
5.10 Wetlands

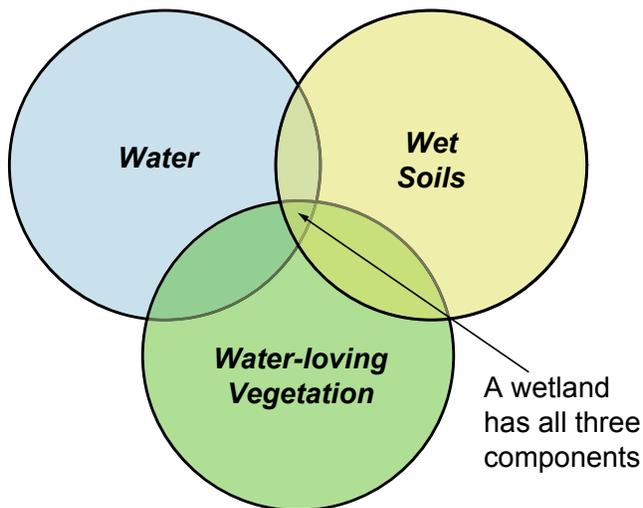
Wetlands are a valuable resource to our environment. They can help moderate stormwater flows by slowing down and retaining flood waters during periods of rain. They can also help reduce flooding downstream and remove dirt and pollutants from the water. Wetlands may also provide vital habitat for many plants and animals.

How did we identify wetlands in the Renton to Bellevue project area?

WSDOT biologists conducted literature reviews and field investigations using methods defined by the Washington State Wetlands Identification and Delineation Manual (Ecology, 1997) to determine wetland boundaries and characteristics. This method is in agreement with the U.S. Army Corps of Engineers' method (1987).

Wetlands are made up of three components, as shown in Exhibit 5.10-1, and are categorized according to their quality.

Exhibit 5.10-1: Components of a wetland



What wetlands are located in the project area?

There are several types of wetlands located in the project area. WSDOT biologists classified wetlands in the study area according to the Cowardin classification system. This system bases the classification of wetlands on their physical



Roadside wetland

Please refer to the Renton to Bellevue Project Wetlands Discipline Report in Appendix V (on CD) for a complete discussion of the wetlands analysis.

characteristics, such as the general type of vegetation in the wetland (trees, shrubs, grass or forbs, etc.) and how much, and where, water is present in the wetland. Relatively few types of wetlands are present in the project area. WSDOT biologists assigned each wetland to one of the following Cowardin classes: palustrine emergent (PEM), palustrine scrub-shrub (PSS), and palustrine forested (PFO). Exhibit 5.10-2 illustrates the various wetland types in the project area.

Sixty-three wetlands are located in the project area (see Exhibit 5.10-3), totaling approximately 20 acres. Most of the wetlands (52 of 63 wetlands) are relatively small (less than 0.3 acres). All of the wetlands are either Class IV (low functional level, often heavily disturbed) or Class III (moderate functional level, previously disturbed wetlands); none of the wetlands in the project are Class II (high functional level, difficult to replace) or Class I (unique or rare wetlands, relatively undisturbed).

How will the construction activities affect wetlands?

Construction activities such as vegetation removal and short-term placement of fill material will have temporary effects on roughly 0.6 acres of wetlands in the project area.

WSDOT anticipates that construction will require at least 10 feet beyond the grading limits during construction for space to turn and move about. Within this space, machinery may disturb wetlands and possibly cause dirt to mix with water from the project and spill into the wetlands. We do not expect these effects to result in a complete loss of wetlands once the project is completed and disturbed vegetation or wetland hydrology is reestablished.

Construction effects will vary depending on the intensity of the temporary effect. Wetlands where the vegetation will be cleared or trimmed will still retain some water quality and quantity function, although at a diminished level. Filled wetlands will provide no beneficial functions until they are restored. Wetlands temporarily affected during construction will be restored to their pre-existing conditions following the completion of work, and it is anticipated that they will return to a functioning state within five years.

Exhibit 5.10-2: Wetland types found in the Renton to Bellevue project vicinity



PEM wetland

Palustrine Emergent Wetland (PEM)

In the USFWS classification system (Cowardin et al., 1979), these wetlands are characterized by erect, rooted, non-woody plants.



PSS wetland

Palustrine Scrub-Shrub Wetlands (PSS)

In the USFWS classification system (Cowardin et al., 1979), these wetlands are areas dominated by woody vegetation less than 20 feet tall, such as trees, shrubs or young trees that are stunted due to environmental conditions.



PFO wetland

Palustrine Forested Wetlands (PFO)

In the USFWS classification system (Cowardin et al., 1979), forested wetlands are characterized by woody vegetation that is 20 feet tall or taller.

Exhibit 5.10-2: Wetland types found in the Renton to Bellevue project vicinity (continued)



Palustrine Forested Wetlands (PFO) - continued
PFO wetlands occur in undisturbed areas, as shown in the example to the left.

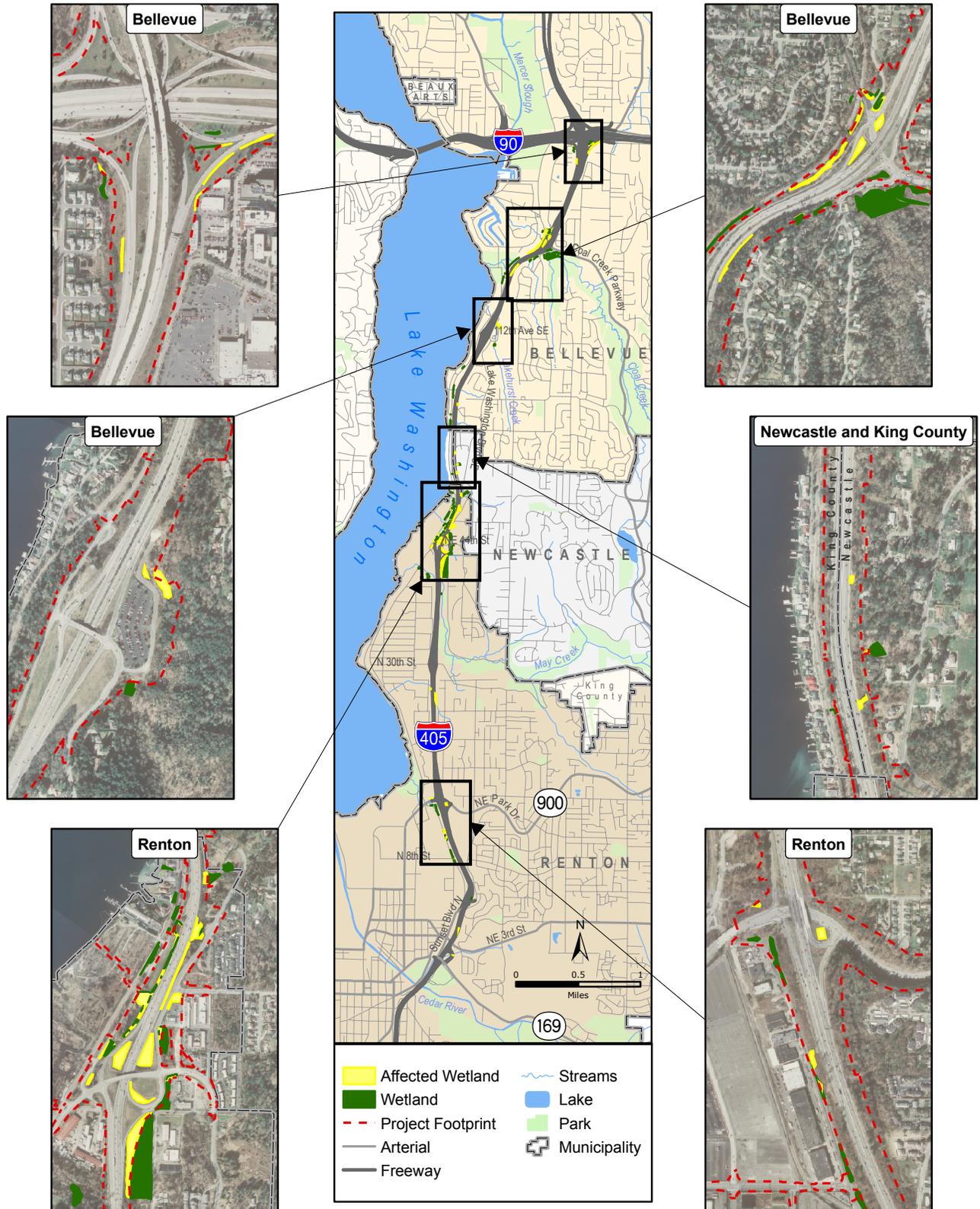
PFO wetland, undisturbed



PFO wetlands are often associated with streams, as shown in this example.

PFO wetland associated with stream

Exhibit 5.10-3: Wetlands in the project area





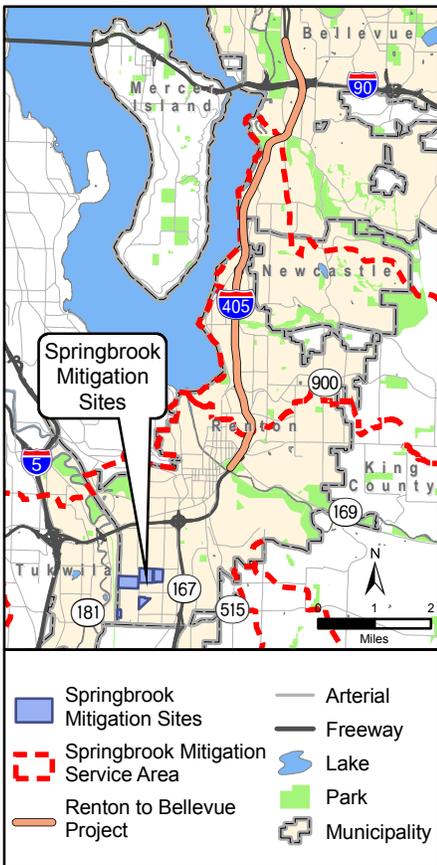
Springbrook Creek Wetland and Habitat Mitigation Bank

All or part of 38 of the 63 wetlands identified in the Renton to Bellevue Project will be permanently lost as a result of the project. A total of approximately 5.5 acres in permanent direct effects will result from WSDOT filling wetlands to construct new facilities or diverting or redirecting surface runoff needed to support wetland hydrology. The approximate acreage of lost wetlands is distributed among local jurisdictions as follows:

- Renton – 3.8 acres
- Newcastle – less than 0.1 acres
- Bellevue – 1.6 acres
- King County – less than 0.01 acres

A list of affected wetlands is provided in Appendix B of the Renton to Bellevue Wetlands Discipline Report.

Exhibit 5.10-4: Springbrook Creek Wetland Habitat Mitigation Bank



How will wetlands be affected once the project is built?

In addition to temporary and permanent effects, operation of the project will result in approximately 0.2 acres of indirect effects to wetlands. Indirect effects occur when most of the existing wetlands will be permanently filled such that the remainder will not likely function at the same level as occurred prior to construction.

Springbrook Creek Wetland and Habitat Mitigation Bank

WSDOT, in partnership with the City of Renton, is developing a mitigation bank called the Springbrook Creek Wetland and Habitat Mitigation Bank (Exhibit 5.10-4). Mitigation banking is one early-action approach identified in the I-405 Corridor Program final EIS and this project is part of WSDOT’s watershed approach to wetland mitigation. By consolidating wetlands mitigation into larger sites, WSDOT has the opportunity to work with resource agencies to create aquatic ecosystem functions that are currently lacking in the local watershed. This approach will be used where possible to provide wetland mitigation for unavoidable effects to wetlands from the I-405 Corridor Program, including the Renton to Bellevue Project. Unavoidable effects to wetlands from the Renton to Bellevue Project will be partially compensated with credits from the Springbrook Mitigation Bank.

Cities of Bellevue and Newcastle

To compensate for direct and indirect effects to wetlands and their buffers resulting from the Renton to Bellevue Project located within the Cities of Bellevue and Newcastle, WSDOT will construct and monitor a proposed wetland mitigation site located at one or more locations in the cities of Bellevue and Newcastle. The mitigation approach for compensating for wetland impacts within the cities of Bellevue and Newcastle would be designed to meet the "no net loss" guidance mandated under federal and state executive orders and to meet the mitigation and compensation requirements stipulated in the Implementing Agreement between the Washington State Department of Transportation and the Washington State Department of Ecology Concerning Wetlands Protection & Management dated July 1, 1993. The final sites will be selected and site-specific mitigation proposals would be developed in conjunction with the preparation of permit submittals for the Renton to Bellevue Project.

What measures are proposed to avoid or minimize effects to wetlands during construction?

The following activities will be undertaken to avoid or minimize effects to wetlands:

- WSDOT will protect, preserve, and enhance wetlands in the project area during the planning, construction, and operation of transportation facilities and projects consistent with USDOT Order 5660. 1A; Executive Order 11990; and Governor's Executive Orders EO 89-10 and EO 90-94;
- WSDOT will use fencing to clearly mark wetlands in the construction areas that are to be avoided; and
- WSDOT will implement avoidance measures to reduce temporal losses of wetland functions prior to creating wetlands. Project-level design and environmental review has included avoidance, minimization, restoration, and compensation of wetlands.

