



APPENDIX E **Plants and Animals Memorandum**





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memorandum

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cc Pam Xander, ESA

from Aaron Killgore and Emily Heim, ESA

subject Bellevue Comprehensive Plan Periodic Update and Wilburton Vision Implementation EIS

Introduction

As part of the City of Bellevue's Comprehensive Plan Periodic Update and Wilburton Vision Implementation (Comprehensive Plan Periodic Update), ESA prepared this technical memorandum to analyze impacts on those environmental elements that may be likely to have a significant adverse impact on the environment, per WAC 97-11-444 and -442.

This memorandum examines existing plant and animal resources, including vegetation and wildlife habitat, aquatic resources and wetlands, and species of local importance. Existing data were reviewed from available sources including study reports, maps, priority habitats and species studies, wetland inventories, stream mapping and classification, basin studies, and aerial photography. Existing resources for information about tree canopy include the City of Bellevue Environmental Performance Dashboard, the Bellevue Tree Guide, and the Urban Tree Canopy Assessment.

After describing current conditions within Bellevue city limits, the impacts analysis in the memo considers how the Comprehensive Plan Periodic Update could affect ecosystem resources within the city limits. This includes the potential for direct, indirect, and cumulative impacts on vegetation and wildlife habitat, threatened and endangered species, and aquatic resources and wetlands.

Regulatory Environment

Numerous federal and state as well as local regulations address the potential environmental impacts of development on plants and animals. Bellevue City Code, the State Environmental Policy Act (SEPA), and the federal National Environmental Policy Act (NEPA) establish environmental regulations and procedures that affect

the development and use of property. These regulations are meant to ensure impacts on the environment are avoided, minimized, documented, and mitigated, and provide the opportunity for public notice and comment:

- **Federal Endangered Species Act** is designed to protect species from extinction as a “*consequence of economic growth and development untempered by adequate concern and conservation.*” (7 U.S.C. § 136, 16 U.S.C. § 1531 et seq.)
- **Federal Clean Water Act and Stormwater Regulations.** Federal review applies to any project affecting Waters of the United States, including wetlands, and thus requiring review by the U.S. Army Corps of Engineers (Corps). Such projects generally must show that impacts on endangered species and cultural resources have been avoided or minimized. Permit requirements often include mitigation for unavoidable impacts.
- **Shoreline Management Act.** The Shoreline Management Act (SMA) requires all counties and most towns and cities with shorelines to develop and implement Shoreline Master Programs. The law also defines our role in reviewing and approving local programs. The SMA was passed by the Washington Legislature in 1971 and adopted by voters in 1972. The SMA applies to all 39 Washington counties and about 250 towns and cities with stream, river, lake, or marine shorelines. These shorelines include:
 - All marine waters.
 - Streams and rivers with greater than 20 cubic feet per second mean annual flow.
 - Lakes 20 acres or larger.
 - Upland areas called shorelands that extend 200 feet landward from the edge of these waters.
 - Biological wetlands and river deltas connected to these water bodies.
 - Some or all of the 100-year floodplain, including all wetlands.
- **Shoreline Master Program.** Shoreline Master Programs (SMPs) are local land use policies and regulations that guide the public and private use of Washington shorelines. These policies and regulations provide for public access to public waters and shorelines, protect natural resources, and plan for water-dependent uses. Shoreline Master Programs are subject to the Shoreline Management Act (RCW 90.58). The goals and policies of the Shoreline Master Program are included in comprehensive plans under the Growth Management Act (GMA) (RCW 36.70A). Bellevue’s shoreline jurisdiction is regulated through zoning and shoreline environment designations established in Bellevue City Code (BCC) 20.25E. The Shoreline Jurisdiction includes Lake Washington, Lake Sammamish, Lower Kelsey Creek, Mercer Slough, and Phantom Lake, as well as associated wetlands and shorelands 200 feet from the ordinary high-water mark (including the floodway and 200 feet of any adjacent floodplain) of each of the listed water bodies.
- **Waters of the State.** State review applies to any project affecting Waters of the State and thus requiring review by the Washington State Department of Ecology (Ecology) and/or Washington Department of Fish and Wildlife (WDFW). Such projects must also show that impacts have been minimized, and permit requirements often include mitigation for unavoidable impacts.
- **Bellevue Critical Areas Ordinance (CAO).** Protects critical areas: Streams and riparian areas, wetlands, habitats for species of local importance, geological hazard areas, and flood hazard areas. Buffers and structure setbacks are applied to the edges of these critical areas to protect their functions and values.
- **Stormwater Regulations.** The City of Bellevue ensures that development complies with State of Washington Waste Discharge Act regulations regarding stormwater through the Bellevue City Code and Ecology Stormwater Manuals.
- **Bellevue Comprehensive Plan.** Through land use permit reviews, the city ensures project compliance with environmental policies identified in the Comprehensive Plan, and with underlying zoning, land use, and other regulations, policies, and procedures.

- **Environmental Health Regulations.** The Model Toxics Control Act (MTCA) of the State of Washington sets forth prescribed limits of contamination that must be addressed by any disturbance, based on the type of activity and proposed use for a parcel. The standards for voluntary cleanup for lower levels of contaminants are incorporated into new development or redevelopment on parcels that have been noted to have contamination potential.
- **Bellevue Land Use Code (LUC).** LUC 20.20.900 sets requirements for tree retention and replacement. The retention of significant trees is “*necessary to maintain and protect property values, to enhance the visual appearance of the City, to preserve the natural wooded character of the Pacific Northwest, to promote utilization of natural systems, to reduce the impacts of development on storm drainage system and water resources, and to provide a better transition between the various land uses permitted in the City.*” Alternative tree retention or replacement options must be approved by the Director of Development Services. In addition, 20.25E.065 contains shoreline regulations for residential uses within the Shoreline Overlay District intended to ensure no net loss of ecological function.
- **Tree Canopy Code Amendments.** Bellevue’s tree canopy is a critical environmental asset and central to the vision of a “City in a Park.” Bellevue’s Environmental Stewardship Plan Action N.1.1 calls for a comprehensive review and update of provisions in the Land Use Code and City Code for tree preservation, retention, replacement, and protection during construction. The city’s current code provisions related to trees have been updated periodically, but never in a comprehensive fashion. Amendments to Bellevue’s Land Use Code and City Code will update tree preservation, retention, replacement, and protection provisions to better support citywide tree canopy goals.

These environmental regulations and policies condition development proposals to avoid, minimize, and/or mitigate potential impacts on vegetation and wildlife habitat, threatened and endangered species, and aquatic resources and wetlands.

Affected Environment

Vegetation and Wildlife Habitat

Historical data on vegetation types and locations in both the City of Bellevue and throughout the region reveal that riparian areas have been heavily disturbed through timber harvest and urban development; through the development of roads, railroads, and other infrastructure; and through other anthropogenic activities. The historical climax communities were likely forests of western hemlock and Douglas fir, intermixed with western red cedar and a variety of associated understory species. In areas of frequent disturbance, early successional trees, such as red alder and maple, dominated coastal forests.

Bellevue’s shorelines are often dominated by maple, alder, and non-native species, which colonize rapidly after many types of disturbance, including logging, fire, soil erosion, and other anthropogenic impacts. Madrone forests are found on dry, sunny sites with relatively nutrient-poor soils. The most common forest types found throughout Bellevue’s parks are Dry-Mesic Conifer, Conifer Deciduous Mixed Forest, Conifer Broadleaf Evergreen Mixed Forest, and Oak Woodlands. Bellevue’s Forest Management Program stewards 2,000 acres of park and public Native Growth Protection Area (NGPA) lands – ranging from environmentally sensitive stream corridors and wetlands to forested open space.

According to the WDFW Priority Habitats and Species (PHS) database, a number of priority habitats exist in Bellevue: Lake, Riverine, Biodiversity Areas and Corridors, and several wetland types.

Tree Canopy

Bellevue has been analyzing their tree canopy using aerial imaging every 5–10 years since 1986. Up-to-date data on tree canopy cover and impervious surfaces allow the city to make informed decisions about tree planting and preservation, stormwater management, land use and the benefits trees provide. Development in Bellevue over the last 30 years has resulted in the loss of trees from farming, mining, and logging as well as residential and commercial development.

The city recently updated its tree canopy assessment using the most up-to-date methodologies and analyzed tree canopy for both 2011 and 2019. This assessment shows Bellevue's overall tree canopy at 39%, and highlights neighborhoods with net losses of tree canopy and others with tree canopy increases. The City of Bellevue has gained 2% or 411 acres of urban tree canopy since 2011. Twenty-two percent of the land is classified as possible planting area (City of Bellevue 2022). The areas designated as parks had the highest Urban Tree Canopy, with 72% of all park area covered by tree canopy.

There is an opportunity to require developers to add trees in these areas through development regulations. In neighborhood residential areas, there is not necessarily a change in the lot coverage regulations, so it is difficult to assess the impact of development on tree canopy. There is an opportunity to implement regulations to require clustered development and preservation of large trees.

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Aquatic Resources and Wetlands

Aquatic resources in the City of Bellevue include lakes, streams, and wetlands within the city limits. Bellevue has more than 80 miles of streams, which provide habitat for salmon, cutthroat trout, waterfowl, and other wildlife. In addition to bordering Lake Washington and Lake Sammamish, Bellevue has three small lakes (considered by some to be wetlands) –Lake Bellevue, Phantom Lake, and Larsen Lake. More than 800 acres of wetlands here slow down stormwater runoff, preventing flooding and erosion, and serve as a rich habitat for fish and wildlife.

Lakes

Since the early 1940s, Lake Bellevue's watershed has experienced substantial urban development (City of Bellevue 2016). The lake fringe wetlands and the lake itself have been reduced in area, and the underlying peat soil deposits have been covered by impervious surfaces causing a decrease in habitat and a decline in water quality. The result is a eutrophic lake that is over-enriched with nutrients, specifically phosphorus, which promotes cyanobacteria growth. The lake has therefore long since exhausted its resiliency or capacity to assimilate nutrients resulting in excess phytoplankton, reduced dissolved oxygen (leading to odors), high water temperature in the summer, and loss of aquatic habitat. The lake's ability to support beneficial uses (including fish habitat) and recreational uses (such as fishing, boating, and swimming) has been substantially diminished.

Phantom Lake is a small lake inside the city limits of Bellevue. A 2.6-mile pedestrian trail circles the lake, and according to the city government, Bellevue's oldest and largest trees are there. Historically, Phantom Lake once drained to the north through the Kelsey Creek basin. Nineteenth-century farmer Henry Thode redirected the Phantom Lake outlet to Lake Sammamish, creating Weowna Creek in the process. Today, Phantom Lake has a surface area of 63 acres (0.25 km²) and a maximum depth of 45 feet (14 m). Boating is permitted on the lake during the daytime, but the number of boats is regulated by the City of Bellevue on a first-come, first-served basis. Phantom Lake offers opportunities to catch a variety of fish.

Larsen Lake is a freshwater lake located in King County, Washington. At an elevation of 253 feet and 9.8 acres, it is home to several species of fish, including yellow perch, black crappie, brown bullhead, largemouth bass, and coastal cutthroat trout (resident). Larsen Lake provides good shoreline access and a fishing pier.

Streams

Bellevue has approximately 80 miles of streams that eventually drain to either Lake Sammamish or Lake Washington. Streams are classified into four types, based on their flow and capacity to support fish. Artificial channels (e.g., ditches) are generally not protected by laws and regulations, unless they are used by salmonids or convey a stream that previously occurred naturally in that location (LUC 20.25H.075). As part of Bellevue's five strategic initiatives in the city's 2015 Storm and Surface Water Plan, Bellevue staff conducted a city-wide Stream Habitat Assessment from 2018 to 2020 to characterize streams for fish, habitat, and watershed health, and included Vasa Creek, West Tributary, Coal Creek, Kelsey Creek, small Lake Washington tributaries, and Lake Sammamish.

Bellevue's stream corridors, the area within 100 feet of a stream, had an average of 65% tree canopy coverage. Trees planted within stream corridors can intercept and absorb stormwater runoff that may otherwise carry unhealthy pollutants into the streams (City of Bellevue 2022).

Wetlands

Wetlands include vegetated edges of ponds, lakes, rivers, and creeks, and areas commonly called swamps, marshes, and bogs. In Washington, wetlands are protected by several laws overseen by federal, state, and local agencies, as well as tribes (LUC 20.25H.095). The authority to regulate wetlands is under the state Water Pollution Control Act and the Shoreline Management Act. Under Section 401 of the federal Clean Water Act, Ecology also has the authority to review and approve projects that include dredging or filling in Waters of the United States.

The 800 acres of protected wetlands in Bellevue provide important ecosystem functions.

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland

Other wetlands may be present and have not yet been inventoried. Any proposed development would require a critical areas assessment that may require a wetlands analysis pursuant to federal, state, and local regulations.

Shoreline Overlay District Jurisdiction

The Shoreline Master Program (SMP) applies to shorelines of the state, which include shorelines of statewide significance and shorelines as defined in RCW 90.58.030 and this subsection of the memo. Specifically included in the Shoreline Overlay District jurisdiction are the following shorelines in Bellevue:

- Lake Washington
- Lake Bellevue
- Lake Sammamish
- Lower Kelsey Creek
- Phantom Lake

Species of Local Importance

“Species of local importance” are defined as recognized local populations of native species that are at risk of being lost from Bellevue (LUC 20.25H.150). A review of the city’s Critical Areas Ordinance (CAO) identifies 23 species of local importance, as listed in **Table 1**. Habitat assessments are required for permits that impact critical areas and are conducted to assess the presence of and potential impacts on species and habitat of local importance.

**TABLE 1
CITY OF BELLEVUE SPECIES OF LOCAL IMPORTANCE**

1. Bald eagle (<i>Haliaeetus leucocephalus</i>)	13. Western big-eared bat (<i>Plecotus townsendii</i>)
2. Peregrine falcon (<i>Falco peregrinus</i>)	14. Keen’s myotis (<i>Myotis keenii</i>)
3. Common loon (<i>Gavia immer</i>)	15. Long-legged myotis (<i>Myotis volans</i>)
4. Pileated woodpecker (<i>Dryocopus pileatus</i>)	16. Long-eared myotis (<i>Myotis evotis</i>)
5. Vaux’s swift (<i>Chaetura vauxi</i>)	17. Oregon spotted frog (<i>Rana pretiosa</i>)
6. Merlin (<i>Falco columbarius</i>)	18. Western toad (<i>Bufo boreas</i>)
7. Purple martin (<i>Progne subis</i>)	19. Western pond turtle (<i>Clemmys marmorata</i>)
8. Western grebe (<i>Aechmophorus occidentalis</i>)	20. Chinook salmon (<i>Oncorhynchus tshawytscha</i>)
9. Great blue heron (<i>Ardea herodias</i>)	21. Bull trout (<i>Salvelinus confluentus</i>)
10. Osprey (<i>Pandion haliaetus</i>)	22. Coho salmon (<i>Oncorhynchus kisutch</i>)
11. Green heron (<i>Butorides striatus</i>)	23. River lamprey (<i>Lampetra ayresi</i>)
12. Red-tailed hawk (<i>Buteo jamaicensis</i>)	

SOURCE: City of Bellevue Land Use Code 20.25H.150

The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system identifies 16 protected bird species that may occur in the area:

- Bald eagle (*Haliaeetus leucocephalus*)
- Black swift (*Cypseloides niger*)
- Black turnstone (*Arenaria melanocephala*)

- California gull (*Larus californicus*)
- Cassin's finch (*Carpodacus cassinii*)
- Clark's grebe (*Aechmophorus clarkii*)
- Evening grosbeak (*Coccothraustes vespertinus*)
- Golden eagle (*Aquila chrysaetos*)
- Lesser yellowlegs (*Tringa flavipes*)
- Marbled godwit (*Limosa fedoa*)
- Olive-sided flycatcher (*Contopus cooperi*)
- Rufous hummingbird (*Selasphorus rufus*)
- Short-billed dowitcher (*Limnodromus griseus*)
- Western grebe (*Aechmophorus occidentalis*)
- Marbled murrelet (*Brachyramphus marmoratus*)
- Yellow-billed cuckoo (*Coccyzus americanus*)

Additionally, seven salmonid species that have the potential to occur in the area:

- Bull trout (*Salvelinus confluentus*) - Critical Habitat in Lake Washington
- Chinook (*Oncorhynchus tshawytscha*)
- Coho (*Oncorhynchus kisutch*)
- Steelhead (*Oncorhynchus mykiss*)
- Sockeye (*Oncorhynchus nerka*)
- Cutthroat Trout (*Oncorhynchus clarkii*)
- Chum (*Oncorhynchus keta*)

Four species of bats potentially occur in the area:

- Big brown bat (*Eptesicus fuscus*)
- Little Brown Bat (*Myotis lucifugus*)
- Townsend's Big-eared Bat (*Corynorhinus townsendii*)
- Yuma myotis (*Myotis yumanensis*)

The Monarch butterfly (*Danaus plexippus*) also has potential to occur in the area. Consultation with the USFWS is recommended to identify any potential loss of habitat associated with these species if there is a federal nexus.

Potential Impacts of the Comprehensive Plan Periodic Update

The purpose of this analysis is to provide a broad overview of protected species and their habitats within the City of Bellevue for the purposes of future planning. Individual projects will continue to be subjected to review under the laws described in previous sections while undergoing SEPA review. The SEPA process identifies potential concerns of specific projects early in the environmental review and permitting process.

For example, some projects could affect riparian habitat and would be subject to avoidance, minimization, and/or mitigation provisions of the city's CAO. Compliance with those provisions would reduce residual impacts to a less-than-significant level. Redevelopment projects could also have indirect impacts on aquatic habitat as a result of increased pollutant loading in stormwater runoff. New low-impact development requirements would increase on-site infiltration of stormwater, thereby reducing the amount of stormwater runoff currently conveyed to creeks.

Future development may increase the amount of impervious surface including rooftops, roads, sidewalks, driveways, and parking lots. In 2019, 8,113 acres or 38 percent of the city was impervious surface (City of Bellevue 2022). Eight percent of all tree canopy was overhanging impervious surface. Most of the housing and job capacity identified in the Comprehensive Plan Periodic Update alternatives is in areas with little tree canopy, including Mixed Use Centers, Neighborhood Centers, or along transportation corridors. There is an opportunity to require developers to add trees in these areas through development regulations. In neighborhood residential areas, there is not necessarily change in the lot coverage regulations, so it is difficult to assess the impact of development on tree canopy. There is an opportunity to implement regulations to require clustered development and preservation of large trees.

Opportunities may arise for the city to consider further restoration of riparian areas and stormwater function as well as enhancements to the tree canopy. Redevelopment plans may provide ecological benefits from creating an open-channel water feature on properties, particularly if the existing pipes do not currently allow fish passage. Redevelopment plans that could result in impacts on streams or wetlands may trigger the need to comply with fish passage requirements.

The Comprehensive Plan Periodic Update is a governmental action involving decisions on policies, plans, or programs that contain standards controlling the use or modification of the environment, which is considered to be a non-project action under SEPA. The Plan proposes to contain growth in an urban area per the GMA and protect critical areas, habitat, and wildlife through city codes. This effort preserves these species and habitats in rural areas outside the growth boundary. Thus, adoption of the Comprehensive Plan Periodic Update, regardless of the alternative selected, is not expected to have a significant adverse impact on these environmental elements.

Future site-specific development projects under the Comprehensive Plan Periodic Update could result in adverse impacts on vegetation and wildlife habitat, threatened and endangered species, and aquatic resources and wetlands. However, those projects will be subject to existing regulations (discussed above) that protect vegetation and wildlife habitat, threatened and endangered species, and aquatic resources and wetlands. These existing regulations include the Endangered Species Act, Clean Water Act and Stormwater Regulations, state regulations protecting Waters of the State, the Shoreline Management Act, the Shoreline Master Program, the Shoreline City Codes, the Model Toxics Control Act of the State of Washington, the city's CAO, and stormwater regulations, policies in the city's existing Comprehensive Plan, and underlying land use permit review processes and regulations. Existing regulations will require detailed site-specific analyses of the impacts resulting from those projects, and the implementation of required avoidance, minimization, and/or mitigation measures, when the associated plans and project permit applications are submitted for city review and processing.

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