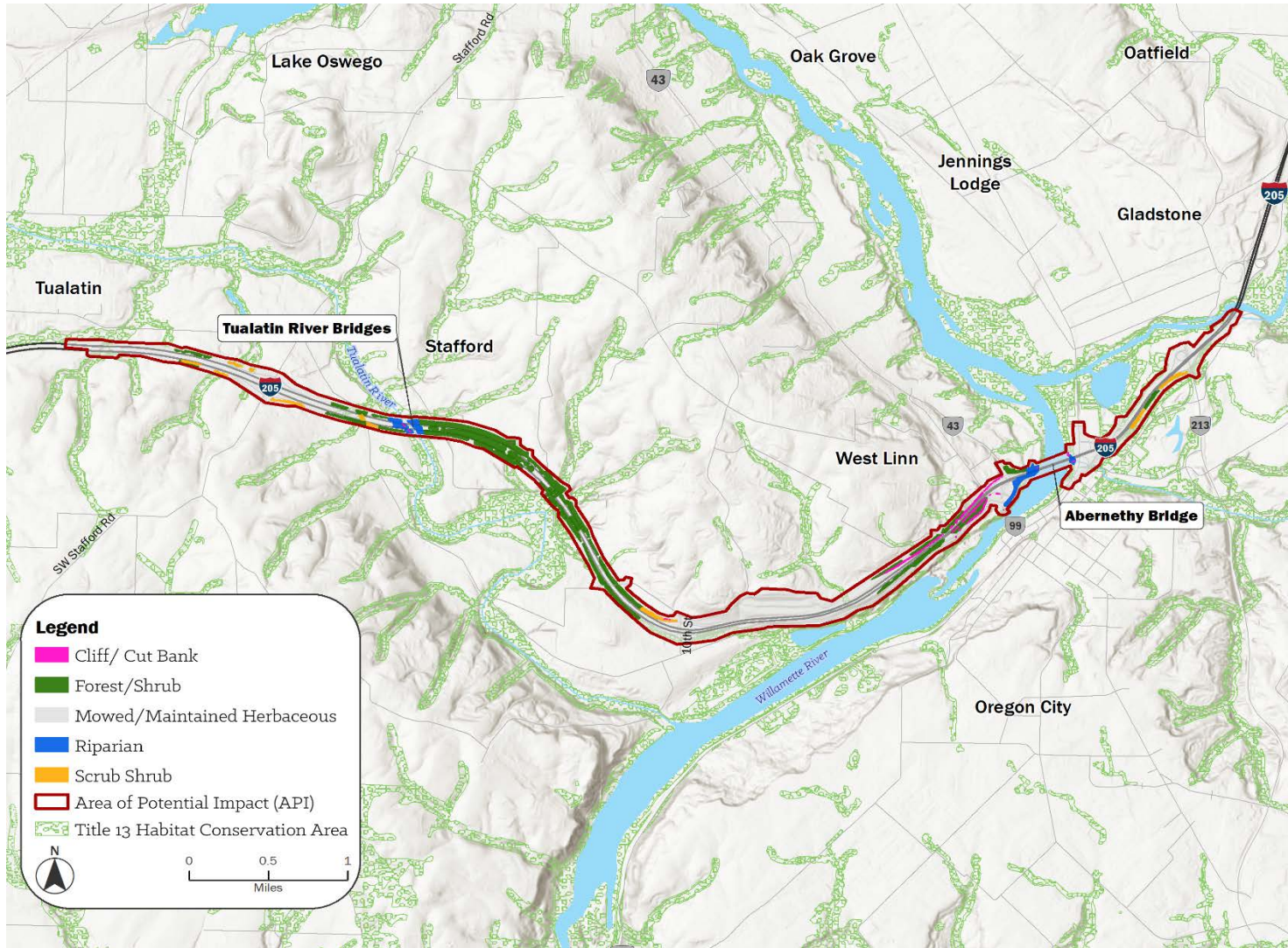
are invasive species (Oregon Department of Agriculture 2020), including Himalayan blackberry (*Rubus armeniacus*), reed canary grass (*Phalaris arundinacea*), and English ivy (*Hedera helix*). As shown in Figure 5-1, there are five general vegetative habitat types in the API:

- Maintained/mowed herbaceous habitat: Grasses and weedy forbs that are regularly maintained by mowing throughout the year.
- Shrub habitat: Native and non-native shrub species such as scotch broom (*Cytisus scoparius*), English holly (*Ilex aquifolium*), and chokecherry tree (*Prunus virginiana*), with an understory of western sword fern (*Polystichum munitum*), English ivy, reed canary grass, and velvet grass (*Holcus lanatus*).
- Forest/shrub habitat: An overstory that includes red alder (*Alnus rubra*), black cottonwood (*Populus trichocarpa*), Oregon ash (*Fraxinus latifolia*), English hawthorn (*Crataegus monogyna*), Oregon white oak (*Quercus garryana*), western red cedar (*Thuja plicata*), and Douglas fir (*Pseudotsuga menziesii*), and an understory mix of shrub and herbaceous species. Himalayan blackberry is prominent throughout this habitat type.
- Riparian habitat: Found adjacent to streams or major rivers, this habitat is characterized by an overstory of red alder, black cottonwood, and Oregon ash. Himalayan blackberry and reed canary grass are prominent.
- Cliff/cut bank/bridge habitat: Steep, nearly vertical slopes that contain cavities, rock outcroppings, or overhangs that provide nesting habitat.

A June 2017 plant survey identified locations of white rock larkspur (*Delphinium leucophaeum*), which is listed as a species of concern by USFWS. No plant species listed as threatened or endangered under the ESA were identified (ODOT 2017).

Some areas within the API have been designated as Habitat Conservation Areas under Metro's Urban Growth Functional Plan, Title 13 - Nature in Neighborhoods (Metro 2018), which seeks to conserve, protect, and restore a continuous ecologically viable streamside corridor system integrated with upland wildlife habitat and the urban landscape. Generally, Habitat Conservation Areas include rivers, streams, wetlands, and adjacent resource areas, as well as wildlife habitat patches and habitats of concern (City of Portland 2020). In addition, West Linn has designated Significant Riparian Corridors, several of which occur along streams in the API. Local jurisdictions regulate development in Habitat Conservation Areas and Significant Riparian Corridors.

Figure 5-1. Vegetated Habitat Types in the Vegetation and Wildlife Area of Potential Impact



Sources: HDR 2019; Metro 2022

Wildlife in the API includes both terrestrial and aquatic species. Although existing vegetation in the API is limited, it provides potential habitat for small mammals and amphibians, both native and invasive, including raccoons (*Procyon lotor*), western gray squirrels (*Sciurus griseus*), nutria (*Myocastor coypus*), brown rats (*Rattus norvegicus*), river otters (*Lutra canadensis*), opossums (*Didelphis virginiana*), American bullfrogs (*Lithobates catebeianus*), red-eared slider (*Trachemys scripta elegans*), and rough-skinned newts (*Taricha granulosa*). ODOT has determined there is no suitable habitat for ESA-listed terrestrial species in the API (ODOT 2017).

Field investigations were conducted in November and December 2017 to evaluate the potential for migratory birds and bats listed under the ESA to occur in the API (HDR 2018a). Several species of bats are listed as sensitive species in Oregon, but no bats, roosts, or suitable habitat were identified. Bird species protected under the Migratory Bird Treaty Act are expected to be found in the API in habitat areas that are contiguous with or adjacent to a larger habitat area. Species observed during the field investigations included song sparrow (*Melospiza melodia*), scrub jay (*Aphelocoma californica*), spotted towhee (*Pipilo maculatus*), and Steller’s jay (*Cyanocitta stelleri*).

The Project Team reviewed IPaC data in 2022 to determine if additional threatened or endangered species were listed under the ESA that have the potential to occur in the API. One insect species, the monarch butterfly (*Danaus plexippus*), was listed as a candidate species in 2020 (IPaC 2022). No suitable habitat is present in the API to support the monarch butterfly. No other changes to ESA-listed species have occurred since the surveys and research performed in 2017.

Multiple anadromous species of fish listed under the Endangered Species Act are found in the API within the Tualatin and Willamette Rivers, as well as essential salmonid habitat² and species on Oregon’s sensitive species list,³ as shown in Table 5-1.

Table 5-1. Anadromous Fish Species and Habitats of Concern in the Area of Potential Impact

Species	Listing
Upper Willamette River Chinook salmon	Endangered Species Act
Lower Columbia River Coho salmon	Endangered Species Act
Upper Willamette Steelhead	Endangered Species Act
Pacific lamprey	Oregon Sensitive Species List
Coastal cutthroat trout	Oregon Sensitive Species List
Winter steelhead	Oregon Essential Salmonid Habitat
Fall and spring Chinook salmon	Oregon Essential Salmonid Habitat

Sources: Endangered Species Act species: National Oceanic and Atmospheric Administration National Marine Fisheries Service endangered species list (NMFS 2022); Oregon Sensitive Species list: Oregon Department of Fish and Wildlife Sensitive Species List FAQ’s (ODFW 2021); Essential salmonid habitat: Oregon Department of State Lands essential salmonid habitat map (DSL 2022)

² Oregon’s essential salmonid habitat designation protects the waterbodies where salmonid species lay eggs and where juvenile fish grow before traveling to the ocean (DSL n.d.).
³ To provide a proactive approach to species conservation, a “sensitive” species classification was created under Oregon’s Sensitive Species Rule (OAR 635-100-0040) to prevent species from declining to the point of qualifying as threatened or endangered under the Endangered Species Act (ODFW n.d.).

6 Environmental Consequences

6.1 No Build Alternative

Under the No Build Alternative, no construction activities or in-water work would occur; therefore, vegetation, terrestrial species, or aquatic species would not be affected.

6.2 Build Alternative

6.2.1 Short-Term Effects

Construction of the Build Alternative would require in-water work to replace the bridges over the Tualatin River. Temporary piles would be required to support work bridges, causing hydroacoustic effects that can disturb, injure, or result in direct mortality of fish. Installation of drilled shafts needed for the new bridge supports could result in short-term increased turbidity. During construction, temporary piles in the Tualatin River would occupy approximately 3,000 square feet, temporarily displacing potential aquatic habitat. However, the piles would be removed after bridge construction and the area would be expected to return to pre-construction conditions.

The Build Alternative would use the *Endangered Species Act Programmatic Biological Opinion and Magnuson-Stevens Act Essential Fish Habitat Response for the Federal-Aid Highway Program in the State of Oregon* (referred to as the FAHP Programmatic) (NMFS 2021); the design standards from the FAHP Programmatic User Guide (ODOT and FHWA 2016); and the *Oregon Standard Specifications for Construction* (ODOT 2021) to address effects on Endangered Species Act-listed fish species and short-term water quality effects. In accordance with these documents, BMPs such as fencing off no-work zones, conducting turbidity monitoring, preventing untreated discharge water, and erosion control measures would be implemented during construction to reduce effects from in-water removal and fill activities. In-water work would adhere to the Oregon Department of Fish and Wildlife in-water work window from June 1 to September 30 to reduce effects on species listed under the ESA, unless otherwise approved by NOAA Fisheries and the Oregon Department of Fish and Wildlife. During pile driving activities, bubble curtains would be used to reduce hydroacoustic effects. Appropriate measures would be identified and implemented during permitting to minimize turbidity effects during in-water work.

Approximately 60 acres of tree and vegetation removal would occur during construction, potentially reducing nesting habitat for birds in the vegetation and wildlife API. If migratory bird nests are present, tree removal would occur outside of the nesting window (March 1 to September 1) to minimize disruption to migratory birds. After construction, trees would be replaced and vegetated areas that were disturbed would be restored or replanted. New vegetation would be planted in areas of the corridor where permanent pavement or other constructed facilities are not located. Some areas of disturbance would not be planted if the location would be difficult to access and/or maintain by mowing after construction is completed. In accordance with the FAHP Programmatic design standards, a no-work zone would be established before construction to prevent disturbance of white rock larkspur.

Invasive plant species could spread during construction when equipment is moved onto and off of each site, potentially importing and exporting viable seeds. Invasive species reduce available habitat for native plant species and do not provide quality resources on which birds and wildlife depend. However, plant

materials would be cleaned from equipment and gear to prevent the spread of invasive species. The construction contractor would be required to comply with *Oregon Standard Specifications for Construction* (ODOT 2021) and the FAHP Programmatic and associated design standards to protect wildlife and habitat, including performing work within regulated work areas during in-water work windows, preventing equipment and pollutants from entering habitat, and fencing off no-work zones.

Construction access and traffic control would have a temporary effect on approximately 38,000 square feet (about 0.9 acre) of wetlands, temporarily reducing habitat for birds and amphibians. These areas would be restored after construction is completed. Noise and vibration effects from construction machinery and rock blasting activities could also disturb resident wildlife species present during construction, potentially deterring them from the API. These effects would be temporary and only occur during construction. Rock blasting is not anticipated to affect ESA- and state-listed species.

Stormwater facilities would be designed in compliance with the FAHP Programmatic and associated design standards, which would create a net benefit to water quality by treating stormwater that is currently untreated (see the *I-205 Toll Project Wetlands and Water Resources Technical Memorandum* for more details).

ODOT and FHWA are in the process of obtaining FAHP Programmatic approval from National Marine Fisheries Service for the Build Alternative.

6.2.2 Long-Term Effects

The new foundations of the Tualatin River Bridges would be constructed in different locations than the existing foundations. The new structures would occupy approximately 1,350 square feet within the river that could otherwise be used as habitat. However, this habitat loss would be offset by the removal of the existing foundations that support the bridges, which would create approximately 1,350 square feet of aquatic habitat, resulting in no net change in available habitat.

Approximately 51,000 square feet (1.2 acres) of wetlands would be permanently filled to support roadway widening, reducing available wetland habitat for birds, mammals, and amphibians. Additionally, permanent loss of wetlands could reduce native plant diversity and result in lower water quality support functions such as sediment retention. Wetland impacts and proposed mitigation are discussed in the *I-205 Toll Project Wetlands and Water Resources Technical Memorandum*.

Approximately 863,000 square feet (about 20 acres) of vegetated areas or areas of pervious soil would be converted to roadway under the Build Alternative. Conversion of pervious surfaces into impervious surfaces would result in a direct loss of vegetation and available habitat for terrestrial species in the API. Because much of the vegetation in the API consists of invasive species (e.g., Himalayan blackberry, English ivy, reed canary grass), removal of invasive vegetation and the replanting of areas used temporarily during construction with non-invasive species would improve the quality of the existing habitat.

The Build Alternative would encroach upon areas designated as Habitat Conservation Areas and Significant Riparian Areas. Impacts to these areas would be regulated through local land use processes and would require mitigation based on the location and agency with jurisdiction (see the *I-205 Toll Project Land Use Technical Memorandum*).

6.3 Summary of Effects

Table 6-1 provides a comparison of anticipated effects on vegetation and wildlife by alternative.

Table 6-1. Summary of Vegetation and Wildlife Effects by Alternative

Effects	No Build Alternative	Build Alternative
Short-Term	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Approximately 3,000 square feet of temporary aquatic habitat impacts from in-water construction piles Approximately 0.9 acre of temporary wetland habitat impacts Potential hydroacoustic impacts on fish from in-water work Noise and vibration disturbance from construction activities
Long-Term	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Approximately 1.2 acres of wetland habitat filled Approximately 20 acres of vegetated areas or areas of pervious soil converted to impervious surface Improved habitat conditions due to removal of invasive species

7 Avoidance, Minimization, and/or Mitigation Commitments

Construction contractors would be required to comply with mitigation commitments in the FAHP Programmatic and meet the *Oregon Standard Specifications for Construction*, which include requirements to implement BMPs during construction to reduce impacts to vegetation and wildlife. Permanent impacts on wetlands and waters would be mitigated in accordance with federal, state, and local permits and approvals, as discussed in the *I-205 Toll Project Wetlands and Water Resources Technical Memorandum*.

8 References

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HDR. 2018a. *Migratory Bird and Bat Technical Memorandum. I-205 Stafford Road to OR 213 Corridor Road Widening and Retrofit of the Abernethy Bridge Project.*

HDR 2018b. *Migratory Bird and Bat Technical Memorandum. I-205 Stafford Road to OR 213 Corridor Road Widening and Retrofit of the Abernethy Bridge Project.*

HDR. 2018c. *Biological Resources Technical Memorandum. I-205 Widening and Seismic Improvements - Stafford Road to OR 213.*

- HDR. 2019. *WD # 2018-0209 Wetland Delineation Report for K19786 I-205 Corridor Widening; Clackamas County; T2S R1W Sec. 25; T2S R1E Sec. 27, 28, 29, 30, 34, 35, and 36; T2S R2E Sec. 16, 20, 29, 30, and 31, in ROW and Many Tax Lots.*
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