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memorandum

date	May 5, 2025
to	Portland Water Bureau
from	Sarah Hartung, Biologist V, Environmental Science Associates (ESA)
subject	Response to Upland Habitat Comments for First Open Record Period

Enclosed within are responses to public comments submitted into the Multnomah County (County) remand record prior to or during the remand hearing held on Wednesday, April 16, 2025. This memorandum supplements the Wildlife Habitat Impact Analysis (Habitat Analysis) dated April 15, 2025 (N.56) and previous memoranda submitted to the record during the original land use proceeding to address potential adverse effects on wildlife habitat and related natural resources. A number of comments expressed concerns over the same themes or topics such as the importance of hedgerows, the disappearance of wildlife due to construction activity, the lack of a full and complete biological inventory, habitat fragmentation, and temporal impacts. Responses to these collective topics are addressed first in this memorandum. Additionally, the responses below are intended to broadly address the themes and concepts in this selection of public comments. For that reason, these responses are likely to also be applicable to other public comments now in the record or that are placed in the record after this response.

Collective Comments/Responses by Topic

1. Importance of Hedgerows

Summary of comments: Multiple commenters provided written and oral testimony related to the removal of hedgerows within the Dodge Park Boulevard right-of-way and the value that hedgerows provide for a multitude of wildlife species (See, e.g., N.43, N.48).

Response: The Habitat Analysis at N.56 specifically acknowledges the habitat value of the hedgerow areas located along the finished water pipeline alignment within the Dodge Park Boulevard right-of-way and accounts for both the quantity and quality of that habitat in the evaluation. The value assigned to the sections of hedgerow along Dodge Park Boulevard in the Habitat Analysis considered the vegetation size, make-up, and location. In this case, location was relevant in two specific ways. First, much of the hedgerow area removed during construction included isolated sections of trees, particularly west and directly east of the intersection of Dodge Park Boulevard and Cottrell Road. Second, all hedgerow vegetation removed along Dodge Park Boulevard was located within the public right-of-way in a narrow strip of land directly adjacent to vehicular travels lanes on a road designated by Multnomah County as a collector road and freight route. Generally, hedgerows in rights-of-way along roadways can be hazardous habitat for wildlife. Some wildlife is attracted to this roadside vegetation, putting them in proximity to traffic, creating an increased risk of animal-vehicle collision, a hazard to both wildlife and humans. Thus, hedgerow habitat adjacent to road corridors can act as an ecological sink, attracting animals to seemingly suitable habitat that is in fact, too hazardous to provide high habitat function and often leads to breeding failure,

injury, or mortality. The location of the hedgerow within the right-of-way was therefore an appropriate consideration in assessing the quality of the pre-construction condition of the finished water alignment.

Despite the locational factors, the Portland Water Bureau (PWB) agrees with commenters that hedgerows, including those along Dodge Park Boulevard, do provide some functional habitat value. For this reason, the original planting plan included both shrub-dominated and tree-dominated linear vegetation that provide hedgerow function around the filtration facility site perimeters. These areas also serve as visual and auditory barriers to protect wildlife and neighbors from disturbance. To add to the overall density of hedgerow features on the filtration facility site planting plan and to provide additional vegetative buffer, an additional hedgerow was added to the landscape plan between the filtration facility and the SEC area to the east during the original land use proceeding. The hedgerow features that will be planted on the filtration facility site are highlighted on the landscape plan below.

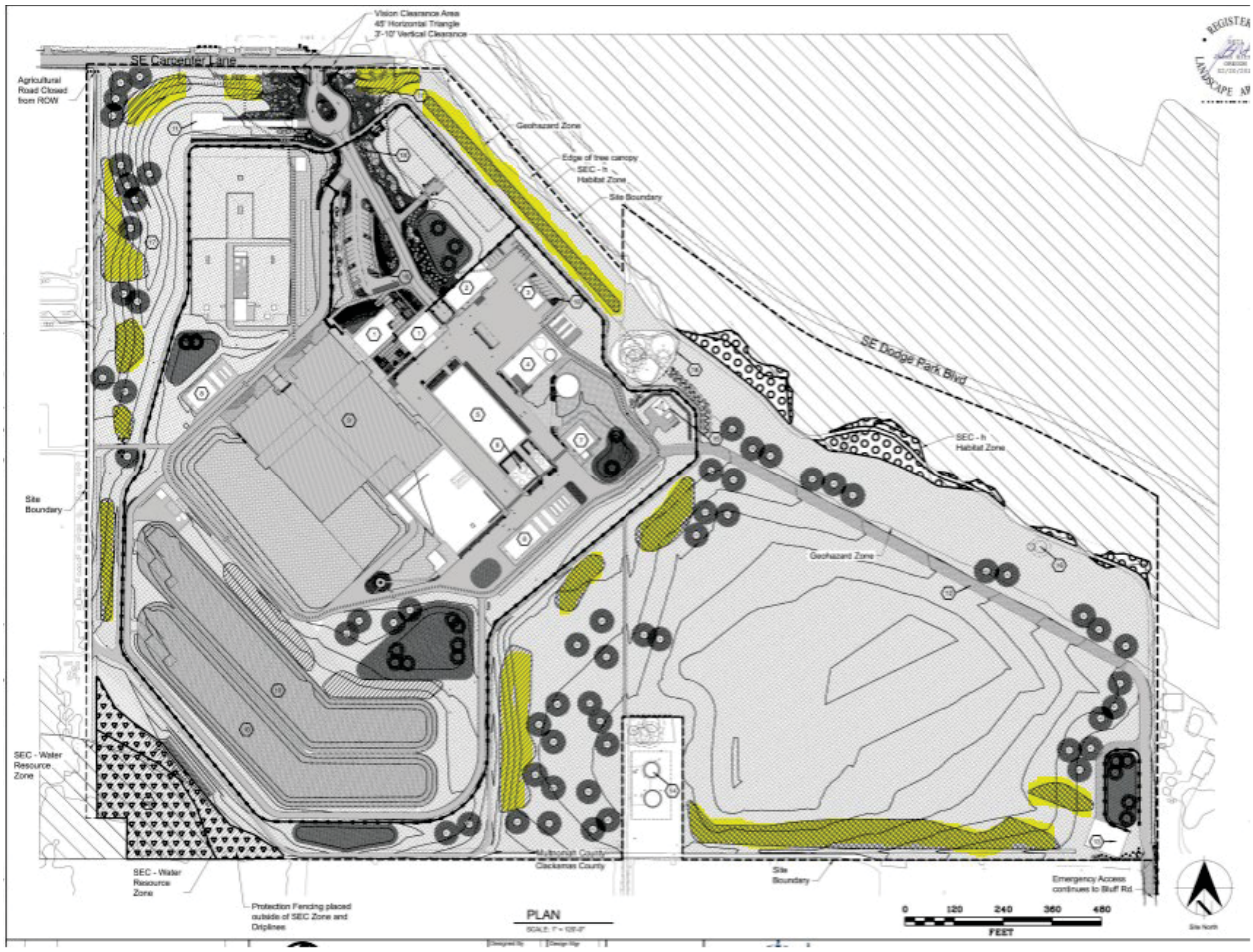


Figure 1 **Tree Dominated and Shrub Dominated Hedgerow Areas to be Planted on the Filtration Facility Site**

There are a variety of hedge plant structures in the design, including those which are shrub-dominated, those which are tree-dominated, and those which have broadleaf perennial herbaceous plants mixed in. Hedgerows provide food and shelter for bees, birds, and small mammals. Shrub species provide the structure needed for

nesting and shelter from predation. They also provide food in the form of berries, rosehips, and vegetative plant material. Pollinators use both the flowers of shrubs as well as herbaceous plants.

In addition to the hedgerow planting areas on the filtration facility site accounted for in the Habitat Analysis, PWB proposes two additional planting areas. First, a planting plan has been developed for two residential lots owned by PWB located between Dodge Park Boulevard and SE Carpenter Lane – 35227 SE Carpenter Lane and 35519 SE Carpenter Lane.

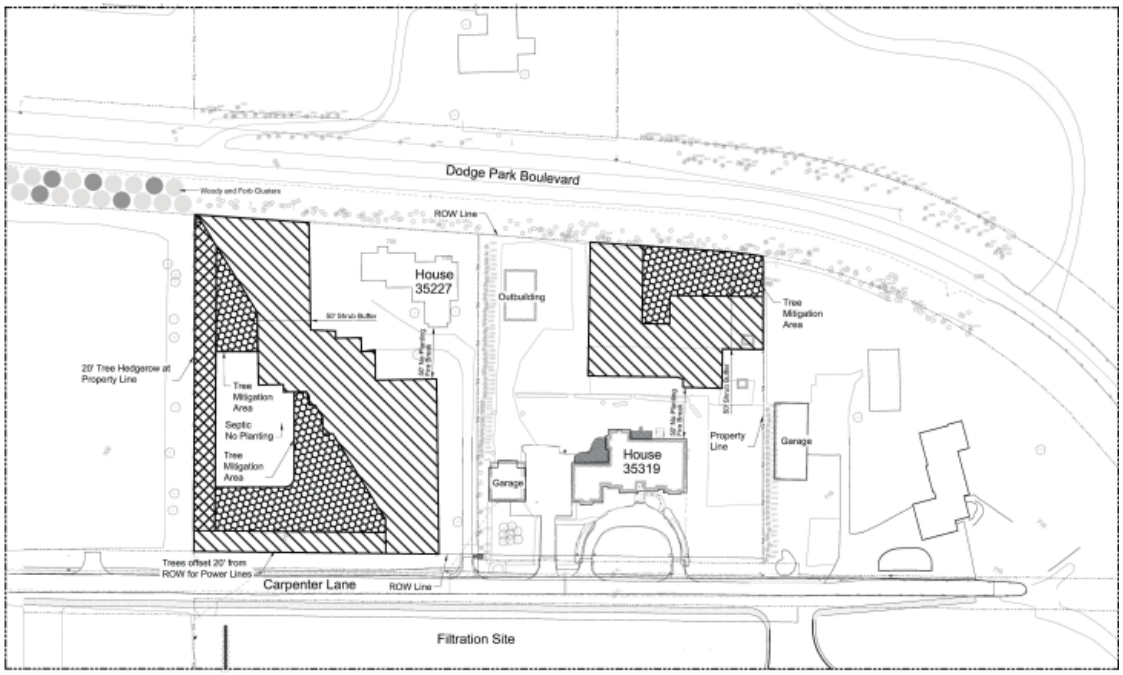


Figure 2 Carpenter Lane Planting Diagram (Full Plan included as 00-LU-412 in Exhibit 1)

The plan includes a 20-foot strip of tree-dominated hedgerow planting along the western boundary of 35227 SE Carpenter Lane. The plan also includes additional tree and shrub planting areas. All trees planted on the two lots will be relatively large ball and burlap (B&B) plants that are approximately 6-8 feet in height or 1.5" caliper, depending on the species. These larger specimen trees will provide a variety of functions within one to two growing seasons following installation, including: shade, food (fruit, seeds), nesting sites (especially evergreen species), and shelter for animals such as insects and songbirds. 35319 Carpenter Lane will be planted the next fall or winter after construction resumes. Plantings at 35227 SE Carpenter Lane will also be installed prior to the completion of construction of the filtration facility once construction related activity on the lot is complete. It is anticipated that the restoration at 35227 SE Carpenter Lane will be complete at least one year ahead of the full construction completion. Collectively, hedgerow habitats planted on these two Carpenter Lane properties and on the filtration facility site will include a combination of tree and shrub dominated linear habitat adjacent to the area where the hedgerow had to be removed, but in areas not flanking active lanes of vehicle traffic. These areas also provide broader habitat connectively to the habitat areas that will be established and enhanced on the filtration facility site and to areas off-site, including the upland forested areas east of the filtration facility site (identified as Lusted Woods in testimony) and the riparian areas along Johnson Creek.

PWB will also replace removed hedgerow habitat in the Dodge Park right-of-way with a shrub-dominated hedgerow which will also include an element of herbaceous native plants.

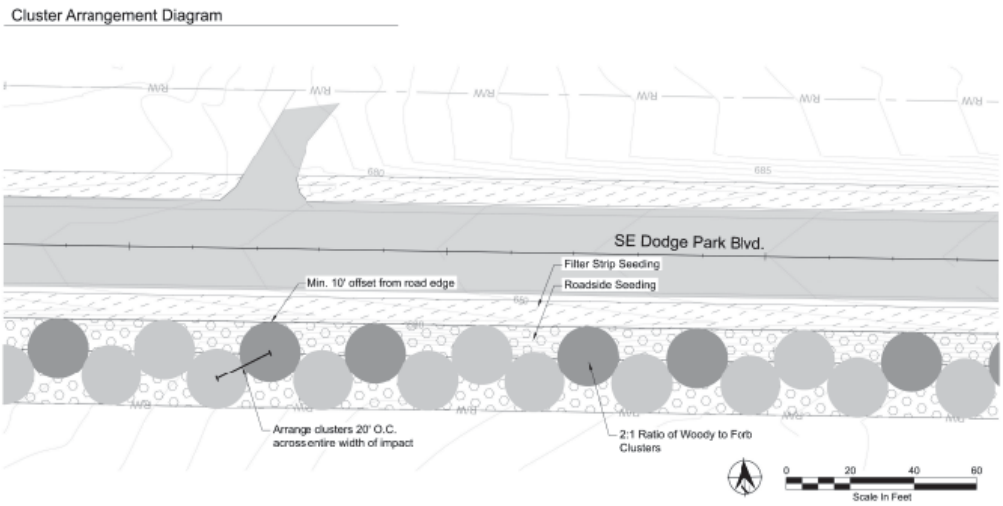


Figure 3 Cluster Arrangement Diagram for Dodge Park Boulevard Replanting (Full Plan included as 00-LU-413 in Exhibit 1)

This plan, approved by Multnomah County Transportation on May 1, 2025, consists of a dense hedgerow of diverse native shrubs and perennial groundcover species which will provide habitat for insects, birds, and small to medium-sized mammals. The plant species selected will provide a wide range of flowering periods to maximize benefits for pollinators. Shrub species will also be varied in size and structure to provide additional benefits for wildlife species including foraging habitat, nesting sites, and cover. No trees are proposed as part of hedgerow restoration because of potential conflicts between tree roots and pipeline integrity. However, the lower habitat cover will also minimize the risk of vehicle collisions with larger wildlife.

Taking into consideration the Dodge Park Boulevard replacement area, the Carpenter Lane Property, and the linear hedgerow area specifically identified on the filtration facility site planting plans, PWB commits to planting 3.88 acres (5,530 linear feet) of hedgerow habitat across the three planting areas. A total of approximately 110 trees, 17,393 shrubs and 6,416 native herbaceous flowering perennials will be planted in those areas. The tree- and shrub-dominated areas highlighted in yellow in Figure 1 above add additional hedgerow function on the filtration facility site.

2. Disruption/Displacement of Wildlife due to Construction Activity

Summary of comments: Several commenters reported a decrease in wildlife species since construction of the filtration facility site began (N.6, N.8, N.10, N.18, N.19, N.41, N.47, N.52, N.53, and R.6). This includes several claims of wildlife species being absent from commentators' backyards or known migration pathways, citing lack of images captured on wildlife cameras (N.19) and attributing this absence or decrease in sightings to construction activity that was occurring at the filtration facility site. A few neighbors claim or fear that the displacement is or will be permanent (N.18 and N.52).

Response: Construction of the project is outside the scope of this proceeding and irrelevant to compliance with MCC 39.7515(B). Therefore, the comments claiming wildlife and habitat impacts during construction activity are not relevant to the only approval criterion at issue in this remand proceeding.

While construction is not relevant to this remand, it is also the case that distribution of wildlife species can fluctuate depending on a wide variety of factors beyond localized construction activity including pressure from predators and competitors (inter- and intra-species), availability of food resources, migration and breeding patterns, weather events and climate patterns, as well as physiological changes. Many birds of prey (red-tailed hawks, osprey, bald eagles), waterfowl (Canada geese), and songbirds fly south to Mexico/Central America and other regions within the US in search of suitable wintering habitats and abundant food sources. Elk behavior and habitat needs change in the fall coinciding with the onset of rutting season; likely contributing to the changes in daily use patterns that were observed by several neighbors. Lastly, many species are less active in the winter, including the rubber boa which hibernates generally from December to February (Brown et al., 1995).

Habitat patches suitable to support the suite of species documented on the filtration facility site pre-construction remain intact and available during construction. This includes extensive adjacent agricultural nursery land that is comparable to the pre-project condition of the site. These areas can act as temporary refugia for species displaced by the construction activity and provide a source population for recolonization post-construction. Additionally, there are other intact habitat types nearby and adjacent to the site, such as riparian forest, mature hedgerows, and mixed conifer forest, all of which will provide habitat function to species temporarily displaced by construction disturbance and act as seed populations to support the recolonization process. There is already evidence that some bird species detected on the project site pre-construction are already using the margins of the project area (white-crowned sparrow, chipping sparrow, American robin, purple finch, lesser goldfinch), and others are present in adjacent habitat just off site (Savannah sparrow, spotted towhee, northern flicker, Steller's jay, red-breasted nuthatch). See bird survey sheets attached as Exhibit 2.

Claims of wildlife species never returning to the area are overstated and are not supported by evidence from case studies worldwide and locally. For example, during the Covid 19 pandemic, when people were unable or unwilling to travel, several popular tourist areas across the globe that no longer hosted the usual crowds saw a dramatic increase in the biodiversity of plants and animals. White-tailed sea eagles that normally avoid people increased sevenfold at a popular seaside attraction in Sweden that was closed to the public during Covid (Hentati-Sundberg et al., 2021). Several intertidal habitats recovered at popular beach areas in Latin America because of the dramatic decrease in tourists (Soto et al., 2021). Beach ecosystems that were often trampled and over-run by visitors experienced a return of ghost crabs as well as a reduction in trash and litter. The examples of different patterns of wildlife behavior observed during the Covid 19 pandemic indicate wildlife species can and do adapt to changes in the environment.

Another example of wildlife returning to areas disturbed by construction include data from wildlife corridors across the Trans-Canada Highway (TCH) through Banff National Park. Starting in 1981, about 82 km (50 miles) of the highway have been expanded from two lanes to four lanes, which threatened the daily and seasonal migration patterns of several wildlife species. Over time, 6 overpasses and 34 underpasses have been constructed along the TCH to provide safe passage for 11 large mammals including elk, deer, moose, grizzly bear, black bear, mountain lion, wolf, and mountain goat. Constructing the passages would have required the use of heavy equipment and construction laydown areas. Elk and deer were the first species to adapt to the wildlife crossings and more wary species, like the grizzly bear, took longer to use the crossings but now are using them consistently

(Canadian Geographic 2025). Since fencing and crossing structures were first constructed, wildlife-vehicle collisions have dropped by more than 80 percent.

Figure 4 Several large mammals regularly use human-made overpasses to cross the Trans-Canada Highway that was once a construction site.

Another example of wildlife adapting to a changing landscape is the Snoqualmie Pass East wildlife overcrossings, a series of structures allowing animals to cross Interstate-90 on the east slope of the Washington Cascades. At the end of 2023, WSDOT's motion-activated cameras recorded the 25,000th safe wildlife crossing at completed Snoqualmie Pass East Project structures since 2014. These crossings included:

- 7,967 elk
- 13,525 deer
- 3,216 coyotes
- 6 cougars (5 of which occurred in 2023)

This example simply illustrates the adaptability of many wildlife species to novel conditions and new levels of baseline disturbance (e.g. heavy traffic on a major interstate) and that human-designed and maintained habitat components and structures are readily used by wildlife. Many examples of wildlife's ability to adapt to human-modified environments and new baseline levels of human disturbance abound, from killdeer nesting on gravel in active construction sites, to osprey using artificial nesting platforms along busy waterways, to cliff swallow nesting colonies under overpasses with vehicular traffic above and below, to the highest-density of nesting peregrine falcons in western Oregon being on the bridges of downtown Portland.

Locally, PWB staff have observed several elk and deer near its Lusted Facility in an area where major construction occurred from 2021 to 2024. PWB completed construction on the Lusted Hill Corrosion Control

project in 2024 after three years of intensive construction that required removal of a significant number of mature Douglas-fir trees. As depicted in Figure 5 below, the Lusted Facility lies at the other end of the area referred to in public comment as Lusted Woods. This site also contains a portion of that wooded corridor. During construction, wildlife was observed much less frequently by PWB staff. Wildlife have returned to this area in the last year. In March and April of 2025, elk were observed on several occasions by PWB staff in a grassy pasture between the Lusted Forest and SE Lusted Road. Staff also observed active game trails used by deer and elk which cross Lusted Rd both on the PWB property and the property adjacent to the south. This indicates elk and deer have not permanently abandoned the Lusted Woods area in response to construction personnel and activity at the filtration facility site in 2024 and early 2025.

A similar response is expected at the filtration facility site. As established in the Habitat Analysis, the quality of the vegetated habitat on the filtration facility site will be greatly improved over pre-construction conditions by native grass and shrub cover which will serve as forage for area ungulates. The oak savanna area, which is the farthest away from roads and structures, contains a large grassland/prairie which will be a private and secure location for both elk and deer to graze in future years.

Based upon both the general and local evidence that wildlife returns to habitat on and near areas disturbed by construction activity once construction is complete, and other evidence in the record, it is my expert opinion that the project construction will not result in long-term displacement of wildlife from the project sites or from surrounding habitat areas.

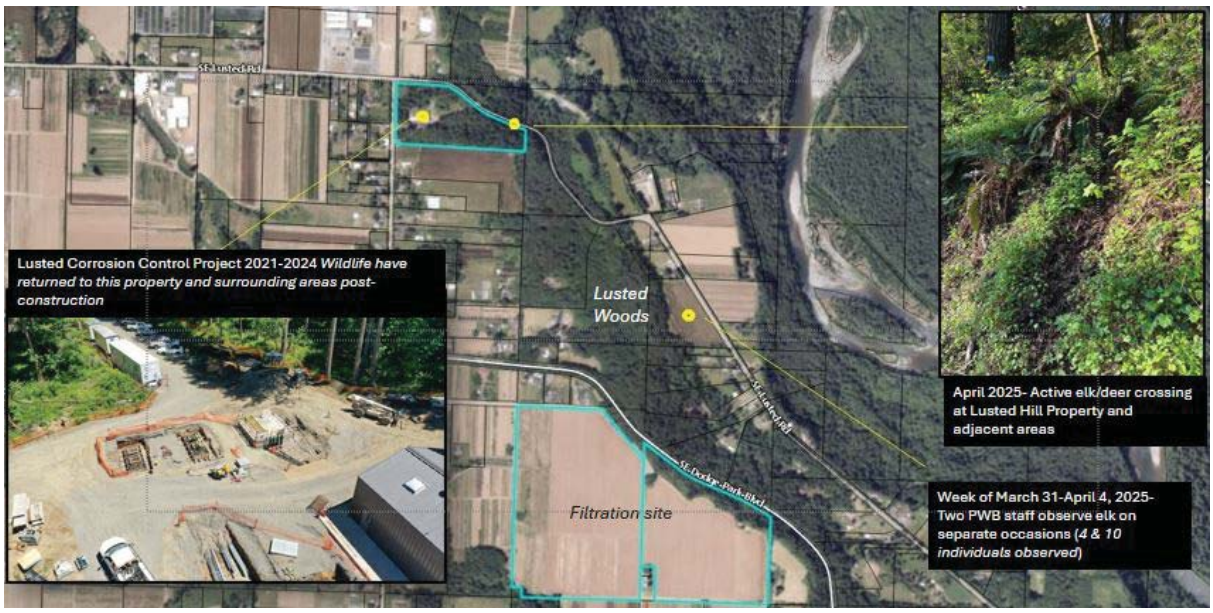


Figure 5 Elk and deer have been observed near the Lusted Facility in April 2025 where major construction occurred 2021-2024.

3. Biological Inventories

Summary of comments: Arguments made during oral testimony and in written testimony (N.48) claim that the Portland Water Bureau's land use application is insufficient because it lacks, "*an inventory to document which wildlife species (e.g. mammals, birds, amphibians etc.) likely utilize the habitat either year-round or seasonally*." Written testimony from the Cottrell Community Planning Organization and Pleasant Home Neighborhood

Association (N.43) contends that PWB's application "*lacks a full inventory*." Additionally, testimony from Charlie Ciecko contends that the Portland Water Bureau failed to inventory vegetation to be removed and the mammal, avian, and amphibian species utilizing the habitat areas that have now been destroyed.

Furthermore, testimony claims the Applicant's 2023 "Wildlife Conservation Plan" lacked any discussion of the value of "edge habitat" which is described as occurring on the raw water pipeline parcel. "*The value of edge habitat in proximity to forested areas is well established and generally contributes to diversity both mammal and avian species.*" (N.48).

Response: The Multnomah County Code does not dictate any specific form of habitat survey for proposed conditional uses. Nonetheless, during project development and prior to construction, PWB staff and project consultants performed multiple vegetation, habitat, and animal surveys within and around the project sites.

Prior to construction, PWB staff and consultants conducted an inventory of native plant species on the agricultural portion of the site. In 2019, consultants from Winterbrook Planning began inventory efforts and reached out to Portland State University's Oregon Biodiversity Information Center and requested a data system search for rare, threatened, and endangered plants and animals in the vicinity of Multnomah County as part of its inventory evaluation for the projects.

In October 2019, a survey was conducted by consultants from Winterbrook Planning on habitat condition and forested/non-forested areas in the raw water project area. This survey is referenced in and informed the development of the Raw Water Pipeline Wildlife Conservation Plan (A.67) and the Distribution Main Conservation Plan (A.69) which were submitted with the original Land Use application.

In 2020, as part of its WIFIA Program applicant review, the U.S. Environmental Protection Agency (EPA) consulted with United States Fish and Wildlife Service (USFWS) to perform a review for potential threatened, endangered, or candidate species. Resulting from that review, the USFWS determined that there are no critical habitats within the project area under the office's jurisdiction, and the EPA concurred.

In 2020, consultants from Winterbrook Planning also conducted a survey for Nelson's checkermallow (*Sidalcea nelsoniana*). Based on its habitat preferences, attention was paid to smaller wetland areas, open grassy areas, and ditches along the roads. No *Sidalcea nelsoniana* were observed during field visits, nor during any of the other site visits conducted as part of the initial wetland delineation work. Drainage and herbicide applications are commonly used to maintain the agricultural and residential use functions in the area. *S. nelsoniana* is vulnerable to herbicides, as noted in US Fish and Wildlife Service documents for species recovery efforts.

During the summer of 2020, PWB staff conducted an inventory of native vegetation and high-priority invasive plants occurring inside the agricultural area. There was an absence of native herbaceous vegetation and the majority of the site was dominated by pasture grasses, invasive thistles, tansy ragwort, and other agricultural weeds. No high priority invasive species were discovered during this survey. Several native shrubs and small trees inside the agricultural perimeter were identified, which included bitter cherry (*Prunus emarginata*), native willow (*Salix* spp.), Oregon ash (*Fraxinus latifolia*), and Douglas-fir (*Pseudotsuga menziesii*). Non-native, non-invasive landscape species were not inventoried. A tree inventory was conducted throughout the site to identify trees that must be removed during project construction and trees to be avoided and preserved during construction.

Wildlife observations were made at the filtration facility site and vicinity as described in the methods section of the Habitat Analysis. This includes a survey of streaked horned lark in 2021 using a USFWS-approved protocol to confirm the absence of this federally threatened species from the filtration facility site and adjacent nursery land. The streaked horned lark survey is included in the record by reference through the Habitat Analysis at N.56 and is attached as Exhibit 3. It also includes field review of the Dodge Park Boulevard hedgerow area and the raw water pipeline alignment as documented at I.96. Responses to claims about the value of edge habitat along the raw water pipeline alignment are addressed at J.75.

Extensive avian surveys were also conducted in the project area in 2024 and currently in 2025 by PWB. In observance of the federal Migratory Bird Treaty Act, bird surveys were performed at the end of winter and in spring and summer of 2024 in preparation for construction activities. Project staff and contractors worked with ornithologists and environmental staff to review the 2024 site conditions (and identify what species would find those conditions most attractive) and document potential bird nesting behavior to inform construction. This included establishing buffers around nests and altering scheduled construction activities during the bird nesting window. The results of those surveys are included in Exhibit 2.

As explained above, inventory work was conducted prior to construction. Additional or more extensive survey work is not needed in order to conclude the operating project post-construction will not adversely affect natural resources. The Habitat Evaluation Procedures (HEP) presented in the N.56 Habitat Analysis assesses representative focal species and conservatively assumes the presence of species/populations as described in the methods section of the report. The eight focal species evaluated represent the habitat needs of a multitude of species that are expected and known to occur at the filtration facility site, the raw water pipeline alignment, the intertie site, and the finished water pipeline alignments. The HEP analysis provides an objective and conservative comparison of the relative habitat quality for the eight representative wildlife species before and after construction of the project, with the result that post-construction enhancements, including measures well above and beyond minimal site rehabilitation, will improve wildlife habitat for the benefit of a wide range of species.

4. Habitat Fragmentation

Summary of comments: Arguments made during oral testimony and in written testimony claim that the filtration facility will contribute to habitat fragmentation. For example, written testimony (N.8) requests an analysis addressing "*habitat fragmentation*." Another comment (N.12) states, "*wildlife population declines in rural areas are often linked to infrastructure development, which fragments habitats and hinders wildlife migration.*" Written testimony (N.28) further claims "*fencing and industrial activity would fragment habitat, disturb wildlife corridors.*" Additionally, a written comment (N.45) contends "*the operation of an industrial complex in this area would fragment wildlife habitat, making it difficult for species to migrate freely or access resources.*"

Response: Since the mid-1800s, the natural regional landscape surrounding the filtration facility site has undergone an intensification of human development, and associated loss and fragmentation of wildlife habitat. The region once included large areas of mixed coniferous and deciduous forests, including Douglas fir and western hemlock, along with other species common to the region. This region also featured oak woodlands on the south-facing slopes and foothills, which were interspersed with groves of Douglas fir. However, during the early 1900s, native forests were rapidly cleared for timber production, followed by the development of farms and settlements. Over time, some of these cleared areas were repurposed for ornamental tree nurseries, especially as the landscaping industry began to grow.

The filtration facility site was formerly focused on intensive commercial nursery agriculture and is situated within a larger landscape of heavily fragmented habitats in the foothills of Mount Hood. While some of the historic agricultural areas may still provide adequate forage quantity and quality for certain wildlife species, most commercial landowners are reluctant to allow access to animals such as deer, elk, small rodents, and rabbits, fearing they could damage their crops. Moreover, the construction of physical barriers like fences, the removal of essential movement habitats, and activities that cause behavioral changes leading to avoidance of otherwise suitable areas all contribute to habitat fragmentation. In this case, a fence intended to exclude elk, deer, and other wildlife from the site was installed by the commercial nursery farmers along the eastern filtration facility site (see Figure 6).

Figure 6 **Looking north along the eastern perimeter of the filtration facility site. May 11, 2020.**

In a landscape characterized by significant fragmentation, habitat connectivity—the ability of the landscape to facilitate wildlife movement—is a crucial aspect of wildlife conservation. In 2022, ODFW and its partners completed the Oregon Connectivity Assessment and Mapping Project, which resulted in the creation of Priority Wildlife Connectivity Areas (PWCA) and the PWCA Web Map. This tool serves to guide efforts in restoring, enhancing, and protecting crucial habitats for wildlife connectivity.

The PWCA Web Map is an interactive resource that allows users to explore these Priority Wildlife Connectivity Areas. There are three types of PWCAs: Regions, Connectors, and Steppingstones.

- Regions are large, contiguous areas that provide high-value habitat for facilitating the movement of wildlife species throughout the state.

- Connectors serve as optimal pathways between Regions, offering the best habitat for enabling movement from one Region to another.
- Steppingstones are remnants of intact habitat situated within otherwise developed landscapes, which can aid wildlife movement through areas impacted by development.

The PWCA Web Map output (see Figure 7 below) indicates that the boundaries of the filtration facility site are located within 1,300 feet of the Sandy River PWCA Connector (shown in yellow) and approximately 2.29 miles from the PWCA Region (depicted in blue) to the west. The area between the filtration facility site and PWCA Region encompasses Johnson Creek.

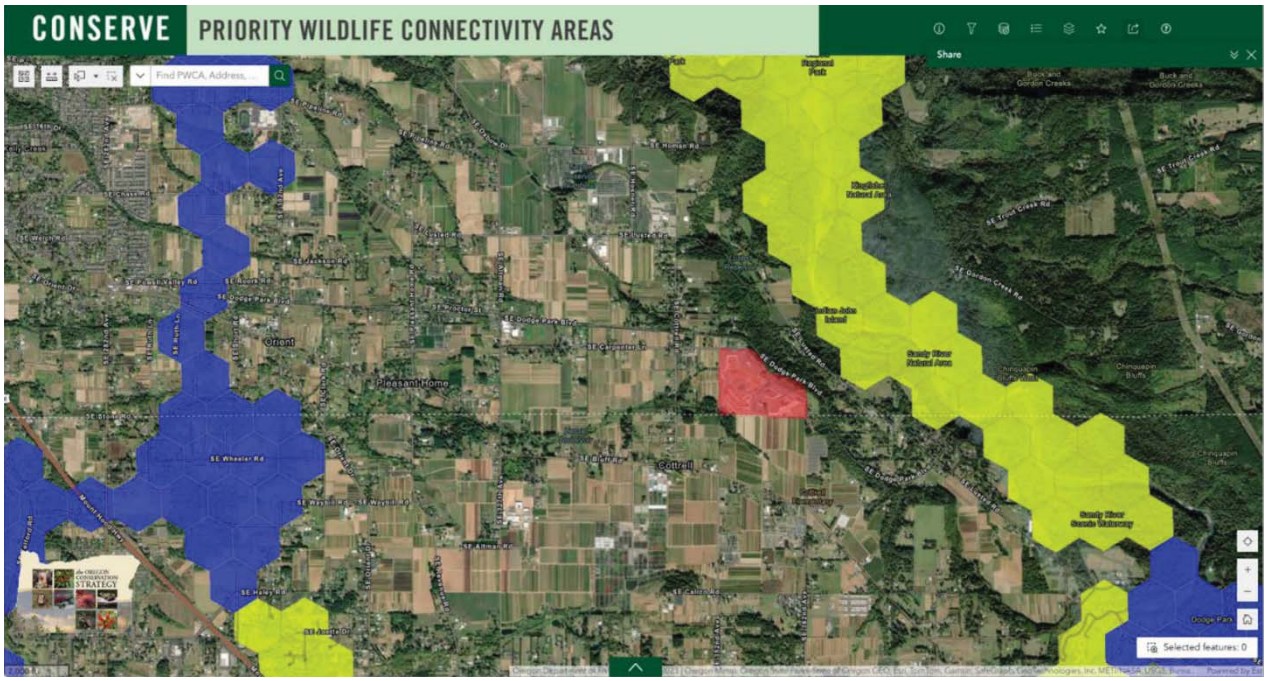


Figure 7: Priority Wildlife Connectivity Areas Web Map accessed April 28, 2025. "Connector" habitats are represented in yellow. "Region" habitats are in blue. The filtration facility site is shaded in red.

The habitat conditions following the construction of the filtration facility site will include several new habitat types outside the facility fence, totaling approximately 57 acres. This includes 14 acres of upland forest, 29 acres of savanna/oak, 5 acres of native grassland, 2 acres of riparian habitat, and 7 acres of a woody/shrubby buffer and hedgerow plantings. This represents a significant habitat patch and habitat diversity compared to the pre-construction habitat conditions, which consisted of a nursery farm. PWB will plant approximately 3,300 native trees and 28,000 native shrubs of the filtration facility site and will remove the existing wildlife exclusion fence along the eastern boundary.

Determining the optimal habitat patch size for wildlife involves taking into account the specific needs of different species, the characteristics of the patches, and the surrounding landscape. Generally, the Oregon Conservation Strategy recommends habitat patches larger than 40 acres. Significantly, the concentration of the filtration facility to a fenced area 37 acres in size on the 94-acre site leaves 57 acres of undeveloped areas for wildlife migration through the site. The post-construction plan incorporates native vegetated habitat corridors to support wildlife movement. These corridors will connect Johnson Creek with the upland forest area and the forested habitat extending north of the site. The design allows for movement and exchange of resources between the remaining habitat patches in the area thereby avoiding fragmentation.

5. Temporal Impacts

Summary of comments: As addressed in Topic 1, multiple comments addressed the removal of trees and other vegetation within hedgerow areas along Dodge Park Boulevard. Some comments identified general concerns about long term impacts of tree removal during construction of all project areas. The written comment at N.35 claims, "*trees already removed cannot be mitigated by planting new trees which will not reach the size and maturity of those lost in anyone's lifetime and therefore will not provide the same safe harbor or homes for birds or other creatures."* Additionally, Mr. Smith provided the following oral testimony during the hearing, "*you have to figure in temporal conditions for wildlife. A tree is not a tree. A tree is structure. Five trees don't replace one tree that's 21 inches in diameter and has a cavity. Not for at least 80 years. So you have to be able to carry these species forward."* (Remand Hearing at 2:32 to 2:33)

Response: The project planting plans and habitat enhancements for the project appropriately account for the length of time it takes for newly planted vegetation generally, and trees in particular, to grow, often referred to as temporal impacts. For trees in particular, it is common standard practice in natural resource mitigation to compensate for temporal impacts by increasing mitigation ratios for re-establishment of mature vegetation to greater than 1:1. Higher replacement ratios ensure no net loss, but instead a net gain, of habitat functions as a result of the project.

In this case, a total of 433 trees were mapped for removal prior to commencement of the project. Of those 433 trees, 396 trees or 91% were located in public rights-of-way. The remaining 37 or 9% of trees identified for removal were located on the filtration facility site or on private property along the pipeline alignments. Trees mapped were measured by diameter at breast height (dbh) and included the following size classes:

3-<6"	74 trees
6-<10"	149 trees
10-<20"	166 trees
20-<30"	28 trees
30-<40"	13 trees
trees > 40"	3 trees
Total Trees	433

As provided in the table, over half of the trees (223) were smaller than 10" dbh. Almost 90% of trees were smaller than 20" dbh. Trees removed include native species in the right-of-way along Dodge Park Boulevard and many ornamental species from the right-of-way along Carpenter Lane. Of the 8 trees larger than 36", four were sequoias along Carpenter Lane which had been repeatedly topped to a height below the powerlines, dramatically reducing their habitat value. Most, but not all, of the mapped trees were removed during initial construction phases prior to remand of the land use approval.

As provided in the planting plan sets included as Exhibit 1, PWB commits to collectively installing the following plant numbers on the filtration facility site, 35227 and 35319 Carpenter Lane, 36910 SE Lusted Road (the raw water pipeline alignment site), and the Dodge Park right-of-way area (where the majority of tree removal occurred).

Type	PWB Plantings with Project
Native Shrubs	46,477
Native Ball & Burlap Trees	471
Native Bareroot Trees	2,947
Totals	49,798

As provided in the table, 3,418 trees native to our region are proposed for installation across all sites, resulting in a tree replacement ratio equivalent to 7.9 trees planted for every 1 tree removed. Larger B&B trees are also included in the filtration facility site plan (Exhibit 1 – 00-LU-302) and the Carpenter Lane plan (Exhibit 1 - 00-LU-412) to provide greater immediate habitat benefits.

Tree and vegetation survival is also an important consideration in addressing temporal impacts. PWB is committed to adaptive management and long-term stewardship of mitigation plantings to ensure success of the habitat areas. Unlike commercial or residential developments, where the contractor or owner often abandons a restoration project, the filtration facility will provide clean drinking water to the region for multiple decades and PWB will remain a dedicated steward of the land across the life of the facility. Examples of successful habitat enhancement and restoration work installed and managed on an ongoing basis by the PWB Resource Protection and Planning Group is attached as Exhibit 4.

Furthermore, tree replacement is not the only component of the mitigation plan; there are other elements of the plan that will achieve ecological and habitat function within much shorter time periods, such as native grassland and shrub plantings and installation of other habitat features (e.g., bat roost boxes, rock piles, downed woody elements, etc.). Several initial benefits to wildlife species can occur within one to two growing seasons following planting of the enhanced/created habitats. First and foremost, all soils will be stabilized and seeded to prevent erosion and sedimentation of adjacent areas after site work is completed. Placement of proposed habitat features such as log/brush piles and bird nest boxes at the filtration facility site will provide immediate benefits to insects, small mammals, reptiles, and songbirds. Bat boxes are likely to be colonized within the first few years of post-construction habitat improvements. Fast-growing plant species like lupine, a species included in the planting lists for the oak woodland / savanna area on the filtration facility site and the Dodge Park right-of-way replanting area, can germinate quickly and are likely to bloom in the second growing season, providing nectar and pollen to a variety of insects including the western bumble bee as well as Anna's hummingbird. In the first growing season, native groundcover (forbs and grasses) will begin to establish and as the bare ground fills in with increasing cover that can fully establish within 3 to 5 years.

Finally, several planting areas will be planted as construction is completed on various project areas and will be complete in advance of full completion of construction and operation of the project. Specifically, planting within the riparian forest area at the southwest corner of the site has been ongoing both before and since construction began. The vegetation along the pipelines, including the planting along the Dodge Park Boulevard right-of-way, will commence as soon as the pipelines are installed and well in advance of facility operation, and the planting on both of the Carpenter Lane lots will occur prior to completion of filtration facility construction.

Individual Written Testimony

N.4 written testimony from Susan & John Swinford, 7428 SE Cottrell Rd. Gresham, OR 97080

Comment: *Outdoor security lighting and operational illumination will disrupt the natural darkness of the rural landscape, affecting local wildlife and the peaceful environment expected in an MUA20 zone.*

Response: Facility lighting is already addressed in the record (N. 56).

N.6 written testimony from Chris Courter, Homeowner, Dodge Park Blvd

Comment: *The 'larger' animal populations in the area have plummeted. There are no more elk herds crossing our property. The deer populations that used to be seen on a regular basis each evening, 5-6 deer, are no longer to be seen. You used to be able to hear the coyotes bark in the next door nurseries and nearby forests but we do not hear them anymore. Where have they gone ?*

Bird observations have dropped dramatically also. The great flocks of Canadian Geese no longer drop down onto the floor of the nurseries next door. This year we have not seen one flock landing because of the disastrous building activities at the site area. The great horned owls that used to "hoot" each evening in the cedars around our home are nowhere to be seen or heard. Red Tailed Hawks that used to circle overhead looking for prey have vanished.

Even the occasional mountain lions that we would see 2 or 3 times a year are apparently too spooked off by the building activities and noises.

Raccoon and squirrel numbers have dropped considerably also. Formerly a daily sight.

There was one golden eagle nesting in the tree tops in the Johnson Creek area but that magnificent creature is no long there.

Response: See the response above under Topic 2 (Disruption/Displacement of Wildlife due to Construction Activity) of the "Collective Comments/Responses by Topic."

Pre-construction avian surveys during the breeding season in 2024 and current surveys in 2025 did not detect golden eagle and found no evidence of golden or bald eagles nesting in any portions of the project area. The PWB has searched the area for active eagle nests that could be impacted during construction and found no evidence of active nests in the area. More importantly for purposes of the scope of this remand proceeding, after construction, the filtration facility site will enhance perching and potentially nesting habitat for eagles and owls along the upper Johnson Creek with numerous proposed tree plantings in the southwest corner of the facility site. Habitat for eagles (and other birds of prey) after construction will be equal to or better than the habitat prior to construction. Over time, the enhanced vegetation in the southwest corner and outside of the filtration facility generally combined with the elimination of active rodent control within the former nursery fields, will improve the on-site foraging habitat for eagles and owls that may nest in the existing established trees adjacent to Johnson Creek and to the east.

N.8 testimony from Susan & John Swinford, 7428 SE Cottrell Rd Gresham, OR 97080

Comment: *Prior to the inception of the filtration plant, our property regularly supported a rich, vibrant ecosystem that included seasonal visits from elk herds. These elk were seen annually on and around our land, a clear indication of a healthy, functioning habitat. Since the start of the construction, however, we have not seen any elk. This abrupt absence suggests displacement due to noise, habitat disruption, and other environmental stressors introduced by the project. Additionally, our area used to be filled with the sounds of birdsong throughout the day—another indicator of a healthy wildlife presence.*

With the start of heavy construction activities, the constant bird chirping noticeably ceased, aligning with the start of machinery operations and habitat disturbance. Recently, with the halt of construction activity, bird activity and song have returned, suggesting that wildlife is attempting to reclaim the area in the absence of ongoing disruption.

The area in question is a functioning natural system, supporting both wildlife habitat and forested ecosystems that are integral to the larger watershed. These habitats are not only important ecologically, but also serve as agricultural resources, carbon sinks, and natural sound barriers. The environmental degradation resulting from construction activity poses a threat to:

- *Elk and other migratory species relying on intact corridors for movement and foraging;*
- *Bird populations and pollinators affected by noise, air pollution, and vegetation loss;*
- *Soil and water health, as construction disturbs the filtration and nutrient cycling functions of the forest floor;*
- *Forested resources, which are critical for erosion control, microclimate regulation, and biodiversity.*

I respectfully request that these observations and concerns be acknowledged in the environmental review and mitigation planning of the filtration plant.

A full and transparent analysis should include wildlife displacement, habitat fragmentation, and loss of natural soundscapes, alongside standard water quality and infrastructure considerations.

Response: This comment relates to construction activities. See the response above under Topic 2 (Disruption/Displacement of Wildlife due to Construction Activity).

N.10 testimony from Guy Meacham Comments, 6930 SE Cottrell Rd. Gresham OR 97080

Comment: Cottrell Rd: *On the property behind my house Deer, Cayotes, Rabits, Owls and many species of birds can be seen year-round. Annas Hummingbirds overwinter in our garden, owls and several types of birds of prey can be regularly seen and heard. Bats are also regularly seen in my back field (I don't know what species).*

Other wildlife though is no longer as common as it was. Every late winter / early Spring I have lived here with the exception of this winter / Spring I would find bear scat in our back field, there was none this past year.

Most years a herd of Elk that move through the area in the Fall and bed down for a week or so in fields behind our house. They were not seen in the fall of 2024.

There have been multiple sightings of Bobcats & Cougars in the woods & fields behind our house by myself and by my neighbors, but none have been seen in the last 12 months.

I am also greatly concerned about the level of light pollution that this new site will generate not only whilst being built but also when completed and the effects this will have on the nocturnal animals, birds & bats that live in the area. Not to mention the loss of our own dark skies in the area.

Response: This comment largely relates to construction. See the response above under Topic 2 (Disruption/Displacement of Wildlife due to Construction Activity). Facility lighting is already addressed in the record.

Comment: *Dodge Park Boulevard*
Of all that has happened so far with the construction of this site the wanton destruction of the trees and wildlife habitat along Dodge Prak Boulevard is something that has not only greatly saddened me but also been very detrimental the natural resources of the area. I walk along Dodge Park Boulevard 6 days a week 52 weeks a year at 6:00am rain or shine.

The trees along this road were a mix of Big Leaf Maple, Poplar, Western Red Cedar, Douglas Fir, some of these trees were over 70 years old (I counted the rings after they were cut down). There was also wild sown cherry trees and apple trees along with Pines, Hazel, native spirea Vine Maple and countless other shrubs in a strip that was between 25' – 50' wide. This strip was teaming with wildlife from small animals, amphibians (frogs & salamanders) even Opossums could be seen here as well as countless species of birds. When walking this mile long stretch of road every morning it was teeming with the sounds of birdsong and wildlife.

Now when I walk this road each morning there is silence there is no birdsong, no owls hooting, or birds of prey sitting on the wires waiting to swoop down on a meal.

I also cycle this road twice a day on my way to and from work, the trees provided welcome shade on my cycle ride home during the summer months there is no shade anymore for people or animals. This is a significant loss to the habitability for the whole area both for animals, people & plants alike.

In my opinion the only correct thing to do is to replant trees along Dodge Park Boulevard and return this natural resource that has been destroyed.

Response: This comment relates to construction activities. See the response above under Topic 1 (Hedgerows) and Topic 2 (Disruption/Displacement of Wildlife due to Construction Activity) of the "Collective Comments/Responses by Topic."

N.11 testimony from Taylor Alexander, 34215 SE Dodge Park Blvd, Gresham, Oregon

Comment: *First and foremost, the proposed development threatens valuable agricultural land and critical wildlife habitat.*

One of our primary concerns is the harm already inflicted on the local environment, even before the project has received full approval. The easement along the road in front of our home, which is slated to host a future pipeline, was recently clear-cut without due process or community input. The removal of native trees and plants has not only stripped the area of natural erosion control and wildlife food sources, but has also eliminated an important buffer against road noise.

We have little confidence that the area will be properly restored or maintained. It is far more likely that invasive species, such as blackberries, will overrun the damaged land, leaving residents responsible for both the cost and labor of restoration. The destruction of local flora has also severely impacted the area's biodiversity. Already, we have observed a decline in native bird and small mammal populations, including hawks that had long been part of the ecosystem here.

Response: The Habitat Analysis at N.56 includes a comparison of pre-construction habitat quantity and quality and post-construction habitat quantity and quality across the project site, including addressing habitat quantity and quality within the area where the referenced tree removal occurred.

As detailed above, the road rights-of-way along Dodge Park Boulevard that were cleared of shrubs and trees in anticipation of finished water pipeline construction will be restored with groundcover and a dense variety of woody and forb clusters following construction. Consistent with direction from Multnomah County Transportation, PWB agrees to maintain the right-of-way plantings for a period two years, including invasive removal.

Regarding the decline in local bird populations, see the response above under Topic 2 (Disruption/Displacement of Wildlife due to Construction Activity).

N.12 testimony from Jennifer Hart 38200 SE Lusted Rd. Boring, OR 97009

Comment: *As a resident of this community since 1991, I have had the privilege of observing a rich variety of wildlife, including owls, small mammals, and the majestic bald eagles that are a hallmark of the area. Unfortunately, I have noted a significant reduction in these sightings since late summer 2024, raising serious concerns about the ecological health of East Multnomah County in relation to the operation of the filtration plant.*

Over the years, I have enjoyed watching the early morning feeding of elk and deer in the nursery fields and have delighted in the eagles soaring above my home. However, this vibrant wildlife presence has diminished, impacting their migration patterns and feeding areas. The operation of the filtration plant is likely to further exacerbate these disruptions, affecting the local wildlife and their habitats.

Under Multnomah County Code MCC 39.7515(B), provisions are in place to protect and preserve our local wildlife habitats. However, it appears that these measures may not be adequately safeguarding the wildlife that once thrived in our region. The alarming decline in species sightings suggests that their habitats are being adversely affected by the proposed facility, and these detrimental impacts cannot be mitigated.

Wildlife population declines in rural areas are often linked to infrastructure development, which fragments habitats and hinders wildlife migration, mating, and access to essential resources. The recent removal of a hedgerow comprising over 350 trees has devastating consequences for the birds and mammals that depended on this shelter along Dodge Park Blvd., contributing to a broader loss of biodiversity and ecosystem integrity.

Furthermore, the PWB has not conducted a comprehensive inventory of the natural resources in the area, demonstrating a lack of respect for the functioning natural systems that support our community, including streams, wildlife habitats, and valuable landscape resources.

Response: A pre- and post-construction comparison of wildlife habitat functions and values in the project area and impacts of facility operation on surrounding habitat are addressed in the record.

Also see the response above under Topic 1 (Hedgerows), Topic 2 (Disruption/Displacement of Wildlife due to Construction Activity), Topic 3 (Inventory), and Topic 4 (Habitat Fragmentation).

N.18 testimony from Mike and Carol Kost, 35321 SE. Carpenter Ln., Gresham, OR 97080

Comment: *"We have lived across the street from the water Bureau office filtration site for 27 years. Our back door is 96 feet from the site. Our property is part of the game trail that follows the Sandy River and up to the feeding grounds. The game trail runs on our property and south to the water towers on the filtration site then down the draw heading west towards town. This game trail has been removed now due to the mass excavation of the water Bureau property, permanently changing the animals use of it for feeding, traveling and breeding purpose."*

"Over the last 27 years we have had elk, deer, cougar, black bear, owls, eagles, hawks, Osprey, geese, coyotes, bobcats and rabbits. We have had many hundreds of outcome through our property then travel to the filtration site prior to the start of the project. The largest group of elk traveling the game trail was 28 head of cows and

calves, a truly majestic site. We have encountered two cougars. One was on Mother's Day and the other was when I was mowing the lawn and I had stopped to put the lawnmower away and I looked back and up popped a cougar right where I had been mowing. The cougar then proceeded to run towards the water tower and down the draw heading west."

"We also have many coyotes in our area. We had a Denning pair for several years. Since the start of construction we have not heard or seen any wildlife."

"We used to hear the owls many nights and have observed Osprey in the field on the filtration site. We also got to enjoy the Canadian geese stopping to rest and feed on the field."

"We are very concerned for the impacted animals because this project has deeply impacted a 100 acres of prime grazing in hunting land important to our local ecosystem."

"When the remand order was issued, it took some time for the hustle and bustle noise to stop. Now that it has slowed for the last month, we have had a slow return of coyotes close to the site. Driving after dark on our roads, the glowing eyes have returned, but we still have not had any rabbits since June 2024."

"We love listening to the owls at night and the robins and Blue Jays and all the other birds talking back and forth early in the morning and in the evening. Wildlife here, which includes bear, cougar, bobcat, Osprey, Coyote, Geis, elk and deer, has been fascinating to watch as they wander through our property and the proposed site across from us."

"We love the night sky in this rural area. This water plant will definitely take away our night sky even following the codes."

Response: See the response above under Topic 2 (Disruption/Displacement of Wildlife due to Construction Activity). Facility lighting is already addressed in the record.

N.19 testimony from Scott and Natalie Voruz, 37185 SE Dodge Park Blvd Boring, OR 97009

Comment: "*We live on 5 acres on Dodge Park Blvd, directly down the slope from the proposed filtration facility location. Deer and other animals, to include fox, racoon, coyote, skunks, possums, etc. migrate from Bear creek , through our property, and up the slope to the proposed water filtration facility location on Carpenter Lane on a daily basis. Multiple sets of deer migrate through our property throughout the day. We often have deer resting in the shade along the treed border of our property. We have been purposeful in making our property a haven for wildlife. We have kept our fencing low so it is easily traversable, kept areas of natural grasses and vegetation, and provide high protein food in the winter. This all stopped in the fall of 2024 due to the filtration plant. Our property has complete security video and trail cam video coverage. We have seen a steady decline of all wildlife on our property. We are now going on several months without capturing a single deer on video. While the absence of deer is the most noticeable, we aren't seeing other wildlife either. Wildlife is non-existent. Again, this isn't just what we are seeing when we are outside, our cameras aren't showing any wildlife migration and we have 24/7 video recording."*

"The Portland Water Bureau and Multnomah County both relied on written testimony from ESA Exhibit J.75 which stated, "many wildlife species that use nearby wooded and open areas are anticipated to either habituate

to construction activity after an initial period of acclimation or translocate to other nearby wooded and open fields." My property would be Exhibit N.19 considered another nearby wooded and open field and the deer and other wildlife are gone. Absent. ESA also states that "Wildlife species are expected to continue using the protected habitat areas at the edges of the filtration site as a movement corridor. Again, this expectation is FALSE. The wildlife is gone. ABSENT. In exhibit I.96, ESA identifies the slope from my property to the proposed filtration plant as " the steep forested slope rising to the west contains areas mapped by Multnomah County as a district of Significant Environmental Concern for wildlife habitat." The project has decimated the wildlife using this slope to traverse from a water source at Bear Creek to the upper slope location. ESA also states that "Medium or large mammals that may be using the filtration site as a movement corridor are expected to be found along the edge or just within the forest along the hillslope which would provide cover form human activity. The movement corridor on the hillslope and the top of the slope would be maintained." Again, ESA's expectations are incorrect. Wildlife has not continued to use neighboring areas. Wildlife has left. As a natural resource, wildlife has been adversely affected. During the brief pause of construction, we have not seen a return."

Response: This comment relates to facility construction. The commenters live at 37185 SE Dodge Park Blvd. which is just over 0.5 mile southeast of the southeast corner of the 94-acre filtration site. It is misleading for the commenters to state that they are "directly down the slope" from the proposed filtration facility. Bear Creek is located to the south and east of the project site and no site or pipeline improvements are planned along this creek.

See the response above under Topic 2 (Disruption/Displacement of Wildlife due to Construction Activity).

Letter# N24 testimony from Laura Belson, 35719 SE Lusted Rd, Boring OR 97009

Comment: *"What effect will this filtration plant have and what effect has it had on the Sandy River Gorge protected area… a very very close neighbor and certainly a natural resource to protect?"*

Response: Based upon the photo in the comment, the referenced area is adjacent to Indian John Island Park, which is a forested area west of the Sandy River. The federal Bureau of Land Management and Oregon State Parks manage the sections of the Sandy River closest to the project. Detailed descriptions of both federal and state river and management area boundaries are provided in the response to N.43 below.

The Sandy River itself is located approximately half a mile from the filtration facility site at its closest point and sits at an elevation approximately 550 to 580 feet lower than the filtration facility site. Therefore, the filtration facility site is not visible from the Sandy River, and will not adversely affect or have any effect on the scenic aspects of the river. Some of the project pipeline areas are closer to the Sandy River and at a lower elevation. However, the subsurface pipelines will not be visible from the river.

The animals that migrate through the Sandy River Canyon and forage near the rural residences along SE. Lusted Road will continue to access these areas during and following construction of the filtration facility. See the response above under Topic 2 (Disruption/Displacement of Wildlife due to Construction Activity).

N.26 testimony from Mike and Tori Skelton, 5410 SE Oxbow Parkway Gresham, Oregon 97080

Comment: *"I moved into the community into 2021 due to the natural habitat and the connection with Mother Nature. When we moved in, almost immediately we were greeted by a family of deer. Year after year, we have been greeted by no less than 8 deer, ready to eat our pumpkins and apples. Each year, the deer have returned like*

clockwork, until last year. Since the Portland Water Bureau began construction on the water filtration plant, the family of deer have not returned. We have seen a few deer here and there since construction began in 2024 but not more than one here and there. Attached I have added a few pictures of the deer we used to see over the last few years.

Lastly, we had several bald eagles living in the trees towards the back of our property. Again, since the construction of the Portland Water filtration plant, the eagles have departed the area and we haven't seen them back since. The bald eagles were consistently in the area year after year prior to the construction beginning. Please see the attached photos of the natural habitat ruined by the Portland Water Bureau."

Response: The commenter lives over a mile north/northwest of the filtration facility site upslope from Oxbow Park. Given the distance it is unlikely that activity at the filtration site is influencing deer that may be seen in Oxbow Park and surrounding areas. Nonetheless, this comment relates to construction activities.

See the response above under Topic 2 (Disruption/Displacement of Wildlife due to Construction Activity).

N.28 testimony from Jennifer Hart 38200 SE Lusted Rd. Boring, OR 97009,

Comment: *"The applicant's proposal includes construction of a fenced water filtration plant, accompanied by access roads, impervious surfaces and ongoing industrial operations on some 94 acres of Oregon designated prime farmland. The proposed location lies within a Rural Reserve, a sensitive riparian corridor, and wildlife habitat areas, as documented by County resource inventories. The fencing and industrial activity would fragment habitat, disturb wildlife corridors, and alter hydrological patterns thus promoting environmental and natural resource degradation."*

Response: The record includes a pre- and post-construction comparison of wildlife values in the project area and concludes that post-construction conditions will improve habitat for numerous wildlife species, including an improvement in wildlife corridors. The 37-acre facility will be enclosed with an chain-link fence for security, approximately 57 acres of the remaining acreage will be enhanced with native habitats including oak savanna, grassland, hedgerows, wooded/shrubby buffer, riparian forest and upland forest that will serve to link upper Johnson Creek with the forested slope down to the Sandy River. An elk fence that has remained around the agricultural fence on the east half of the property will be removed, increasing access for wildlife to and through the filtration facility site.

See the response above under Topic 4 (Habitat Fragmentation).

N.31 testimony submitted by David Shapiro, 36014 SE. Lusted Rd., Boring, OR, 97009

Comment:*" No formal study was done of the wildlife of the "Lusted Woods," which is the name I am calling this patch of forest because it has no official name. With the land use laws and "overlays," Multnomah County protects this forest from development. All of us residents who have an ownership stake pay taxes on our property and know WE can't build on it. So it stays as a refuge of sorts for the animals. But of course it is not big enough to be the only habitat for the elk, bear, bobcat, mountain lion, owls, and more which call the land home. It is an extension of the much larger habitat that is made up by the Sandy River, Oxbow Park, the BLM old growth, Nature Conservancy Land, The Diack Property, and Metro's holdings on both sides of the river.*

"Grafting this monstrosity of a water treatment facility on the very edge of a beautiful transition zone from the wild to urban areas will do irreparable harm to the wildlife of this area. The food chain needs the buffer zone. The animals need the dark of the night. They don't need this illuminated, fenced off, barren industrial complex at the top of one of Multnomah County's greatest treasures."

Response: The value of the habitat areas to be planted and preserved on the filtration facility is addressed in the record and above in the response to N.28. Facility lighting has also been addressed in the record. The filtration facility habitat areas will provide improved habitat corridors through the filtration facility site, effectively improving the connections between the habitat areas referenced in the comment. For these reasons, and those established in the record, neither the construction of the Project nor the presence of the Project once operational will result in irreparable harm to wildlife or wildlife habitat.

See the response above under Topic 4 (Habitat Fragmentation).

N.33 testimony from Suzanne Courter, 36610 SE Dodge Park Boulevard, Boring , OR 97009

Comment: *"I've observed the disappearance of our usual wildlife including elk, owls, eagles, geese and many migrating birds. Herds of elk used to run through our property and out into the fields next door, the same fields that have become their giant construction site. The elk will never be returning to a site that will be covered by concrete, asphalt and buildings. That field is gone forever along with all the creatures that called that land home if even for a temporary stay. Huge flocks of migrating geese used to fly over my house headed for and landing in those same fields next door and that hasn't happened this year and won't ever again with the constant noise and lights from a functioning filtration plant. The owl's hoot that used to lull me to sleep at night is gone and I really miss it.*

The approximately 360 trees already removed cannot be mitigated by planting new trees which will not reach the size and maturity of those lost in anyone's lifetime and therefore will not provide the same safe harbor or homes for birds or other creatures. Trees of their age provided significant air exchange of carbon dioxide and oxygen that is vital for life at all levels and protection from sound and light exposure which affect all walks of life – birds, humans and any other creatures that populate rural landscapes.

Research has shown that artificial lights illuminating the night sky cause birds to become confused and unable to navigate causing exhaustion and death from their searching for the familiar resting places. Rural landscapes and open spaces are necessary for migration and industrial size plants disrupt and diminish this functioning natural system. Large industrial size facilities belong within urban areas where like structures and systems are congregated together and open spaces and natural, unpolluted areas need to be left undeveloped so the necessity of biodiversity for life can continue."

Response: The first portion of the comment relates to construction impacts. The issue of replanting to replace the habitat value of trees removed during construction is discussed in detail under Topic 5. The Habitat Analysis in the record that provides a pre- and post-construction comparison of wildlife habitat functions and values in the project area considers the removal of trees within the project area and the value of consolidated vegetated habitat and concludes that post-construction conditions will improve habitat for numerous wildlife species.

In addition to Topic 5, see the response above under Topic 1 (Hedgerows), Topic 2 (Disruption/Displacement of Wildlife due to Construction Activity), and Topic 4 (Habitat Fragmentation). Facility operational lighting is already addressed in the record.

N.41 testimony from Jennifer Hart, 38200 SE Lusted Road, Boring, OR 97009

Comment: "*The increased traffic, the transportation of hazardous chemicals, and the resulting noise and light pollution would disturb both wildlife and local residents who value the peace and serenity of their environment.*"

Response: The limited amount of vehicle traffic during facility operation, precautions taken for chemical transport, and the potential noise and light impacts of the facility operation are each addressed in the record.

N42 testimony from Cindy Bennington

Comment: "*Significant loss of Wildlife Habitat since PWB construction began. In the Fall 2024, PWB cut down hundreds of mature trees. This wooded habitat provided protective cover for migrating herds of elk, daily travel of deer, coyotes, lynx, bobcats, and occasional bear, as they made their way along the bluffs of the Sandy River Canyon. This right-of-way strip provided protective habitat and nesting areas for numerous birds including bald eagles, falcons, owls and doves to name a few. I counted well over 100 cherry, wild plum and other fruit and nut trees that has been a stable food sources for wildlife for over a century. For years my family has observed these species crossing between the back of our property and the property now owned by PWB. Since construction began, wildlife presence has been all but nonexistent.*"

Response: The "wooded habitat" referred to is presumed to be an approximate 800-foot-long section of shrubs and trees on the south side of SE Dodge Park Boulevard at the edge of an open field, east of the intersection with Cottrell Road shown with red dots below. A strip of trees west of Cottrell along the south side of Dodge Park was also removed (shown in red in the graphic below). While these strips of vegetation provided some level of cover, perching and forage for certain wildlife species, it is not the only source of forage or connectivity to the forestland to the east along the slope, referred to as the Lusted Forest or Lusted Woods. As shown in the graphic below, mammals that might be travelling from Beaver Creek or upper Johnson Creek to the Lusted Forest during the temporary construction period have several options for movement and connectivity (see green arrows).

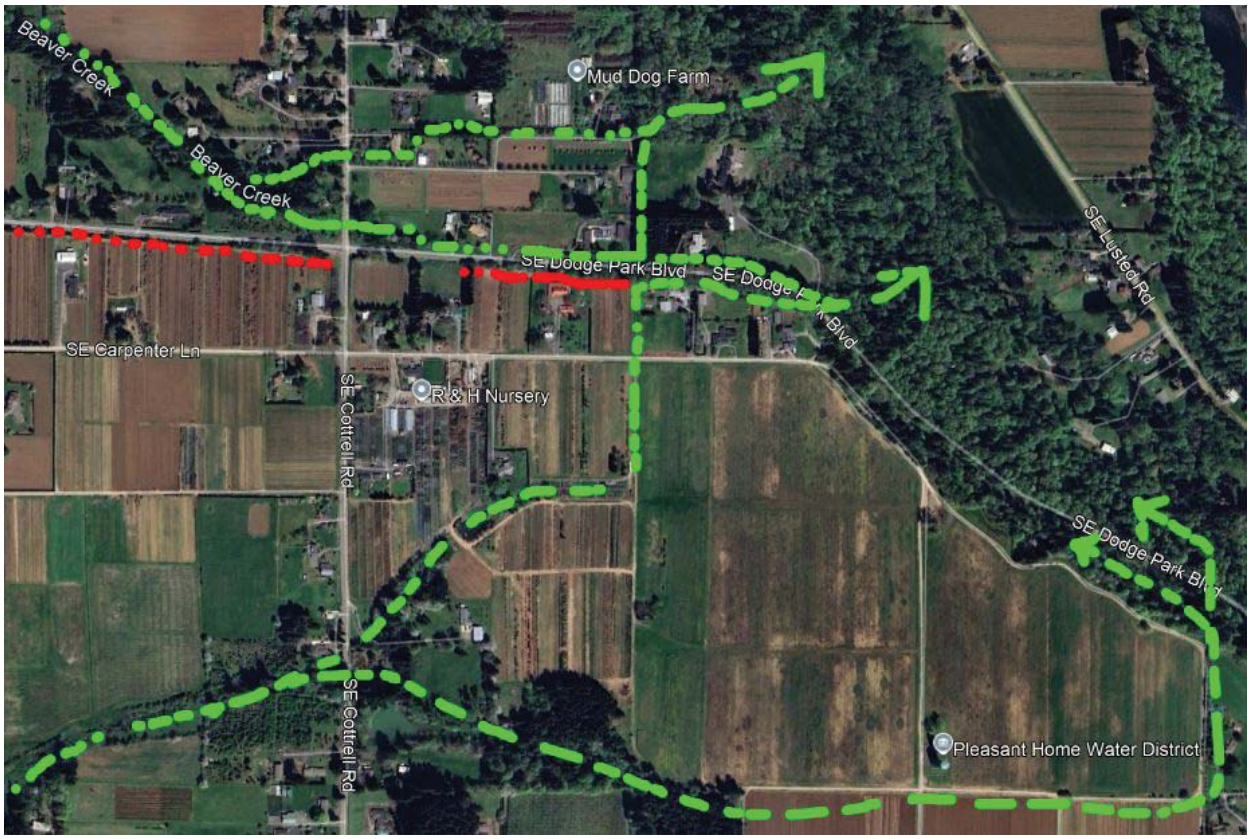


Figure 8 **Removed shrubs/trees from the south side of Dodge Park shown in red; likely remaining pathways for large mammal movement that are expected during construction are shown in green.**

Following construction, the filtration facility site will provide additional migration corridors through the site across the habitat areas outside of the filtration facility fence. As detailed above, once the finished water pipeline is installed along Dodge Park Boulevard, the right-of-way strip on the south side of the road where the hedgerow removal occurred will be planted with a dense array of woody clusters and forb clusters, with a variety of vegetation in each cluster. This lower profile planting will not provide the same level of cover as the more established sections of hedgerow for larger mammals, but will provide habitat for birds, insects, and smaller animals.

Also see the responses above under Topic 1 (Hedgerows), Topic 2 (Disruption/Displacement of Wildlife due to Construction Activity), and Topic 3 (Habitat Fragmentation).

N.43 testimony of the Cottrell Planning Organization and Pleasant Home Neighborhood Association

Comment: *"Further protections exist at the federal level. The Sandy River is designated as a Wild and Scenic River, granting it additional safeguards under the Wild and Scenic River Act. This designation helps protect water quality, fish and wildlife habitats, and recreational values along the river corridor. The proposed project site is about 750 feet from the boundaries of the corridor designated Scenic and Natual of the Sandy River." (pg. 7)*

"*The Wild and Scenic Sandy River is a federally-protected migratory corridor for species such as Roosevelt elk (two bottom right tiles). Animals migrate through the Sandy River canyon and regularly forage at residences and farms near SE Lusted Rd and SE Dodge Park"* (pg. 39)

Response: This comment conflates the federal Wild and Scenic River designation for the segment of the Sandy River closest to the project (Scenic) with the State Scenic Water Way designation (Natural). More importantly neither the federal Wild and Scenic River Act nor the Oregon Scenic Waterway regulations apply to any portion of the project area. The filtration facility site, the raw water pipeline, and the local distribution main are located approximately 700, 1,000, and 350 feet, respectively, outside of the management area for the federal recreational and scenic designations for the Sandy River (see Figure 9). The state Natural River Area boundaries are slightly different; the same elements of the project are 500, 300, and 1500 feet, respectively outside of the state Natural River Area (see Figure 10). More important than the various distances is the fact that the project is located entirely outside of both boundaries. None of the federal or state law or regulations related to the Sandy Rivers scenic waterway status apply outside of the mapped areas.

Even if the federal or state provisions were to apply, which they do not, the primary focus of both federal and state protections relates to development in the mapped areas that can be viewed from the river itself. See, Oregon Administrative Rule (OAR) 736-040-0075 (3), regulating development in the Natural River Area that is "visible from the river" or is unable to be "largely concealed from view." The filtration facility site will not be visible from the river due to the dense vegetation between the site and the river and the intervening topography. Specifically, the filtration facility site sits approximately 550 to 580 feet higher in elevation than the Sandy River.

Finally, as discussed in detail in Topic 2 (Disruption/Displacement of Wildlife due to Construction Activity) above, the animals that migrate through the Sandy River Canyon and forage near the rural residences along SE Lusted Rd. will continue to access these areas during and following construction of the filtration facility.

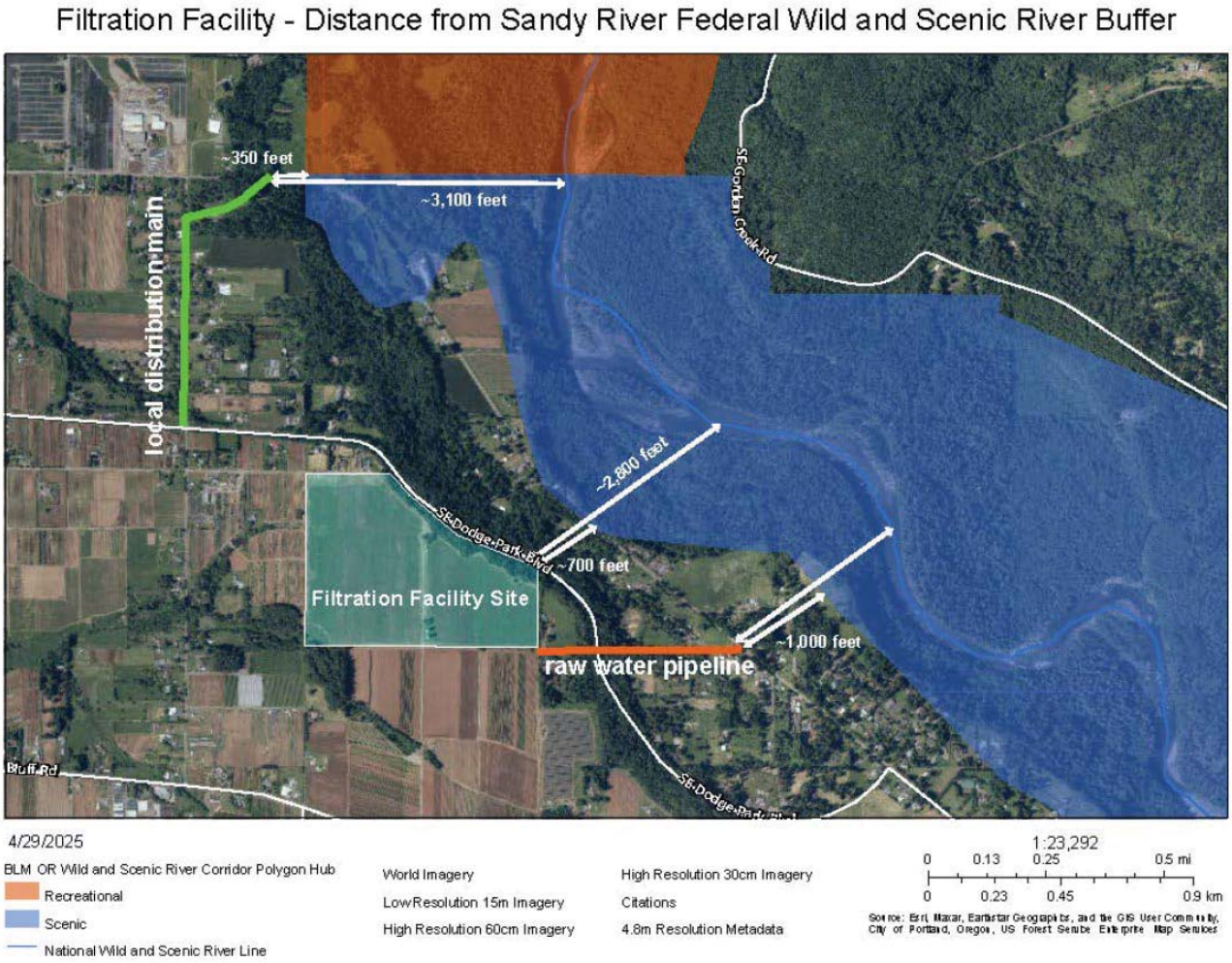


Figure 9 **Distances from the project to the edge of the Sandy River federal Wild and Scenic River Management Area and from the Sandy River**

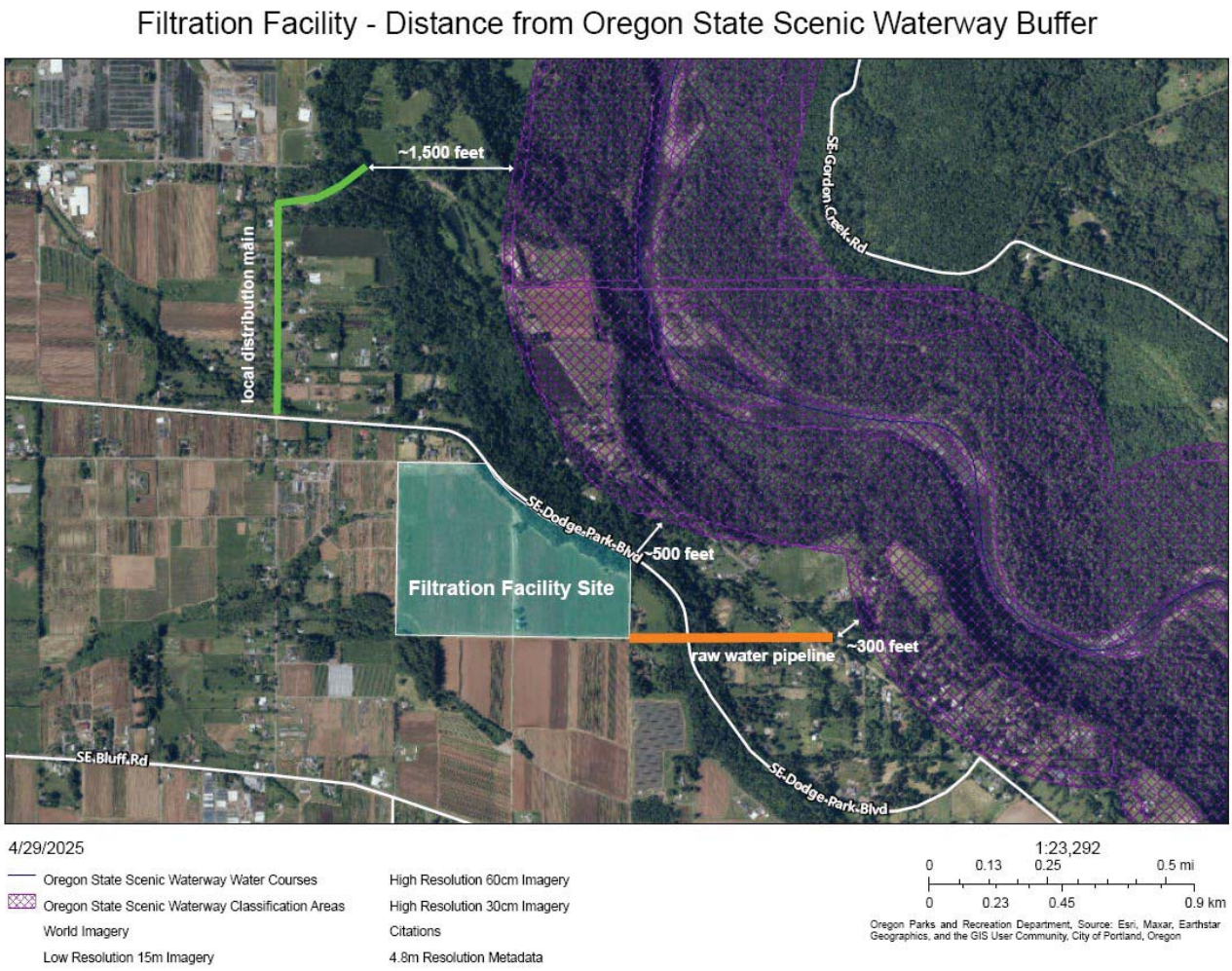


Figure 10 Distances from the project to the edge of the State Scenic Waterway Natural River Area

Comment: ***Agricultural Fields.*** *Nursery stock field conditions can vary significantly over time as crop rotations occur and cover crops are established between crops. The pre-construction conditions appear to have had several habitat features important to wildlife. These features have been lost as a result of the project. (p 41)*

Response: ESA and others conducted site specific pre-construction surveys of the commercial nursery fields prior to the start of construction on the filtration facility site. The habitat features on the site were evaluated and accounted for the HEP analysis and in the design and habitat elements included in the enhanced habitat areas identified in the Habitat Impact Analysis at N.56. The relative value of each habitat feature claimed in N.43 is more specifically addressed below.

Comment: *Open or bare ground is a dominant feature in nursery stock fields and attracts several species of wildlife. Without seasonal surveys, it is not possible to determine which species were using this site. Review of the literature and based on my 20 plus years of habitat assessment and restoration experience, I identified several species of concern. (p. 41)*

Response: PWB conducted seasonal bird surveys and has a list of species observed at the filtration facility site during several months of 2024 including February, May, June and July. See, Exhibit 2. The 2021 streaked horned lark survey requires three visits including one in April, one in June and one in mid-July. February and April represent the wintering and transition seasons for several species and May, June, and July represent breeding season. Species use of the site in the fall can be inferred from the habitat structure and landscape context of the filtration site. The specific species of concern identified by the authors of N.43 are addressed below.

Additionally, bare ground and patchy habitats are required for certain wildlife species, but a commercial nursery that is managed for the primary purpose of growing disease-free and insect-free plants typically requires the intensive application of herbicides, pesticides and rodenticides to operate, thereby reducing the habitat value of bare patches.

Finally, bare ground will be present in the oak savanna and grassland habitat proposed in the southeast portion of the filtration facility site. The native bunch grasses will have a mixture of thatch and bare ground in between grass mounds which is important for songbirds, insects, small mammals and snakes.

a. *Streaked horned lark is a Federal and State bird of concern. This species nests on the ground in sparsely vegetated fields. They prefer fields with seasonal waterways and wetlands which provide abundant insect populations for foraging and feeding young. (USFWS 2025, personal communication) (OCS 2016). (pg.41)*

Response: ESA conducted a protocol-level survey for streaked horned larks in 2021 and no larks were detected. A memo describing the survey methods and conclusion is attached as Exhibit 3. While it is true streaked horned larks prefer sparsely vegetated fields for nesting, they require flat ground in addition to wide-open grasslands with few to no shrubs and trees (USFWS 2021). Exceptions to the rule of preferring flat ground include the fact that streaked horned larks will nest in sand dunes in coastal OR and WA or undulating sandy dredged spoil islands in the Columbia River, with open water as the expansive landscape context. The filtration facility site and adjacent nursery land are too hilly and too hemmed in by shrubs and trees to provide suitable habitat for breeding streaked horned larks and there is no open water context nearby to counteract the adverse presence of shrubs/trees that are not preferred by steak horned larks.

b. *Other ground feeding birds such as western meadowlark and western bluebird are ground foragers feeding primarily on invertebrates. Both species prefer open ground with sparse or low growing vegetation. While streaked horned larks and meadowlarks are ground nesting birds, western blue birds are secondary cavity nesters relying on trees large enough to provide natural or excavated nesting cavities. (pg. 41)*

Response: Western meadowlarks were not detected at the filtration facility site or adjacent nursery land during 2021 surveys nor 2024 surveys. Western meadowlarks generally occur where there are large expanses of open space and grassland, i.e. greater than 100 acres. The western bluebird was also not detected in avian surveys conducted in 2021 and 2024. Post-construction enhancements on the filtration facility site, however, will benefit several songbird species that will begin to occupy the project area as tree plantings mature and over time provide cavities for nesting sites. The large grassland on the east side of the property will also provide valuable habitat for this species. Finally, bird boxes have been added to the post-construction planting and habitat plan to provide additional habitat on the filtration facility site as on-site vegetation matures. See, Exhibit 1.

c. *Many birds that winter in the Willamette Valley tend to migrate throughout the geographic area utilizing food and cover resources depending on weather conditions such as freezing cold and snow. These song birds can be observed moving in flocks throughout the winter. During this time, adult birds may "scout" the area for suitable spring nest sites.(pg. 41)*

Response: The filtration facility site will provide stopover and wintering habitat for a variety of species post construction. The proposed oak savanna and grassland will have patchy areas as well as short groundcover and shrubby areas that will be suitable for a mix of wintering species and migratory species. The upland forest, riparian forest, woody/shrubby buffers will provide habitat functions for both resident and migrant birds. As noted, above, the addition of bird boxes will provide nesting opportunities for certain species as filtration facility site vegetation matures.

d. *The open ground attracts numerous pollinators (beetles, bees, butterflies) that prefer ground that is not annually cultivated. Wasps and bees may move up to several miles from their natal areas to seek nectar and prey. Their ability to travel longer distances is a service to local producers needing crop pollination or insect control on vegetable crops. Bumble bees are important and recognized as contributing significant pollination critical for blueberry and clover crops (Rao, S. And W.P. Steven 2016). Seasonal wetlands and waterways provide excellent habitats for invertebrate populations. These insects are essential food resources for birds and small mammals. (pg. 41)*

Response: Bumble bee habitat will be provided at the filtration facility site post construction. The western bumblebee was one of the focal species of the habitat evaluation analysis which showed an improvement in habitat value for this declining species post construction. Bumble bees are also significantly impacted by agrochemicals applied to commercial nursery stock. Pursuant to a condition of approval of the original land use decision, pesticides will not be applied at the filtration facility site. Additionally, the lack of repeated cultivation that occurred with the commercial nursery stock operation will be a benefit to bumble bees and other ground nesting insects.

Comment: *Wetlands provide nectar and invertebrates for food late into the growing season when other food resources may become limited. Wetlands and waterways provide spring breeding sites used by red-legged frogs, chorus frogs, newts, and three-toed salamanders. These species provide examples of wildlife that need water for breeding and egg laying but spend most of their life as terrestrial species using adjacent woodlands or hedgerows for food and cover.* (pg. 41)

Response: The wetland delineation for the entire project was approved by the Oregon Department of State Lands. The delineation and related wetland documentation has been submitted into the record as an attachment to a wetland response memo related to the raw water line prepared by Winterbrook provided concurrently with this response. As confirmed in the delineation report, no wetlands are present within the formerly cultivated nursery fields on the filtration facility site. While wetlands are present near pipeline routes, the Project avoids permanent impacts to all delineated wetlands. As documented in N.57, there is a small roadside ditch wetland dominated by invasive reed-canarygrass that will be temporarily impacted during construction. None of the amphibians noted in testimony were identified or would be expected to reside or breed in this highly disturbed habitat. This wetland will be fully restored and planted with native vegetation following construction.

The SEC zone adjacent to Johnson Creek is being converted from cultivated farmland to a riparian forest with native trees and shrubs. A chorus frog was documented in this area in March of 2025.

In response to the collective comments about the habitat attributes of the former agricultural use, while the former commercial nursery land operating on the filtration facility site had functional habitat value, consideration of the site-specific surveys and past agricultural practices at the site support the conclusion that overall, the habitat quality of the filtration facility site after construction is complete will be greater than the habitat value of the agricultural field prior to construction.

Comment: ***Hedgerows*** *serve as high quality habitats (Figure 21). The hedgerow located along Dodge Park Boulevard was a significant natural resource in terms of wildlife habitat quality and quantity. Mature hedgerows are rare within the Willamette Valley landscape. Replacing the structure and function is unlikely within the next several decades. Oregon State Extension Service, the Natural Resource Conservation Service (NRCS) and Oregon Department of Fish & Wildlife (ODFW) encourage landowners to protect and enhance these declining habitats throughout Oregon. These agencies provide technical and financial assistance to agricultural producers with a goal of maintaining and increasing the distribution and quality of field borders, and hedgerows.*

Forested field edges and hedgerows are known to modify winds, moderate air temperature, protect soils, improve water quality, and provide a diverse array of plants used by pollinators, birds and mammals. They also provide important linkages between farm ownerships which are used as dispersal corridors for many species ensuring biological and genetic diversity within wildlife populations. Removal of large conifers and hardwood trees significantly impacts resident and migratory birds and small mammals which depend on trees (>18 inch diameter) for cavities, food, and shelter from heat and cold. Replacing large trees is a long-term process and it may be 50-80 years before habitat quality is restored.

Beneficial insects, often referred to as pollinators, include numerous species of butterflies, wasps, moths, lady beetles, and ground beetles. Nesting and wintering pollinators seek shelter in hedgerows that offer protection from predators and the elements. Functional, high value habitat includes stems and branches of trees, shrubs, wildflowers, leaf litter, undisturbed ground, bare ground, dead wood, brush piles and rock piles. Pollinators and predatory insects often travel from natal and cover areas searching for pollen, nectar and food resources. This movement is beneficial to local agricultural producers that rely on insects to pollinate crops such as berries, fruit and nut trees. Retaining and incorporating as many hedgerow features as possible into the landscape (rather than "cleaning" them away) is recommended by OSU Extension, ODFW's 43 Conservation Strategy, and the Natural Resource Conservation Service. Attracting and supporting a diversity of bees and other beneficial insects within the rural landscape can be essential to sustaining agricultural production. Insect populations provide a diverse food resource for resident and migratory birds.

Migratory birds, in particular, depend on high quality food resources during the winter and during the breeding and nesting season. Migratory birds expend vast amounts of energy during migration and must replace those resource in order to be successful in producing young capable of migrating several thousands of miles by fall. Examples of these migratory birds include the yellow bellied chat, yellow warbler, yellow crowned warbler, Audubon's warbler, warbling vireo and American goldfinch. Resident birds depend on hedgerow habitat in winter months for food and shelter from wind and cold. These include species such as the spotted towhee, scrub jays, robins, black capped chickadee, chestnut backed chickadee, American robins, and dark eyed junco. Figure 21.

As documented in Exhibit E. 9, the subject hedgerow (Figure 22) was diverse in tree species and age (Figure 23), canopy diversity, and shrub species diversity. Together, this hedgerow provided high quality habitat for resident birds, raptors, and mammals, migratory birds, and a wide variety of pollinators (e.g. butterflies, honeybees) known to be critically important for healthy ecosystems and agriculture. Functions now lost due to hedgerow clearing include cover, roosting (for example, Figure 24), nesting, foraging, travel corridor, heat and cold attenuation, carbon dioxide sequestration, and storm water filtration.

Approximately 0.7 contiguous miles along SE Dodge Park Blvd west of SE Cottrell Rd and 0.3 miles of SE Dodge Park Blvd east of SE Cottrell Rd was fully cleared (Figure 22, Figure 25), and that ecosystem no longer exists. Nearby on SE Carpenter Lane – the entering roadway to the filtration site – the mature trees and shrubbery along the roadside was also cleared (Figure 26). (pgs. 42-43)

The forested edges of within and adjacent to this property provide many of the same natural resources important to wildlife. In addition to hedgerow species, forest edges may support larger numbers of species due to the presence of large trees, interior forest conditions, dead and down wood, and thermal regulation. Removing vertical structure and species composition diversity through construction activities such as tree cutting, has an adverse impact to plant species composition and forest structure, therefore wildlife habitat. Of particular concern is the removal of mature hardwood and conifer species. These impacts are long lasting (60+ years) and open the site to establishment of invasive species and noxious weeds. Spread of noxious weeds may impact adjacent farm, forests, and natural resource lands. Clearing of the hedgerow was the removal of a unique habitat.

Mammals benefit from food, cover and travel corridors provided by hedgerows and forest edges. The primary use is by small mammals such as squirrels, chipmunks, voles, raccoons, skunks and deer mice. Larger mammals use hedgerows as visual screens from roadways and as travel corridors between sites.

Response: The area where hedgerows were removed within the Dodge Park Boulevard right-of-way will be replanted with dense woody and forb clusters once the finished waterline installation is complete. These vegetated areas will quickly provide habitat for pollinators, birds, and small mammals. The dense vegetation will also provide long term stormwater filtration. As discussed in detail in Topic 1 above, thickets and shrubby areas simulating hedgerow habitat will also be established at the filtration facility site and the PWB Carpenter Lane properties to provide habitat alternatives away from the right-of-way. As detailed in the planting plans these areas include a wide variety of plant species to achieve or exceed the diversity of vegetation in the of the right-of-way hedgerow. These plantings will also provide carbon dioxide sequestration.

Also see the responses above under Topic 1 (Hedgerows) and Topic 5 (Temporal Impacts).

Comment: *Restoration of the affected areas is unlikely within our lifetime, and mitigation proposals fall far short of offsetting the ecological and community damage already underway. (pg. 4)*

For the reasons explained in the Habitat Analysis at N.56, and taking into consideration the additional habitat features and planting areas identified in this response, the combined habitat enhancement commitments of PWB result in a project that will not adversely affect natural resources. Nothing more is required to satisfy the applicable standard at issue on remand. While a broad and ambiguous statement, the authors are seemingly referring to the amount of time needed for large vegetation such as trees to grow and provide full habitat benefits. Temporal impact specific to tree removal is addressed in Topic 5 above.

Comment: *Figure 26. Row of four mature, 60+ year old red cedars (left) on SE Carpenter Lane near hedgerow on SE Dodge Park Blvd that were harvested in fall of 2024. All trees and shrubbery along SE Carpenter has been cleared (right) to double the width of the lane to accommodate filtration project traffic. (pg. 48)*

Response: It was necessary to remove trees and other vegetation from the Carpenter Lane right-of-way to widen the pavement to widths consistent with the County street design guidelines. The road widening was conducted for filtration facility construction purposes, and there will be no permanent element of the Project within the Carpenter Lane right-of-way. Nonetheless, the tree removal within the Carpenter Lane right-of-way is considered in the overall tree removal number for purposes of the tree planting ratio. Additionally, while the sequoias were mature trees, the habitat value was limited due to severe topping of the trees to avoid conflicts with overhead power lines (Figure 11).

Also see Topic 5 (Temporal Impact).

Figure 11 Trees located in the right-of-way at SE Carpenter Lane and SE Cottrell prior to construction.

N.45 testimony from Paul Willis, 34112 SE Carpenter Lane, Gresham, OR 97080

Comment: "*The operation of the Plant would bring numerous adverse effects to the local environment that cannot be mitigated:*

• Noise Pollution: The machinery noise, constant hum of industrial operations, and the sound of large delivery and maintenance trucks and cars servicing the Plant will severely disturb the quiet, rural landscape. This type of industrial noise is known to displace wildlife, especially migratory birds and sensitive species like owls and deer.

•Light Pollution: The Plant's lights, particularly at night, will interfere with nocturnal wildlife, including migrating birds, which rely on natural cues such as starlight and moonlight for navigation. Excessive artificial light can disrupt circadian rhythms and lead to disorientation, causing birds to alter their migration routes or become more vulnerable to predators.

• Air and Water Pollution: The Plant's operation will introduce chemicals used in water treatment into the air and possibly surrounding water bodies. These chemicals can negatively affect the local flora and fauna. The surrounding land and streams may suffer contamination from runoff, jeopardizing aquatic life and wildlife that rely on clean, uncontaminated water sources.

• Habitat Fragmentation: The operation of an industrial complex in this area would fragment wildlife habitat, making it difficult for species to migrate freely or access resources. The infrastructure required for the Plant, such as fencing, large parking lots, and paved roads, creates barriers that impede wildlife movement, especially for species like deer and coyotes.

• Chemical Exposure: The use of industrial chemicals at the Plant poses additional risks to nearby wildlife. Even with best practices in place, the potential for chemical runoff, spills, or vaporization into the atmosphere cannot be entirely eliminated, and it would directly affect local species' health and the quality of nearby water resources."

Response: The facility will not create barriers nor will it impede wildlife movement. On the contrary, enhanced habitats at the site will promote movement corridors along all edges of the site, which over time will provide screening for larger mammals like elk and deer. Refer to N.56 of the depiction of anticipated movement corridors that will be enhanced post-construction of the filtration facility site. A relatively small portion (37 acres) of the ~ 94-acre filtration facility site will be secured with an 8-foot high chain link fence, but a majority of the site will not only provide, but will improve, wildlife migration and movement corridors above pre-construction conditions.

Also see the response above under Topic 4 (Habitat Fragmentation) of the "Collective Comments/Responses by Topic." The impacts of noise and light from facility operation are addressed in the record. Risks of chemical spills and containment of those spills are addressed in the record.

N.47 testimony from Andy and Shannon Gale, 33159 SE Bluff Road

Comment: "*Johnson Creek, which has its headwaters about a mile up the road from our residence and traverses our property, functions as a wildlife corridor for the passage of a variety of species that we have enjoyed observing over the years. Prior to the construction of the filtration plant, we have observed an abundance of wildlife along the creek, which has included to name a few: pileated and red-headed woodpeckers, hawks, pigeons, swifts, hummingbirds, geese, great blue heron, snowy egret, bald eagle, bats, and mallard and merganser ducks, coyotes, and deer. Within the creek, we have observed salamanders, freshwater mussels, crayfish, small trout, and a river otter. Since the start of construction of the treatment plant, this vibrant ecosystem has been disrupted by the displacement of construction noise heard a mile away and an increase in soil run off into Johnson Creek. The result has been a reduction in wildlife both in and along the creek. The recent*

LUBA remand order, stopping construction, has only reinforced this observation as the wildlife slowly returns. Therefore, it's imperative to evaluate the impact to the natural resources this project has already caused and will cause in the future should the project proceed as designed."

Response: This comment is largely related to construction activities. Both during and following construction, the small area of Johnson Creek riparian habitat on the filtration facility site will be greatly expanded with native shrub and tree plantings which will benefit a variety of wildlife species within the creek and within the adjacent habitat areas. The habitat areas enhanced and created in the southeast portion of the Filtration Facility site will link expanded riparian habitat to the wooded/shrubby buffers along the western perimeter of the filtration facility site and northern perimeter, which will in turn provide a connection with the Lusted Woods.

See the response above under Topic 2 (Disruption/Displacement of Wildlife due to Construction Activity) and Topic 4 (Habitat Fragmentation).

N.48 testimony from Charlie Ciecko, 3630 SE Hosner Ter., Gresham, OR 97080

Comment: *"Included in this testimony was the elimination of a natural "hedgerow" located in the ROW of Dodge Park Boulevard for a distance of approximately 0.9 miles beginning east of Cattrall Road and extending west to the point where the finished water pipeline turn north and entered privately owned EFU land. Proposed Conditions are shown on LU-201 and LU-202. These drawings show all the trees noted above eliminated and replaced with "roadside seeding" that 324 trees eliminated as well as an undetermined number of shrubs. Only trees in excess of 6 inches diameter were included."*

"An inventory of trees and shrubs present in the hedgerow documented wide diversity of tree and shrub species all known to provide quality habitat for a variety birds and small mammals for nesting, foraging, cover and travel corridor purposes. The importance of the hedgerow for a variety of pollinators was also stressed."

"In addition to their significant value to wildlife, hedgerows sequester CO2, provide shade that helps attenuate excessive heat episodes, and absorbs, filters and slows storm runoff. Hedgerows are an important natural resource that capital applicant has failed to even mention an undeniably fails to protect."

Response: Following installation of the finished water pipeline within the Dodge Park Boulevard right-of-way, the area south of the road will be replanted with alternating dense woody and forb clusters with a variety of plants for habitat diversity. Unlike the hedgerow that was removed that had fragmented sections of vegetation, the vegetated clusters will be planted along the entire pipeline alignment outside of road intersections. The woody and vegetation and forbs will provide value to wildlife, will sequester CO2, absorb/filter/capture stormwater runoff, and absorb heat. Even strips of grass can filter and sequester sediments and pollutants from stormwater, provided the slopes are not too steep (e.g. less than 5-6 %) (EPA 2021). Many types of plants can sequester carbon, including trees, shrubs and groundcover species. Native grasses that form extensive root systems are especially able to sequester carbon. The proposed groundcover and woody species proposed for the right-of-way will provide equal or better functions for the aforementioned ecosystem services, especially as many sections of the pipeline alignment where vegetation was removed was dominated by non-native invasive species such as Himalayan blackberry – which does not have the growth form conducive for filtering/absorbing stormwater runoff as it is a vine species with relatively sparse stem structure. The proposed plantings in the right-of-way will replace non-native/invasive species like blackberry with a dense mix of woody and forb clusters that are predominantly native species that will be more beneficial for habitat functions.

Also see response above under Topic 1 (Hedgerows).

Comment*: "Prior testimony raises serious concerns about the impact of natural resources at the proposed site of the raw water tunnels. Exhibit E9 documented the removal of 24 trees in excess of 6 inches diameter and unspecified number of species of shrubs all of which provided habitat value for a variety of avian, mammals and amphibians and explained the value of "edge" habitat."*

"Edge habitat and proximity to forested areas is well established and generally contribute to diversity of both mammal and avian species."

Response: This comment relates to construction impacts. Nonetheless, despite the necessary removal of trees from the raw water pipeline alignment for construction, the overall character of the private property as a mosaic of grassland, shrubs/thickets and pockets of trees (aka "edge habitat") will not change with the project. Similar arguments related to edge habitat are addressed in the record at J.75. Additionally, the pipeline will be bored underneath an agricultural pond and wetland located on the property to avoid direct and long-term wetland and riparian habitat impacts. The overall diversity of mammals, amphibians, and avian species is anticipated to remain the same as pre-construction as the area will effectively be returned to preconstruction condition or better following installation of the subsurface raw water pipeline.[1] The trees removed during construction are accounted for in the replacement tree ratios on the filtration facility site and private properties crossed by the subsurface raw water pipeline will be reseeded following the pipeline installation. The animals that occur in the raw water pipeline alignment off of SE Lusted Road in the rural residential neighborhood are anticipated to be habituated to moderate levels human disturbance which includes rural farming activities, mowing, periodic tilling and trimming of vegetation, as well as forestry management. The temporary construction activities will not cause a long-term impact on species composition or abundance on the properties along the raw water pipelines.

Comment: *"Significant research documents impact avian species from exposure of construction noise. Impacts include but are not necessarily limited to: "… Changes in foraging location and behavior; interference with acoustic community Kate between conspecifics; failure to recognize other important biological signals, such as sounds of predators and/or prey; decreasing hearing sensitivity temporarily or permanently; and/or increasing stress and altering steroid hormone levels. Any of these effects could have long-term consequences and enduring impacts that include interference of breeding by individuals and populations, therefore threatening the survival of individuals or species. Caltrans, 2016."*

Response*:* Noise from operation of the facility is addressed in the record. This comment is specific to construction noise that is not relevant to the sole approval criterion at issue in this remand proceeding. Construction noise will not have adverse long-term effects on populations or the surrounding habitat following construction for the following reasons:

1) Wildlife species are expected to shift foraging and breeding behaviors to nearby available habitats during construction. The filtration site is located at the intersection of 3 HUC 12 watersheds (explained in N.56), which is a common unit of habitat conservation and wildlife movement. Because of this overlap of 3 HUC 12 watersheds with the filtration site, the following estimates calculated using GIS are considered

[1] As addressed in a separate memo submitted concurrently with these responses, a road section covering an existing dirt farm road installed during construction will remain in place as a continued protection for surrounding wetlands.

potential suitable habitat during temporary construction activities. This is likely an over-estimation of potential "available" habitat as detailed area-specific conditions are unknown, but it provides the context of the adjacent landscape that could be potentially used by several species, especially more mobile species like songbirds, raptors and bats. Also, note that the filtration facility site represents less than one percent of each of the 3 HUC 12 watersheds, meaning construction noise will temporarily affect a very small portion of habitats present.

HUC 12 estimates of land cover:

Upper Johnson Creek HUC12 (17,100 acres)

- Wooded: 20%
- Other non-impervious (Agricultural Land/Pastures/Hedgerows, etc.): 55%
- Total non-impervious potential habitat = 75%

Beaver Creek-Sandy River HUC12 (22,800 acres)

- Wooded: 40%
- Other non-impervious (Agricultural Land/Pastures/Hedgerows, etc.): 45%
- Total non-impervious potential habitat = 85%

Trout Creek-Sandy River HUC12 (10,600 acres)

- Wooded: 70%
- Other non-impervious (Agricultural Land/Pastures/Hedgerows, etc.): 25%
- Total non-impervious potential habitat = 95%

2) Construction noise/activity is less impacting to wildlife species when concealed from view such as by vegetation and topography. Vegetation, especially trees and shrubs, can act as natural sound barriers, absorbing and redirecting sound energy. Topography, like hills and valleys, can also create physical barriers that reduce the spread of noise. In addition to sound dampening, vegetation and topography can break the line-of-sight distance between wildlife and human activity, thus lowering the impact of the disturbance. As described in the Habitat Analysis, studies have shown that vegetative screening decreases the distances at which nesting birds flush, meaning that visually blocking the disturbance removes or significantly reduces the disruption response by wildlife. This indicates that wildlife species on the forested slope east of the filtration, or the "Lusted Forest/Woods" as it is referred to by neighbors, will be buffered from the noise and human activity of construction on top of the slope and are not anticipated to experience long-term adverse effects.

Also see response above under Topic 2 (Disruption/Displacement of Wildlife due to Construction Activity).

N.49 testimony from Bill and Nikki Myers residing at 33045 SE. Dodge Park Blvd., Gresham, OR 97080. Comment is with respect to North Fork of Beavercreek.

Comment: *"We submit this information to let the board know of the wildlife living along the small, year-round stream that is within 750 feet of the construction areas."*

"Within the last two years, this creek, between the 33133 property and Southeast Altman has become the home to a second team of water engineers: beavers."

"The beaver is a keystone species, creating many environmental benefits. They are a semi-protected for bear, no longer considered a nuisance. Any landowner wishing to remove one is subject to a permanent process with nonlethal medications as the first step."

"Our immediate area is home to many critters besides the beaver. This ecosystem extends across farms and wood lands of the control-pleasant home area, including all the areas of PWB construction. Of course we have coyotes, rabbits, squirrels and other critters the coyotes eat and control."

"We believe that the PWB is filtration plant and new pipeline activities are not at all compatible with the rural, natural environment of the control and pleasant home neighborhoods."

Response: This comment appears to primarily related to construction activity. Contrary to the implications of this testimony, no adverse impacts to the beaver or other wildlife would result from construction of finished water pipeline 750 feet away from upper North Fork Beaver Creek for a few different reasons: best management practices including erosion and sediment control measures will be in place prior to any ground disturbance; construction impacts from the finished water pipelines will be highly localized and temporary in nature; the beaver and other wildlife in upper North Fork Beaver Creek are likely habituated to moderate levels (similar to construction activity) of human disturbance given the close proximity of SE Lusted Rd. which is about 400 feet away as well as the close proximity of tilled fields and rural residences.

Also see response above under Topic 2 (Disruption/Displacement of Wildlife due to Construction Activity).**N.52 testimony from Pat Meyer, resident of the Community Near Cattrall Rd., Oregon.**

Comment: *"We live at the headwaters of Johnson Creek, a vital tributary that supports a rich and sensitive ecosystem. Over the years, this waterway has sustained generations of salmon, reptilian aquatic life, river otters, and a wide array of other native species. It has also supported a thriving natural corridor where deer, bear and elk would migrate each year, and where we have long observed birds of prey, including a spotted owl that had made its home in a pine tree on our property for years. That owl is no longer here. Neither are the bald eagles which regularly could be seen in our skies. The half century old trees in which they resided and rested are now gone, cut down to accommodate the impending traffic anticipated for the construction and use of the proposed water filtration plant."*

"Since the construction began on the filtration plant our community has witnessed a disturbing and heartbreaking disappearance of the wildlife that once defined our surroundings. The massive volumes of approved stormwater runoff from the construction site now regularly flow directly into the Johnson Creek headwaters. This runoff carries with it sediment, chemicals, elevated temperatures, and unnatural flow patterns that are fundamentally altering the habitat."

"The effects of this construction are immediate and severe."

"A 95-acre industrial facility, regardless of its purpose, is fundamentally incompatible with the fragile nature of a headwater environment. The scale alone guarantees a permanent disruption of natural patterns. Furthermore, the plant's ongoing use of chemicals for water treatment, though regulated, introduces a level of risk that this habitat simply cannot absorb. These chemicals, combined with the accelerated runoff and landscape alteration, create conditions incompatible with the survival of sensitive wildlife species.

Response: The first portion of the comment relates to construction activity. In any case, it's highly unlikely that a northern spotted owl was observed in the vicinity of the filtration facility site. Spotted owls are a protected species found in the Mount Hood National Forest several miles east. It's more likely that the commenter observed a barred owl, which looks similar, but is more adapted to a mixture of forested habitats at lower elevations

including rural/suburban areas and is not state or federally listed, nor is it considered rare in Oregon (ORBIC 2019).

See the response above under Topic 2 (Disruption/Displacement of Wildlife due to Construction Activity). Risks of chemical spills and containment of those spills are addressed in the record.

N.53 testimony from Anthony Kinen, sent Tuesday, April 15.
Comment: *"Since construction started I have noticed a significant decrease in wildlife around the area. We used to have a nested pair of Great horned owls, which I have not seen returned to the area. Last spring they were very active in the area."*

Response: This comment relates to construction activities. See the response above under Topic 2 (Disruption/Displacement of Wildlife due to Construction Activity) of the "Collective Comments/Responses by Topic."

N.**69 testimony from Carrie Richter of Bateman Seidel**

Comment: *"Since the MCC or other state law does not set forth a definition of "natural resource" and this is the only definition that reflects how the community service uses would be considered outside the Goal 5 SEC rubric, the hearings officer should adopt this interpretation. What is critical about this definition is that it is concerned with protecting a system that furthers a broad range of agricultural, environmental, aesthetic or economic objectives. The focus is on the level of the functioning system, which need not be unique, pristine or otherwise optimal, to qualify for protection.*

If the nearby trees or hedgerow provide support for nesting and migrating birds, as well as rodents and insects that serve as food for bird species, then those trees or hedgerow contribute to the natural system supporting this wildlife. Determining the level of function requires an understanding of the demands of the resource.

For example, suitability of a habitat for fish demands understanding the existing water quantity, temperature, flow rates, turbidity, source for and supply of food, as well as how the fish themselves function within this habitat. What exists in the record so far from PWB are unsubstantiated conclusions. For example, PWB claimed that its stormwater containment methods would increase water quality over its existing "pesticide laden" condition. E.17. Yet, there is no evidence that PWB ever tested the water in support of this claim. There must be some monitoring and effort to establish a baseline level of habitat functions, which has yet to occur."

Response: The Habitat Analysis provides a pre- and post-construction comparison of wildlife values in the project area and concludes that post-construction conditions will improve habitat for numerous wildlife species applying conservative value to the pre-construction conditions.

See the response above under Topic 1 (Hedgerows) and Topic 3 (Inventory).

R.4 video evidence submitted by David Shapiro. The video captures wildlife species appearing on trail cameras from "*across the road*" from the Portland Water Bureau proposed facility. The species shown on the video appears generally as follows: mountain lion, elk cow (female), bobcat, bobcat and kit, and coyote.

Comment: "*We have a lot of nature and life here. Don't let Portland Water Bureau ruin this.*"

Response: The title slide of the video submission indicates the footage was taken from across the road; which is presumed to mean across Dodge Park Blvd on the hillside forest east and downslope of the filtration facility site. It appears that at least one of the cameras is positioned near the bottom of the forested slope approximately 200 to 400 feet away from the filtration facility site.

See the response above under Topic 2 (Disruption/Displacement of Wildlife due to Construction Activity).

R.6 testimony from Mona Ayles.

Comment: "*The most interesting thing I have had living in my backyard is a snake, a green snake…..…an Oregon rubber boa." "… didn't see very many last year. I wonder how many were destroyed in that 100 acre field up the hill from me."*

"We also have flock of quail… I suspect those flocks are probably gone."

Mona Ailes, oral Remand Hearing Testimony (3:39-3:41)

Comment*: I happened to run into this thing. It was – I was outside in my backyard and I – there was a snake hanging out of a tree and I walked into it, and I screamed bloody murder. I had to go and look up this snake. Because I'd never seen one like it before. It was not a garter snake. It was kind of a funny avocado green. And I did some looking and I've got the information that I'll leave with you, but it is called a Oregon rubber boa. And they are fairly common in the State of Oregon. They like fields. They were constrictor. So they will go after the voles and the field mice, which we've got a lot of those. But they are also, it says, it's important to note that the rubber boa is a protected species in Oregon and should not be handled or disturbed if you come across it. The rubber boas observe from a distance and avoid causing any harm. So I know that there were rubber boas in my yard. And we're just a couple of properties downhill from the filtration plant. So I have to wonder how many of those protected Oregon rubber boas were on that a hundred acre mess up at the top of the hill that have now been destroyed and forever gone. And to note, I have not seen any of those protected snakes in my yard yet this year.*

Response: It is not clear from either the testimony at the hearing or the written statement when Ms. Ailes encountered the snake in her yard. Based upon the address she provided at the hearing, 37184 SE Lusted Road, her property is just over 1/3 of a mile to the southeast of the southeast corner of the filtration facility site, and is separated from the site by SE Dodge Park Blvd and as well as several acres of forest. Exhibit R.6, page 3, marks her property on a map, showing that it is along pipeline alignments in Clackamas County that were not included in the final design.

Figure 12 37184 SE Lusted Road (Portland Maps)

To provide some background on the rubber boa, the Oregon rubber boa or northern rubber boa (*Charina bottae*) may be found in a variety of habitats across the state including desert scrub/shrubland, foothill woodlands, mountainous areas, as well as grasslands with scattered thickets in forested clearings and along edges (Brown et al., 1995, ODFW 2025). The northern rubber boa is afforded the same protection as other native animals in the state of Oregon that are not state or federally listed or considered rare. The rubber boa is likely assumed to be rare because it is nocturnal and spends a substantial amount of time underground in burrows. It is considered relatively common (Sudkamp 2002) and is not listed as a sensitive or rare species in the publication, "Rare, Threatened and Endangered Species of Oregon" compiled by the Oregon Biodiversity Information Center (ORBIC 2019). The rubber boa is a small, secretive constrictor native to the Pacific Northwest that hunts young rodents, squirrels, chipmunks, birds and amphibians/lizards by squeezing its prey. Rubber boas are most commonly active at night but may be seen during the day during cool or moist conditions. The rubber boa primarily eats young rodents (mice, shrews, voles etc.) and is also known to climb shrubs and small trees in search of prey.

Rubber boas spend a large amount of time in burrows underground and any burrows which would have been disced or filled in on the commercial nursery land, indicating that rubber boa habitat was not readily available at the filtration facility site prior to construction. Cropland is not a preferred habitat type for the rubber boa. After construction is completed, areas outside the approximate 37-acre fenced facility will be restored to natural habitats that are preferred by the rubber boa and are of higher quality than commercial nursery land, including grassland and shrubby and brushy areas.

See the response above under Topic 4 (Disruption/Displacement of Wildlife due to Construction Activity).

N.8 written testimony from Sam Whitehead

Comment: "*Our family has live at the end of Dodge park Blvd for 49 years. I have witnessed, elk, deer and bear crossing the road near the top of Dodge park Blvd. I believe they are traveling to feed in the fields where the new water filtration system is now being installed. Bear of course feed on the Blackberrys on the side hill now interrupted by your indiscriminate building. Along with fox, coyotes and raccoons now having to find a new aera*

to feed. A very much shame for Water site building to disturb the last wildlife aera so close to the metro to build more city resources."

Response: Any disturbance or displacement that may have occurred to elk, deer and bear along with fox, coyotes and raccoons due to construction activities at the filtration facility site would be localized and temporary in nature. These animals will return to a higher quality site after construction is completed which will include a variety of native habitats with plentiful food sources because of the diversity of native groundcover, shrubs and trees that will be planted on-site.

See the response above under Topic 4 (Disruption/Displacement of Wildlife due to Construction Activity).

R.10 written testimony by Ashley Rood, Multnomah County resident.

Comment: "*I am a Multnomah County resident who opposes continued development of this facility on farmland, which will negatively affect area natural resources, including agriculture and forestry."*

Response: The Project will result in expansion of the upland forest along the eastern perimeter with native shrubs and trees. Potential impacts on forestry operations in the area is addressed in the record (A.37, Forestry Compatibility Study).

R.11 testimony from Jeff Knapp. Mr. Knapp provided a set of slides and bullet points to state the following:

Comment: "*Natural Resources Impact: Bad for the Planet*" and "*Perpetual ongoing noise affects natural resources of the area.*"

Response: Post-construction, the project will restore, enhance and expand several native habitats on site including upland forest, riparian forest, oak savanna and grassland, and wooded/shrubby buffers that will provide critical movement corridors for wildlife species among other essential life functions. Potential noise impacts from the operating facility are addressed in the record.

R.13 testimony from Andrea Culver, 35534 SE. Bluff Rd. Ms. Culver indicates she lives 0.4 miles from the filtration site.

Comment: "*On our property alone we had three to four owls that would roost in our cedar trees, eating voles, moles and the occasional skunk. Bats would keep the mosquito population under control, and a mated pair of mallard ducks would return each year to nest in our creek. Coyotes would yip most nights, so close that we were very thankful for a secure barn for our chickens, calves and barn cats. Birds would wake us up each morning, and we always looked forward to hearing the geese return each spring and fall.*

Now that construction has begun over 300 of the huge Douglas fir trees are gone, the hillside of green nursery stock is gone, the owls are gone. The bats cannot be seen anymore because of the massive spotlights that illuminate our house most nights. No more mallard ducks nesting in our creek, birds are less than they used to be. Coyotes are much less frequent and are distant sounding. Water runoff is common down the hillside, visible from our side of the site, and very evident from the roadways on the other side.

Less than two years after we moved here we were informed of the proposed water filtration plant. We have been involved in the opposition from the beginning, knowing that this would drastically change our environment and

feel of our community. The PWB has not done its job in protecting the natural resources, nor have they adequately identified the vast resources that make up our community and neighborhoods. Please carefully consider the testimonies from our experts. Please help us protect our natural resources, livelihoods and ways of life out here in our rural environment.

Response: These comments relate to construction impacts. There were seven Douglas-fir trees removed from Dodge Park Boulevard near Cottrell Road which were larger than 20" diameter at breast height. There were no other large Douglas-fir removed. These and all other trees removed during construction will be accounted for in the final tree replacement ratio.

See the response above under Topic 2 (Disruption/Displacement of Wildlife due to Construction Activity).

Steve Smith, oral Remand Hearing Testimony (2:29 – 2:30)

Comment*: What we found is that insects will move from one to two miles, primarily bees and butterflies, of which there are about 47 species using the Willamette Valley. They will move up to two miles to pollinate adjacent agricultural crops. And so impacts to this hedge row potentially not only affect the wildlife using this site, but all the neighborhoods within one to two miles that rely on pollination of natural invertebrates to help with their production.*

Response: This comment relates to potential impacts during construction. Shown below is an aerial image within 1 mile of the SE. Dodge Park Blvd./SE. Cottrell Rd. intersection, where one of the more woody sections of hedgerow has been removed, to demonstrate the availability of pollinator habitat sources (grasses, shrubs and trees shown as green in the image) in the absence of the hedgerows that have been removed. From the picture showing extensive green vegetative cover, it is clear that the neighborhoods that might have relied on pollinators from the removed hedgerows have ample alternate sources during the construction period. Additionally, as detailed above, PWB will plant dense woody and forb clusters with a variety of species that provide quality pollinator habitat after the finished water pipelines have been installed below ground and the soils have been restored and pollinator plantings installed.

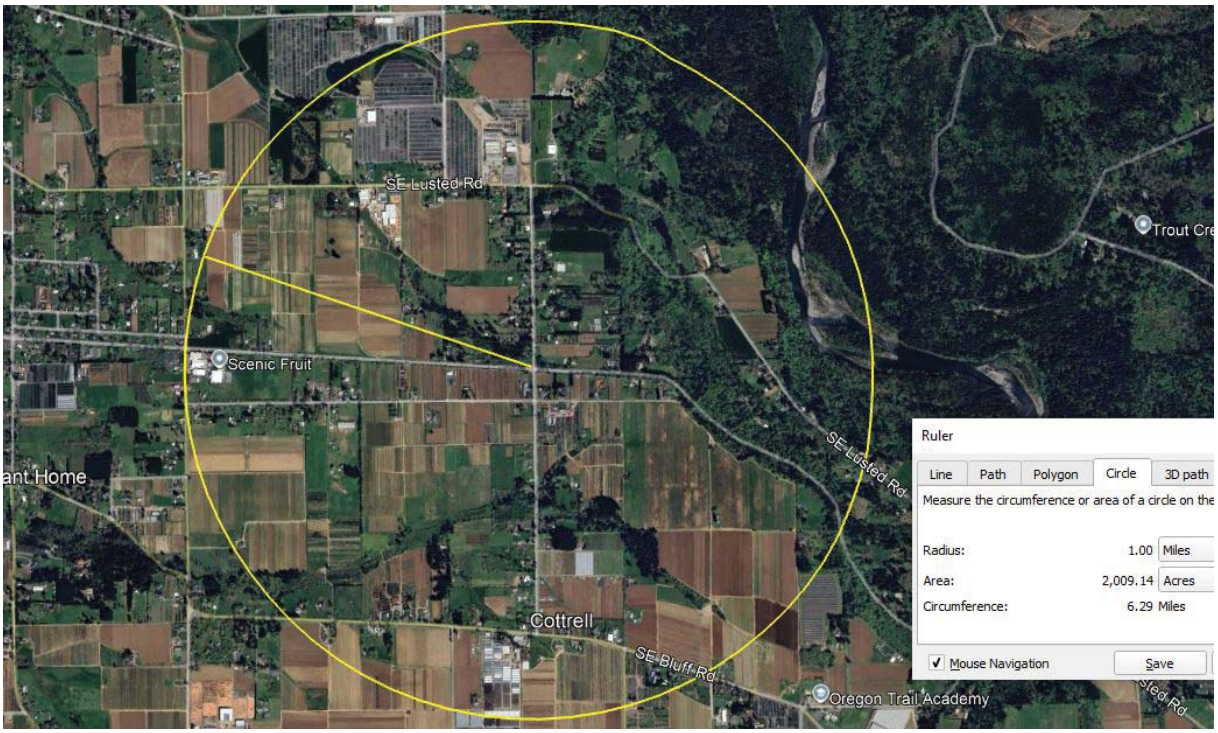


Figure 13 **Areas within a 1-mile radius of the SE. Dodge Park Blvd./SE. Cottrell Rd. have ample alternate sources of pollinator habitat (grasses/shrubs/trees) in the absence of recently removed hedgerows.**

Steve Smith, Remand Hearing Testimony (2:30 – 2:31)

The other thing we recognized was that fields, 20 acres or less, that have good hedge rows have a significant component of predatory insects, which help landowners that are raising row crops control these insect outbreaks to a lower level without the use of pesticides. So it's very difficult to say, without an inventory, what species were in these hedge rows. But the habitat components that were there are significant. This hedge row was in place, from what I can tell, for probably at least 50 years. That means it accumulated down wood, litter, dead material, all of which are used as wintering and natal areas for our native invertebrates. They're also used by bird species.

Response: The hedgerows removed within the Dodge Park right-of-way during construction were not inventoried for insect species composition; however, beneficial predatory insects, such as the lady beetle or ladybug, assassin bug, praying mantis, etc. are known to occur in variety of habitats that remain in the project area including landscaped yards, meadows, grasslands, shrubland and forests. Ladybugs and assassin bugs will also use buildings and houses for shelter during the winter. The removal of the hedgerows is not expected to reduce the predatory insect population to an adverse effect level because of the abundance of alternate plants and structures present in the project area that could support them.

It is recognized that bird species use hedgerows. During construction, birds and insects will be able to use alternative sources of plants/vegetation in the project area for food, shelter and reproduction. Once the finished pipelines are installed and prior to filtration facility operation, the hedgerow areas will be replanted with woody and forb clusters which will provide benefits for several bird species. Additional bird habitat that will be created on the filtration facility site is discussed in responses above.

Steve Smith, Remand Hearing Testimony (2:31 – 2:32)

And I would like to point out that on bird species, we have a very complex issue here. One thing that needs to be done to do a HEP analysis is identify the species you're working with. And without an inventory, it's difficult to see how that would happen. So for example, bare ground agricultural lands were thought to be very low value until about 10 years ago, we discovered that a significant portion of the streak horn lark population that remains in the Willamette Valley uses sparsely vegetated lands along seasonal waterways to nest.

Response: Species that have been observed in the project area by City of Portland staff and their consultants and included in the HEP analysis in the Habitat Analysis are: red-tailed hawk, white-crowned sparrow, downy woodpecker and red-legged frog. The white-crowned sparrow was selected to represent grassland bird species that are adapted to patchy habitats like agricultural fields, pastures, thickets, park-like areas and shrub/scrubland. Elk was included in the HEP analysis because of observations by PWB staff in the area and reports from neighbors.

As indicated in responses to other comments related to the streaked horned lark (*Eremophila alpestris strigata)*, it is true as Mr. Smith states that streaked horned lark prefer "bare ground agricultural lands" for breeding habitat (different than wintering grounds) but streaked horned lark are a rare subspecies of the horned lark, in part because of their very particular breeding habitat requirements, and not all bare ground agricultural land is the same. The Oregon biodiversity center rates breeding streaked horned lark as "imperiled in Oregon" which is symbolized as "S2B" (ORBIC 2019). Wintering populations of streaked horned lark, in contrast, are not considered imperiled as they are able to roam the west coast in search of fields with suitable forage. While the filtration facility site may seem potentially suitable for streaked horned lark, several reasons exclude it as habitat, 1) as described above, a protocol-level survey for streaked horned lark presence was conducted in 2021 and no streaked horned lark or larks of any kind were detected; 2) the filtration facility site was already marginally suitable despite the presence of bare ground because it is too hilly and hemmed in by shrubs and trees. Streaked horned lark do not typically select small patches of bare ground adjacent to shrubs and trees because of the threat of predators.

Steve Smith, Remand Hearing Testimony (2:32-2:33)

It (streak horn lark) moves around in winter in flocks, as do species like meadowlarks, bluebirds. They move around in groups seeking open fields to feed in winter. They seek hedge rows and forest edges to winter storms. Without those in place, they're displaced and potentially will never use an area, but some of them scout and find habitat, return to them and nest. Which gets to the idea of inventory needs to be done not once, not twice, several times throughout a breeding season, select the species that are of concern or observed on the site, run the HEP analysis against those species, and then validate those assumptions on existing ground.

Response: Consistent with Mr. Smith's recommendation, several avian surveys were completed in a season. For example, the protocol-level survey for streaked horned lark conducted in 2021 involved three surveys – one at the end of April, one in June and one in mid-July in order to determine that no streaked horned larks were present in

the commercial nursery fields. Streaked horned lark have a very high nest side fidelity, which means they do not establish new breeding grounds easily. No meadowlarks or bluebirds have been observed in avian surveys conducted by the city of Portland. See, Exhibit 2. These surveys also involved repeated visits during one season to capture the diversity of avian species known to occur across the project area.

Steve Smith, Remand Hearing Testimony (2:32-2:33)

What is occurring here is a permanent and lasting effect. Because [] you have to figure in temporal conditions for wildlife. A tree is not a tree. A tree is structure. Five trees don't replace one tree that's 21 inches in diameter and has a cavity. Not for at least 80 years. So you have to be able to carry these species forward.

Response: A response to this specific comment and others related to temporal loss is addressed in Topic 5 above.

Steve Smith, Remand Hearing Testimony (2:33-2:34)

In Oregon, the biggest limitation on onsite mitigation has been -- there's been an 80 percent failure rate because there's nobody following it that long. There's no stewardships funds set up to manage the species that long. And so once the project is done and the regulatory boxes are checked, it's done. But oftentimes, they do not provide the long-term function for wildlife. And that would be a concern for me.

Response: It's not clear where Mr. Smith is getting the result of 80 percent failure rate for mitigation. However, this is not a typical mitigation or habitat enhancement project. PWB is committed to adaptive management and long-term stewardship of the mitigation site to ensure success of the habitat areas. Unlike commercial or residential developments where the initial developer abandons the project or like habitat enhancement project with a landowner not committed to project success, the filtration facility will provide clean drinking water to the region for decades and PWB will remain a steady steward of the land across the life of the facility. Examples of successful habitat enhancement and restoration work enacted and managed by the PWB Resource Protection and Planning Group is attached as Exhibit 4.

Charlie Ciecko, Remand Hearing Testimony (2:36 – 2:37)

So what I want to point out here is that this hedge row that was removed, as Steve has pointed out, was actually an ecosystem. It wasn't just a group of trees. And it provided travel corridor, cover, foraging, nesting. It also did CO2 sequestration, heat and cold attenuation, and storm stormwater filtration. It is gone. And the fact that a batch of trees would be planted at the filtration site will not replace the functions of what has been destroyed.

Response: It is not entirely accurate to call a hedgerow removed during construction an "ecosystem" and imply that it provided all things to all wildlife species. It is not disputed that hedgerows provide some habitat functions for some species – but it does not provide suitable breeding habitat for medium to large mammals, such as the bobcat or elk (for example). Hedgerows are important for pollinators and some songbirds and smaller mammals and as movement corridors for medium and larger mammals. Native plant species will be replanted after finished water pipelines are installed to replace hedgerow functions. Additionally, a large number of trees are proposed to be planted at the filtration facility site and on other PWB owned property which will not only replace but will improve habitat found in the right-of-way pre-construction. Refer to N.56 for an explanation of the habitat evaluation procedure results. The many habitat enhancements proposed as part of the project are described there and throughout this response.

See also Topic 1 (Hedgerow Habitat) for detailed description of hedgerow plantings.

David Shapiro, Remand Hearing Testimony (2:48- 2:49)

This is the -- this is the primary habitat, but the edges of the habitat are just as important. If the edge is frayed, the whole system is going to fall apart. This was a very important area for the elk to come up, but also for every other component of this ecosystem to use for the generation of the food chain that supports the fact that we have old growth forest, elk habitat, mountain lion habitat, sometimes perhaps the wolverine comes through. And that was proven two years ago that the wolverine did move through this area.

Response: By "edge habitat" the presumption is that Mr. Shapiro is referring to pervious surfaces that are a mosaic of grasses, shrubs and occasional trees that provide transitional habitat from forestland or woods to rural/suburban development. The filtration facility will enhance and preserve "edge habitat" by creating woody/shrubby/grassy buffers along the western, northern, eastern and southern boundaries of the filtration site. The interior of the fenced 37-acre facility will also have pervious ground vegetated with a mixture of plants including lawn (habitat for American robins), as well as a mix of native and non-native shrubs around the facility components including the stormwater ponds that could be used by birds, bats and flying insects.

See also, Topic 4 (Habitat Fragmentation) above.

Katie Brown, Remand Hearing Testimony (3:27-3:28)

I live at 37105, Southeast Lusted Road in Boring. I live near the county line construction site for the Portland Water Bureau. In January, the Portland Water Bureau removed five old-growth maples and all the ground vegetation in front of my home to temporarily widen Lusted Road. I'll let you guys see this up close when I'm all done. But you can see from this picture, this is what these trees and vegetation used to look like. And this picture was taken yesterday. This is what now looks like. These old-growth maples were homes and nesting places to robins, Steller's jays, sparrows, siskins, owls, and contributed to the beauty that we all love of rural Multnomah County. The vegetation below these maples were homes to rabbits. I would frequently see hop out of the bushes. These trees also provide structural support to prevent erosion and water runoff due to the significant slope that comes into our property from where those trees lived.

Response: The trees referenced in this comment were located in the County's Significant Environmental Conservation – Habitat (SEC-h) overlay zone. Removal of the trees was permitted through an SEC permit that was not appealed and is not at issue in this remand. Two of the trees removed adjacent to the Lusted Road were 16-inch diameter. Ther other three trees were also adjacent to the road and were 18-, 24-, and 34-inches. The SEC permit required 12 trees be planted in an identified SEC area to satisfy required replacement ratios for trees removed from the SEC-h. In February of 2024, 20 replacement trees were planted in the SEC-h zone near the raw water alignment in the area referred to in the record as Lusted Woods. Because of the presence of the pipeline, the trees could not be replanted in place. In addition to meeting the SEC permit requirements, planting replacement trees at a ratio that exceeds SEC permit requirements within an area documented in this record as an important wildlife corridor for the area ensures that removal of the trees will not adversely affect wildlife habitat in the project area.

Conclusion

The additional planting and habitat enhancements identified in this memorandum strengthen the conclusion of the Habitat Analysis that the project will not adversely affect wildlife habitat.

References

Brown, H.A., R.B. Bury, D.M. Darda, L.V. Diller, C.R. Peterson and R.M. Storm. Coordinating Editors: R.M. Storm and W.H. Leonard. 1995. Reptiles of Washington and Oregon. Seattle Audubon Society. 176 pp.

Canadian Geographic. 2025. As Banff's famed wildlife overpasses turned 20, the world looks to Canada for conservation inspiration. Updated April 17, 2025. Available at: https://canadiangeographic.ca/articles/as-banffs-famed-wildlife-overpasses-turn-20-the-world-looks-to-canada-for-conservation-inspiration/

Hentati-Sundberg J., Berglund P.A., Hedjströmb A., Olsson O. COVID-19 lockdown reveals tourists as seabird guardians. Biol. Conserv. 2021;254:e108950. doi: 10.1016/j.biocon.2021.108950.

EPA. Stormwater Best Management Practices – Vegetated Filter Strip. 2021. Available at: https://www.epa.gov/system/files/documents/2021-11/bmp-vegetated-filter-strip.pdf

Leppin, M. V. 2024. Life History of the Northern Rubber Boa (*Charina bottae*) in Oregon. An abstract of the thesis of Mark V. Leppin for the degree of Master Of Science and Integrative Biology. Oregon State University.

Oregon Biodiversity Information Center (ORBIC). 2019. Rare, Threatened and Endangered Species of Oregon. Institute for Natural Resources, Portland State University, Portland, Oregon. 133 pp.

Soto E.H., Botero C.M., Milanés C.B., Rodríguez-Santiago A., Palacios-Moreno M., Díaz-Ferguson E., Velázquez Y.R., Abbehusen A., Guerra-Castro E., Simoes N., Muciño-Reyes M., Souza Filho J.R. How does the beach ecosystem change without tourists during COVID-19? Biol. Conserv. 2021;255:108972.

Sudkamp, A. 2002. A natural history of the rubber boa, *Charina bottae*. Dated July 19, 2002. Available at: https://pages.uoregon.edu/titus/herp_old/andy.htm

USFWS (U.S. Fish and Wildlife Service). 2021. Species Status Assessment for the Streaked Horned Lark (Eremophila alpestris strigata).Version 1.0. U.S. Fish and Wildlife Service, Portland, Oregon.

Exhibits

Exhibit 1: New and Updated Planting Plans (Dodge Park ROW, Carpenter Lane Parcels, & Updated filtration facility site)

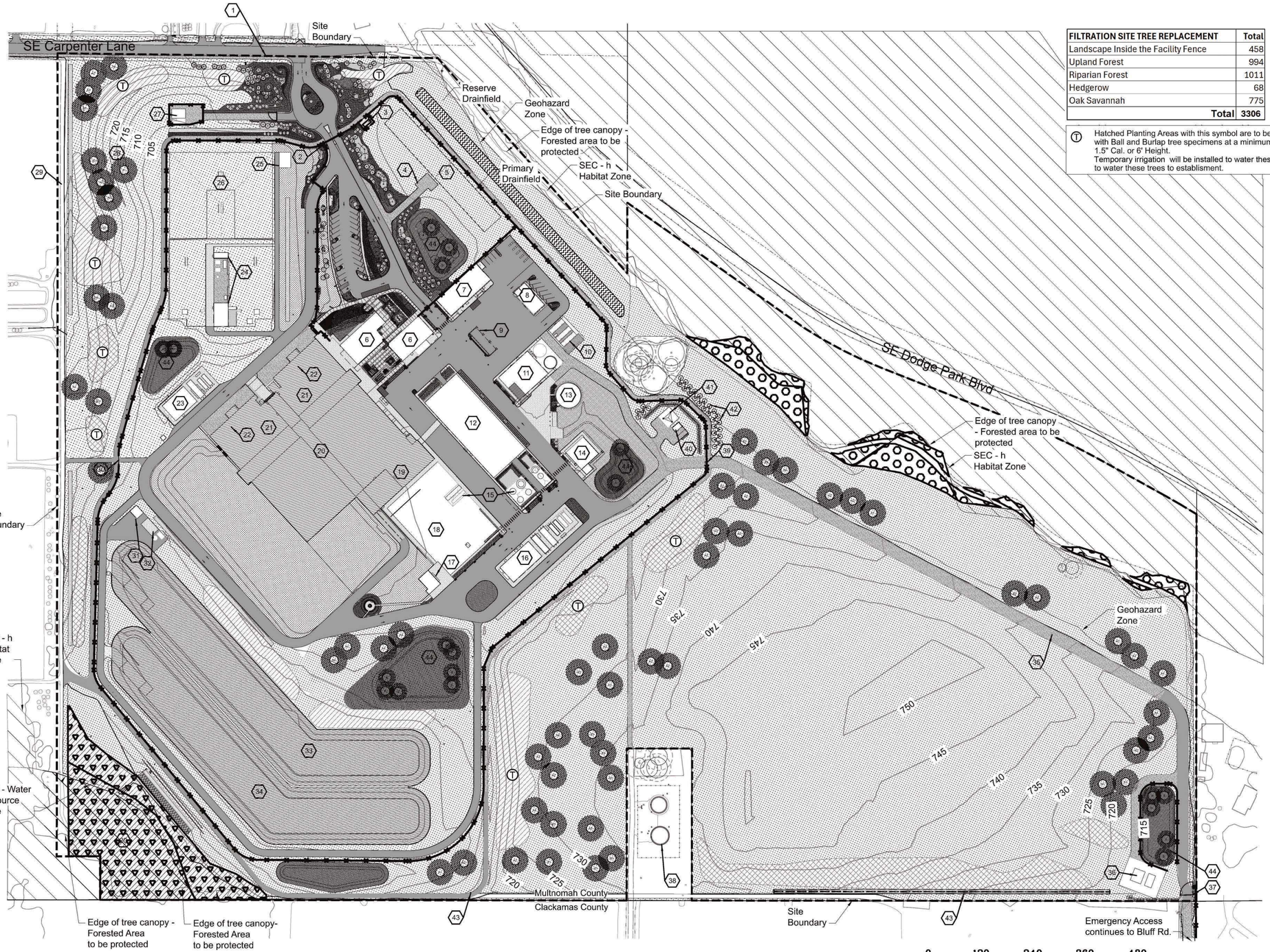
Exhibit 2: PWB Bird Surveys

Exhibit 3: ESA Streak Horned Lark Memo

Exhibit 4: PWB Resource Protection Projects

Exhibit 1:

New and Updated Planting Plans



PLAN

SCALE: 1" = 120'-0"

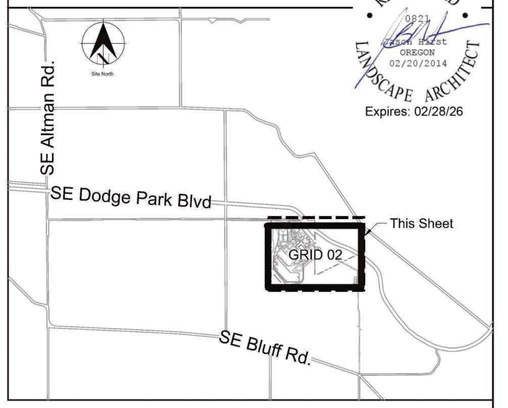
0 120 240 360 480

FEET

FILTRATION SITE TREE REPLACEMENT	Total
Landscape Inside the Facility Fence	458
Upland Forest	994
Riparian Forest	1011
Hedgerow	68
Oak Savannah	775
Total	**3306**

(T) Hatched Planting Areas with this symbol are to be planted with Ball and Burlap tree specimens at a minimum size of 1.5" Cal. or 6' Height.
Temporary irrigation will be installed to water these trees to water these trees to establisment.

KEY PLAN



REGISTERED LANDSCAPE ARCHITECT
0831
JASON HOST
OREGON
02/20/2014
Expires: 02/28/26

Sheet Keynotes

1. Carpenter Lane Entry
2. Main Facility Entry Gates
3. North PGE Electrical Cutout
4. Septic Structure (At Grade)
5. Septic Drainage Field
6. Administration Building
7. Maintenance Building
8. General Storage Building
9. Refuse / Recycling Storage Shed
10. Pilot (CONEX)
11. Mechanical Dewatering / Solids
12. Chemical Building
13. Gravity Thickeners
14. Washwater Clarification
15. Chemical Storage Tanks
16. Main Electric Complex
17. Raw Water Inlet Structure
18. Ozone Building (Not In Use)
19. Ozone Injection / Flash Mix
20. Floccuation / Sedimentation Basin
21. Filtration Basin
22. Waste Washwater Equalization Basins
23. North Electric Complex
24. Pumpstation
25. Fire Pumpstation Enclosure
26. Finish Water Clearwell (Below Grade)
27. Pleasant Home Pumpstation (Non-PWB)
28. West Screening Berm
29. Easement on PWB Property (To Remain)
30. West Gate
31. Electrical Building
32. Overflow Pumpstation (At-Grade)
33. North Overflow Basin
34. South Overflow Basin
35. Emergency Access Route
36. Raw Water Pipeline Cover (At-Grade)
37. Manual Bar Gate with Knox Box
38. Pleasant Home Water Towers (Off-Site)
39. East Gate
40. Communication Tower Accessory Building
41. Communication Tower
42. Tower Screen Planting (Native Evergreen Hedge and 25' Min. Tree Buffer)
43. Agricultural Style Fence
44. Detention Ponds

General Sheet Notes

1. Site is Zoned MUA-20
2. No development or construction activity proposed within SEC zones on Filtration Site. Revegetation of existing agricultural land to be performed with hand tools only. Native plant species only allowed for revegetation in these zones
3. No development or construction activity proposed within Geohazard Area on Filtration Site.

Legend

- Asphalt Paving
- Concrete Paving
- Gravel Paving
- Basins
- Fenceline
- Native Grass / Forb Mixes
- Swale Planting
- Stormwater Planting
- Screen Mix: Forested Planting
- Screen Mix: Shrubby Planting
- Tree / Shrub Planting Clusters
- Proposed Trees - Deciduous and Evergreen
- Landscape Bed - Shrubs, Groundcover, Mulch
- Existing tree to remain
- Upland Forest
- Riparian Forest
- Hedgerow Planting Area

THIS DRAWING IS AN UPDATE TO 00-LU-302. SEE DRAWINGS 00-LU-409, 00-LU-410, AND 00-LU-411 FOR PLANTING INFORMATION.

Site North

No	Date	Description	Appd
CF	05/10/24	For Conformed Documents	MRG
Revision			
Survey			

Stantec

Designed By	NNA	Design Mgr	XXX
Drawn By	NNA	Const Mgr	XXX
Checked By	NNA	CM/I Engr Mgr	XXX
Project Mgr	XXX	Date	XX/XX/XX

Warning
0 1/2 1
If this bar does not measure 1" then the drawing is not to scale

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

David W. Peters, Engineering Manager, PE No 16683 — Date

CITY OF PORTLAND, OREGON 1851

Bull Run Filtration Facility

Land Use Plans

Proposed Conditions Site Plan

SAP Project No W02229
1/4 Section -
Sheet No 00-LU-302

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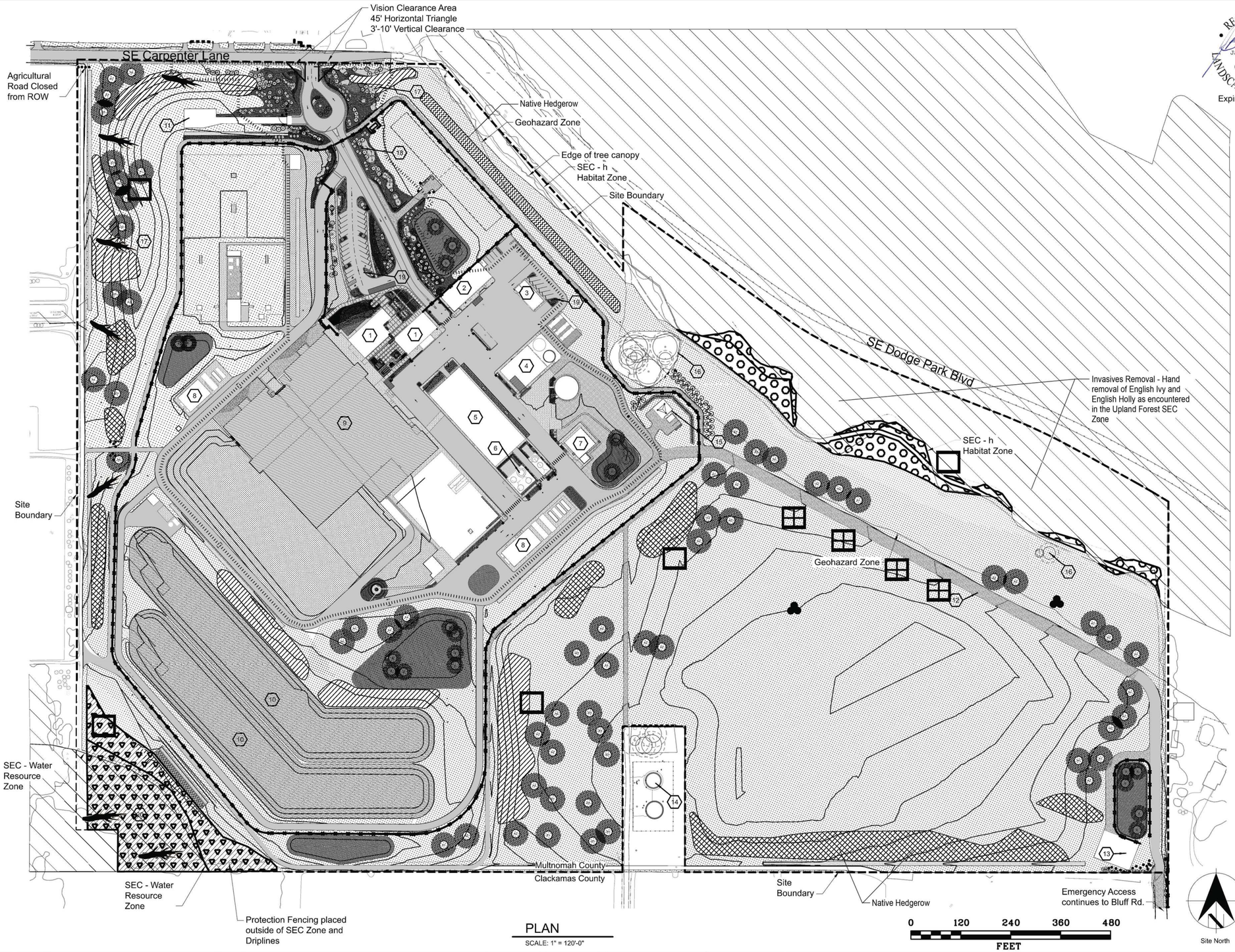
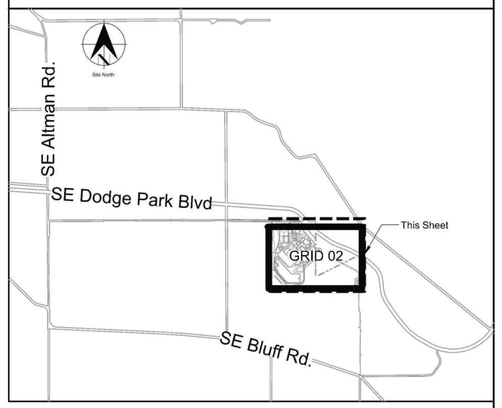


PLAN
SCALE: 1" = 120'-0"

REGISTERED LANDSCAPE ARCHITECT
Jason Hirst
OREGON
02/20/2014
Expires: 02/28/26

KEY PLAN



Sheet Keynotes

1. Administration Building
2. Maintenance Building
3. General Storage Building
4. Mechanical Dewatering Bldg.
5. Chemical Building
6. Chemical Storage Tanks
7. Washwater Clarification
8. Electric Building
9. Filtration Basins
10. Overflow Basins
11. Pleasant Home Pumpstation
12. Emergency Access Route
13. Raw Water Pipeline Cover (At-Grade)
14. Pleasant Home Water Towers (Off-Site)
15. Communication Tower Area (See Planting Note 1)
16. Existing Trees to Remain
17. Planted Berm for Screening
18. Plantings at Facility Entry (See Planting Note 2)
19. Parking Area plantings (See Planting Note 3)
20. SEC Water Resource Area (See Planting Note 4)

Planting Notes

1. Communication Tower Area planting is designed to meet screening and parking requirements. See sheet LU-403 for enlargment and more detail on specific requirements.
2. Plantings around facility buildings are of a more ornamental nature and are proposed as containerized plants which will have supplemental irrigation. See sheet LU-400,401 and 402 for enlargements to see plant sizes and locations in this area. Additional seeded areas shown within facility also may recieve supplemental irrigation as a fire risk mitigation measure. See outlined area.
3. Parking Area plantings - See sheets LU-400 and LU-402 for enlargments to see locations of parking islands with plant sizes to meet parking lot planting requirements and listed by Multnomah County.
4. SEC Water Resource Area - This area is currently under agricultrual use and has bare soil. Proposed plans have no additional disturbance within this zone. Proposed plantings to be all native species installed with hand tools only.

General Sheet Notes

1. No development or construction activity proposed within SEC zones on Filtration Site. Native plantings only within these zones.

Legend

- Asphalt Paving
- Concrete Paving
- Gravel Paving
- Basins
- Facility Fenceline
- Areas to recieve supplemental irrigation
- Native Grass / Forb Mixes
- Upland Forest
- Riparian Forest
- Hedgerow Planting Area
- Blue Bird Boxes
- Bat Boxes
- Swale Planting
- Stormwater Planting
- Screen Mix: Forested Planting
- Screen Mix: Shrubby Planting
- Tree / Shrub Planting Clusters
- Proposed Trees - Deciduous and Evergreen
- Landscape Bed - Shrubs, Groundcover, Mulch
- Existing tree to remain
- Significant Environmental Concern (SEC) Zone
- Rock Pile
- Log/Brush Piles

THIS DRAWING IS AN UPDATE TO 00-LU-306. SEE DRAWINGS 00-LU-409, 00-LU-410, AND 00-LU-411 FOR PLANTING INFORMATION.

No	Date	Description	Appd
CF	05/10/24	For Conformed Documents	MRG

Revision

Survey

Stantec

Designed By	NNA	Design Mgr	LSH
Drawn By	NNA	Const Mgr	TG
Checked By	NNA	CM/I Engr Mgr	JB
Project Mgr	MRG	Date	05/10/24

Warning
0 1/2 1
If this bar does not measure 1" then the drawing is not to scale

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

David W. Peters, Engineering Manager, PE No 16683 — Date

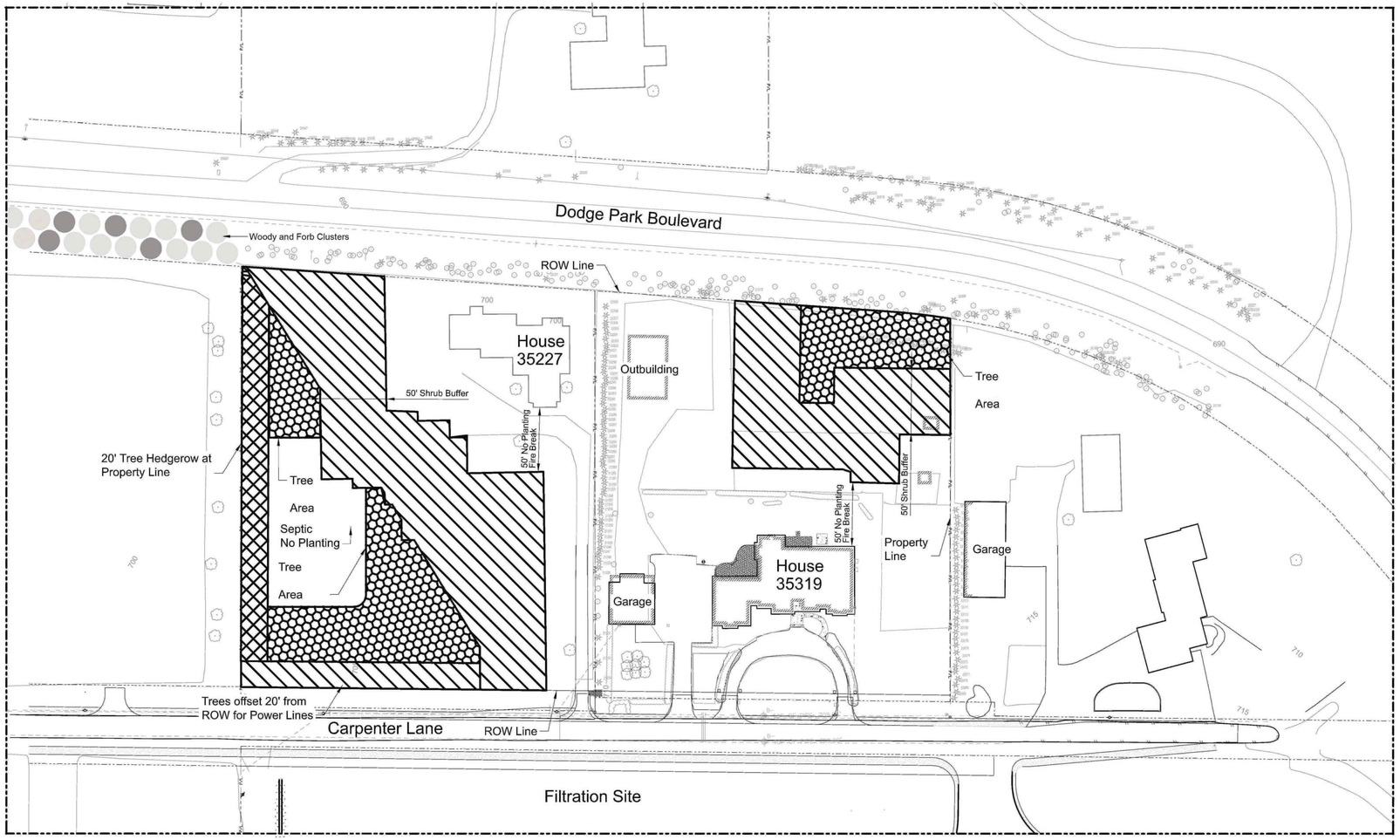
CITY OF PORTLAND, OREGON 1851

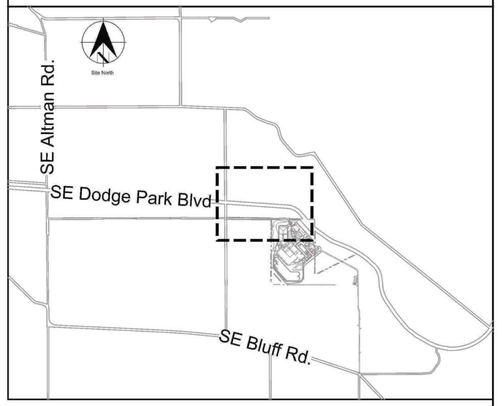
Bull Run Filtration Facility

Land Use Plans

Landscape Plan

SAP Project No
W02229
1/4 Section
-
Sheet No
00-LU-306
of





Planting Notes and Legend

planting areas are to be prepped and planted with the plant list below.
Any existing trees that remiain on site at the time of planting will be left in place and planted around.
A temporary irrigation system will be installed to provide irrigation to establishment of all plants.

Remaining habitable structures will maintain a 50' Wide Non-planted Firebreak

50' Wide Shrub Buffer Planting Area Offset 50' from Habitable Structures To be planted with Mix without tree component. 398 Shrubs per 10,000 S.F.	43,453 S.F. 1730 Shrubs	
Tree Area Offset 100' from Habitable Structures To be planted with Mix with both shrub and tree components. 39 Trees per 10,000 S.F. 398 Shrubs per 10,000 S.F.	18,158 S.F. 723 Shrubs 71 Trees	
Tree Hedgerow Area To be planted with Tree Hedgerow Mix Tree plantings only 72 Trees per 10,000 S.F.	5,702 S.F. 41 Trees	

Total
2,453 Shrub Plantings
112 Tree Plantings

Planting Mix

Planting			
Botanical Name	**Common Name**	**Plant Size**	**Composition**
Trees			
Abies grandis	Grand Fir	6' Height B&B	10/10,000 sf
Acer macrophyllum	Bigleaf Maple	1.5" Cal. B&B	3/10,000 sf
Calocedrus decurrens	Incense Cedar	6' Height B&B	3/10,000 sf
Larix occidentalis	Western Larch	6' Height B&B	1/10,000 sf
Pinus ponderosa	Ponderosa Pine	6' Height B&B	10/10,000 sf
Pseudotsuga menziesii	Douglas Fir	6' Height B&B	3/10,000 sf
Rhamnus purshiana	Cascara	1.5" Cal. B&B	6/10,000 sf
Salix scouleriana	Scouler's Willow	1.5" Cal. B&B	3/10,000 sf
Shrubs			
Mahonia aquifolium	Tall Oregon Grape	Bareroot	57/10,000 sf
Oemleria cerasiformis	Osoberry	Bareroot	28/10,000 sf
Physocarpus capitatus	Pacific ninebark	Bareroot	57/10,000 sf
Polystichum munitum	Swordfern	Bareroot	28/10,000 sf
Rubus parviflorus	Thimbleberry	Bareroot	57/10,000 sf
Rosa pisocarpa	Swamp Rose	Bareroot	57/10,000 sf
Spiraea douglasii	Douglas Spiraea	Bareroot	57/10,000 sf
Symphoricarpos albus	Snowberry	Bareroot	57/10,000 sf

Tree Hedgerow Mix

Botanical Name	Common Name	Size	Composition
Abies grandis	Grand Fir	8' Ht.	20/10,000 sf
Acer macrophyllum	Bigleaf Maple	1.5" Cal.	6/10,000 sf
Calocedrus decurrens	Incense Cedar	8' Ht.	20/10,000 sf
Pinus ponderosa	Ponderosa Pine	8' Ht.	20/10,000 sf
Pseudotsuga menziesii	Douglas Fir	8' Ht.	6/10,000 sf
Rhamnus purshiana	Cascara	1.5" Cal	6/10,000 sf

REGISTERED 0823 JASON HAST OREGON 02/20/2014 LANDSCAPE ARCHITECT
Expires: 02/28/26

0 50 100 150 200
FEET

Site North

Plot Date: 29-APR-2025 14:09 User: jason File: W02229-FF-00-LU-40x.dgn Model: Layout1 ColorTable: user attached from dialog DesignScript: PWB_PenTable.pen PlotScale: 1:0.0833333

No	Date	Description	Appd
CF	05/10/24	For Conformed Documents	MRG
Survey			

Revision

Stantec

Designed By	NNA	Design Mgr	XXX
Drawn By	NNA	Const Mgr	XXX
Checked By	NNA	CM/I Engr Mgr	XXX
Project Mgr	XXX	Date	05/10/24

Warning
0 1/2 1
If this bar does not measure 1" then the drawing is not to scale

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

David W. Peters, Engineering Manager, PE No 16683 — Date

CITY OF PORTLAND, OREGON 1851

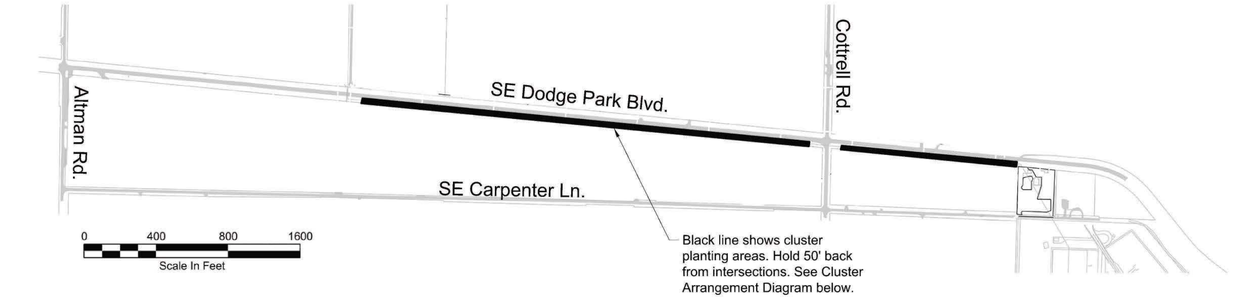
Bull Run Filtration Facility

Land Use Plans

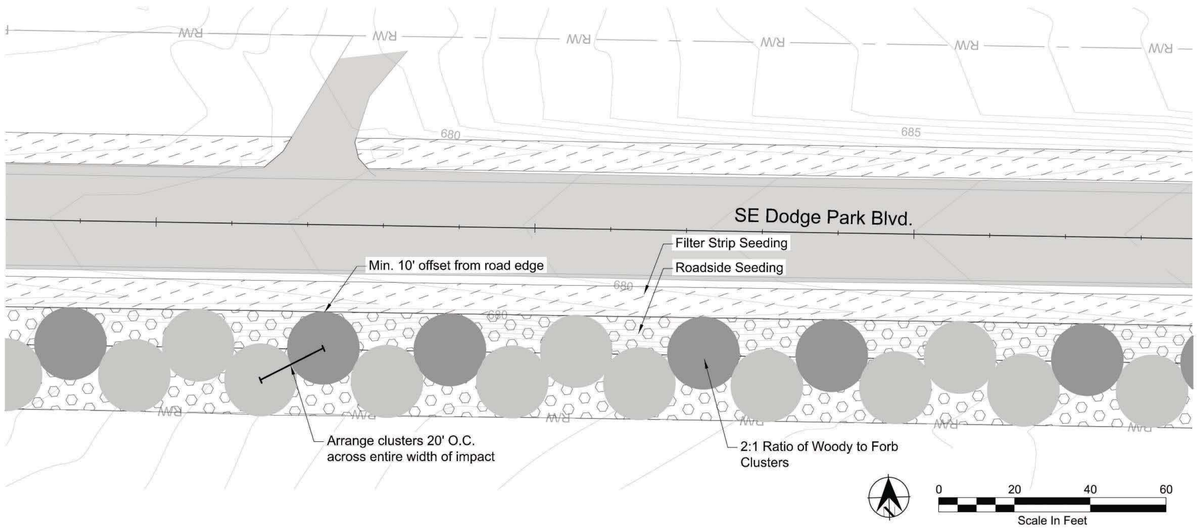
Carpenter Lane

SAP Project No
W02229
1/4 Section
-
Sheet No
00-LU-412

Pollinator Clusters Planting Areas - Approx. 146,000 S.F.



Cluster Arrangement Diagram



Note: All areas of construction along Dodge Park Boulevard shall be reseeded. See seed lists on this sheet for mixes to be used in this area.

Forb Clusters - See Plant Schedule and Layout This Sheet

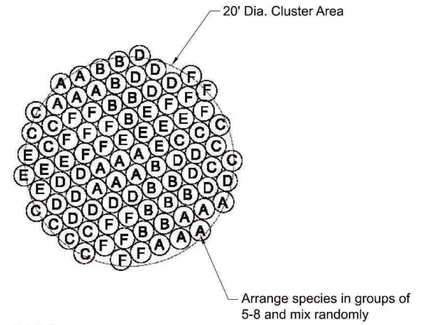
Woody Clusters - See Plant Schedule and Layout This Sheet

Plant Schedules

Woody Clusters				~92 @24" O.C.
Botanical Name	**Common Name**	**Size**	**Spacing**	**Stems per cluster**
Ceanothus velutinus	Snowbrush	12"-18" Bareroot	24" O.C.	16
Rosa nutkana	Nootka Rose	12"-18" Bareroot	24" O.C.	15
Rosa pisocarpa	Swamp Rose	12"-18" Bareroot	24" O.C.	15
Rubus parviflorus	Thimbleberry	12"-18" Bareroot	24" O.C.	16
Sambucus cerulea	Blue Elderberry	12"-18" Bareroot	24" O.C.	16
Spiraea douglasii	Douglas Spirea	12"-18" Bareroot	24" O.C.	16

Forb Clusters				
Botanical Name	**Common Name**	**Size**	**Spacing**	**Stems per cluster**
Anaphalis margaritacea	Pearly Everlasting	Bareroot	24" O.C.	15
Asclepias speciosa	Milkweed	Bareroot	24" O.C.	16
Lupinus polyphyllus	Bigleaf Lupine	Bareroot	24" O.C.	16
Prunella vulgaris ssp. Lanceolata	Self-Heal	Bareroot	24" O.C.	16
Sidalcea campestris	Meadow Checkermallow	Bareroot	24" O.C.	16
Solidago canadensis	Goldenrod	Bareroot	24" O.C.	15

Plant Layout



Seed Lists

Roadside Seeding		43.5 lbs/acre
Botanical Name	**Common Name**	**% by weight**
Festuca rubra var. sealink	Sealink Creeping Red Fescue	55.0%
Festuca ovina var. azay blue	Azay Blue Sheep Fescue	18.0%
Trifolium fragiferum	Strawberry Clover	8.0%
Nemophila menziesii	Baby Blue Eyes	5.0%
Limnanthes douglasii	Douglas' Meadowfoam	4.0%
Armeria maritima	Thrift Seapink	2.0%
Trifolium repens var Microclover	Microclover	3.0%
Lobularia maritima	Sweet Alyssum Carpet of Snow	2.5%
Achillea millefolium	Common Yarrow	1.5%
Bellis perennis	Lawndaisy	1.0%

Filter Strip Seeding		130.6 lbs/acre
Botanical Name	**Common Name**	**% by weight**
Hordeum vulgare var Poco	Poco Barley	40.0%
Hordeum brachyantherum	Meadow Barley	28.0%
Bromus carinatus	California Brome	18.0%
Festuca idahoensis romerii	Roemer's Fescue	5.5%
Trifolium fragiferum	Strawberry Clover	4.0%
Clarkia amonea	Farewell to Spring	1.5%
Oenothera elata hookeri	Hooker's Evening Primrose	1.5%
Deschampsia cespitosa	Tufted Hairgrass	1.0%
Agrostis exerata	Spike Bentgrass	0.5%

REGISTERED 0821 Jason Rust OREGON 02/20/2014 LANDSCAPE ARCHITECT
Expires: 02/28/26

No	Date	Description	Appd
CF	05/10/24	For Conformed Documents	MRG
		Revision	
Survey			

Stantec

Designed By	NNA	Design Mgr	XXX
Drawn By	NNA	Const Mgr	XXX
Checked By	NNA	CM/I Engr Mgr	XXX
Project Mgr	XXX	Date	05/10/24

Warning
0 1/2 1
If this bar does not measure 1" then the drawing is not to scale

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

David W. Peters, Engineering Manager, PE No 16683 — Date

CITY OF PORTLAND, OREGON 1851

Bull Run Filtration Facility

Land Use Plans

Dodge Park Roadside Clusters

SAP Project No: W02229
1/4 Section: -
Sheet No: 00-LU-413

Plot Date: 2-MAY-2025 11:23 User: jason File: W02229-FF-00-LU-40xb.dgn Model: Layout1 ColorTable: user attached from dialog DesignScript: PWB_PenTable.pen PlotScale: 1:0.0833333

Exhibit 2:

PWB Bird Surveys

Memorandum

Subject: Avian Survey Data

Date: May 5, 2025

To: Sarah Hartung, ESA

From: Jade Ujcic-Ashcroft | Terrestrial Wildlife Biologist

Environmental Information Division - Biological Sciences

City of Portland Bureau of Environmental Services

The following pages provide avian survey data related to the Bull Run Treatment Projects.

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Canada Goose	1	Bissell Property	Traveling	2/2/2024	9:15:00 AM	54 minute(s)	0.5 mile(s)		2	TRUE	12 species
Northern Flicker	2	Bissell Property	Traveling	2/2/2024	9:15:00 AM	54 minute(s)	0.5 mile(s)		2	TRUE	12 species
Steller's Jay	5	Bissell Property	Traveling	2/2/2024	9:15:00 AM	54 minute(s)	0.5 mile(s)		2	TRUE	12 species
Black-capped Chickadee	1	Bissell Property	Traveling	2/2/2024	9:15:00 AM	54 minute(s)	0.5 mile(s)		2	TRUE	12 species
Chestnut-backed Chickadee	1	Bissell Property	Traveling	2/2/2024	9:15:00 AM	54 minute(s)	0.5 mile(s)		2	TRUE	12 species
Brown Creeper	1	Bissell Property	Traveling	2/2/2024	9:15:00 AM	54 minute(s)	0.5 mile(s)		2	TRUE	12 species
Pacific Wren	1	Bissell Property	Traveling	2/2/2024	9:15:00 AM	54 minute(s)	0.5 mile(s)		2	TRUE	12 species
European Starling	2	Bissell Property	Traveling	2/2/2024	9:15:00 AM	54 minute(s)	0.5 mile(s)		2	TRUE	12 species
American Robin	8	Bissell Property	Traveling	2/2/2024	9:15:00 AM	54 minute(s)	0.5 mile(s)		2	TRUE	12 species
Dark-eyed Junco	4	Bissell Property	Traveling	2/2/2024	9:15:00 AM	54 minute(s)	0.5 mile(s)		2	TRUE	12 species
Golden-crowned Sparrow	1	Bissell Property	Traveling	2/2/2024	9:15:00 AM	54 minute(s)	0.5 mile(s)		2	TRUE	12 species
Spotted Towhee	2	Bissell Property	Traveling	2/2/2024	9:15:00 AM	54 minute(s)	0.5 mile(s)		2	TRUE	12 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Steller's Jay	1	Bissell Property	Stationary	2/13/2024	8:13:00 AM	8 minute(s)			2	TRUE	3 species
European Starling	2	Bissell Property	Stationary	2/13/2024	8:13:00 AM	8 minute(s)			2	TRUE	3 species
American Robin	1	Bissell Property	Stationary	2/13/2024	8:13:00 AM	8 minute(s)			2	TRUE	3 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Great Blue Heron	1	Dodge Park Blvd / SE Cottrell Rd	Traveling	2/13/2024	8:34:00 AM	23 minute(s)	0.001 mile(s)		2	FALSE	12 species
Northern Flicker	2	Dodge Park Blvd / SE Cottrell Rd	Traveling	2/13/2024	8:34:00 AM	23 minute(s)	0.001 mile(s)		2	FALSE	12 species
Steller's Jay	2	Dodge Park Blvd / SE Cottrell Rd	Traveling	2/13/2024	8:34:00 AM	23 minute(s)	0.001 mile(s)		2	FALSE	12 species
California Scrub-Jay	1	Dodge Park Blvd / SE Cottrell Rd	Traveling	2/13/2024	8:34:00 AM	23 minute(s)	0.001 mile(s)		2	FALSE	12 species
American Crow	2	Dodge Park Blvd / SE Cottrell Rd	Traveling	2/13/2024	8:34:00 AM	23 minute(s)	0.001 mile(s)		2	FALSE	12 species
Black-capped Chickadee	2	Dodge Park Blvd / SE Cottrell Rd	Traveling	2/13/2024	8:34:00 AM	23 minute(s)	0.001 mile(s)		2	FALSE	12 species
Chestnut-backed Chickadee	2	Dodge Park Blvd / SE Cottrell Rd	Traveling	2/13/2024	8:34:00 AM	23 minute(s)	0.001 mile(s)		2	FALSE	12 species
Golden-crowned Kinglet	1	Dodge Park Blvd / SE Cottrell Rd	Traveling	2/13/2024	8:34:00 AM	23 minute(s)	0.001 mile(s)		2	FALSE	12 species
Red-breasted Nuthatch	2	Dodge Park Blvd / SE Cottrell Rd	Traveling	2/13/2024	8:34:00 AM	23 minute(s)	0.001 mile(s)		2	FALSE	12 species
European Starling	2	Dodge Park Blvd / SE Cottrell Rd	Traveling	2/13/2024	8:34:00 AM	23 minute(s)	0.001 mile(s)		2	FALSE	12 species
Dark-eyed Junco	12	Dodge Park Blvd / SE Cottrell Rd	Traveling	2/13/2024	8:34:00 AM	23 minute(s)	0.001 mile(s)		2	FALSE	12 species
Spotted Towhee	1	Dodge Park Blvd / SE Cottrell Rd	Traveling	2/13/2024	8:34:00 AM	23 minute(s)	0.001 mile(s)		2	FALSE	12 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Canada Goose	7	PWB Filtration Plant	Traveling	2/13/2024	9:09:00 AM	50 minute(s)	1.15 mile(s)		2	TRUE	9 species
Northern Flicker	3	PWB Filtration Plant	Traveling	2/13/2024	9:09:00 AM	50 minute(s)	1.15 mile(s)		2	TRUE	9 species
Steller's Jay	1	PWB Filtration Plant	Traveling	2/13/2024	9:09:00 AM	50 minute(s)	1.15 mile(s)		2	TRUE	9 species
European Starling	60	PWB Filtration Plant	Traveling	2/13/2024	9:09:00 AM	50 minute(s)	1.15 mile(s)		2	TRUE	9 species
American Robin	10	PWB Filtration Plant	Traveling	2/13/2024	9:09:00 AM	50 minute(s)	1.15 mile(s)		2	TRUE	9 species
Dark-eyed Junco	80	PWB Filtration Plant	Traveling	2/13/2024	9:09:00 AM	50 minute(s)	1.15 mile(s)		2	TRUE	9 species
Golden-crowned Sparrow	15	PWB Filtration Plant	Traveling	2/13/2024	9:09:00 AM	50 minute(s)	1.15 mile(s)		2	TRUE	9 species
Song Sparrow	1	PWB Filtration Plant	Traveling	2/13/2024	9:09:00 AM	50 minute(s)	1.15 mile(s)		2	TRUE	9 species
Lincoln's Sparrow	1	PWB Filtration Plant	Traveling	2/13/2024	9:09:00 AM	50 minute(s)	1.15 mile(s)		2	TRUE	9 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Great Blue Heron	1	Dodge Park Blvd / SE Cottrell Rd	Stationary	2/26/2024	8:27:00 AM	20 minute(s)			2	TRUE	6 species
Northern Flicker	1	Dodge Park Blvd / SE Cottrell Rd	Stationary	2/26/2024	8:27:00 AM	20 minute(s)			2	TRUE	6 species
European Starling	2	Dodge Park Blvd / SE Cottrell Rd	Stationary	2/26/2024	8:27:00 AM	20 minute(s)			2	TRUE	6 species
American Robin	2	Dodge Park Blvd / SE Cottrell Rd	Stationary	2/26/2024	8:27:00 AM	20 minute(s)			2	TRUE	6 species
House Finch	2	Dodge Park Blvd / SE Cottrell Rd	Stationary	2/26/2024	8:27:00 AM	20 minute(s)			2	TRUE	6 species
Red Crossbill	1	Dodge Park Blvd / SE Cottrell Rd	Stationary	2/26/2024	8:27:00 AM	20 minute(s)			2	TRUE	6 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
California Scrub-Jay	2	SE Carpenter Ln	Traveling	2/26/2024	8:48:00 AM	33 minute(s)	1.604 mile(s)		2	TRUE	8 species
Black-capped Chickadee	1	SE Carpenter Ln	Traveling	2/26/2024	8:48:00 AM	33 minute(s)	1.604 mile(s)		2	TRUE	8 species
Varied Thrush	1	SE Carpenter Ln	Traveling	2/26/2024	8:48:00 AM	33 minute(s)	1.604 mile(s)		2	TRUE	8 species
American Robin	8	SE Carpenter Ln	Traveling	2/26/2024	8:48:00 AM	33 minute(s)	1.604 mile(s)		2	TRUE	8 species
House Finch	2	SE Carpenter Ln	Traveling	2/26/2024	8:48:00 AM	33 minute(s)	1.604 mile(s)		2	TRUE	8 species
Dark-eyed Junco	8	SE Carpenter Ln	Traveling	2/26/2024	8:48:00 AM	33 minute(s)	1.604 mile(s)		2	TRUE	8 species
Golden-crowned Sparrow	2	SE Carpenter Ln	Traveling	2/26/2024	8:48:00 AM	33 minute(s)	1.604 mile(s)		2	TRUE	8 species
Spotted Towhee	1	SE Carpenter Ln	Traveling	2/26/2024	8:48:00 AM	33 minute(s)	1.604 mile(s)		2	TRUE	8 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
American Crow	1	PWB Filtration Plant	Traveling	2/26/2024	10:00:00 AM	35 minute(s)	0.25 mile(s)		2	TRUE	5 species
European Starling	4	PWB Filtration Plant	Traveling	2/26/2024	10:00:00 AM	35 minute(s)	0.25 mile(s)		2	TRUE	5 species
American Robin	2	PWB Filtration Plant	Traveling	2/26/2024	10:00:00 AM	35 minute(s)	0.25 mile(s)		2	TRUE	5 species
Dark-eyed Junco	40	PWB Filtration Plant	Traveling	2/26/2024	10:00:00 AM	35 minute(s)	0.25 mile(s)		2	TRUE	5 species
Golden-crowned Sparrow	15	PWB Filtration Plant	Traveling	2/26/2024	10:00:00 AM	35 minute(s)	0.25 mile(s)		2	TRUE	5 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Vaux's Swift	2	PWB Filtration Plant	Traveling	5/2/2024	9:12:00 AM	52 minute(s)	0.51 mile(s)		1	TRUE	20 species
Great Blue Heron	1	PWB Filtration Plant	Traveling	5/2/2024	9:12:00 AM	52 minute(s)	0.51 mile(s)		1	TRUE	20 species
Bald Eagle	1	PWB Filtration Plant	Traveling	5/2/2024	9:12:00 AM	52 minute(s)	0.51 mile(s)		1	TRUE	20 species
California Scrub-Jay	3	PWB Filtration Plant	Traveling	5/2/2024	9:12:00 AM	52 minute(s)	0.51 mile(s)		1	TRUE	20 species
Violet-green Swallow	1	PWB Filtration Plant	Traveling	5/2/2024	9:12:00 AM	52 minute(s)	0.51 mile(s)		1	TRUE	20 species
Ruby-crowned Kinglet	2	PWB Filtration Plant	Traveling	5/2/2024	9:12:00 AM	52 minute(s)	0.51 mile(s)		1	TRUE	20 species
European Starling	6	PWB Filtration Plant	Traveling	5/2/2024	9:12:00 AM	52 minute(s)	0.51 mile(s)		1	TRUE	20 species
American Robin	6	PWB Filtration Plant	Traveling	5/2/2024	9:12:00 AM	52 minute(s)	0.51 mile(s)		1	TRUE	20 species
House Finch	1	PWB Filtration Plant	Traveling	5/2/2024	9:12:00 AM	52 minute(s)	0.51 mile(s)		1	TRUE	20 species
Purple Finch	1	PWB Filtration Plant	Traveling	5/2/2024	9:12:00 AM	52 minute(s)	0.51 mile(s)		1	TRUE	20 species
Pine Siskin	2	PWB Filtration Plant	Traveling	5/2/2024	9:12:00 AM	52 minute(s)	0.51 mile(s)		1	TRUE	20 species
Lesser Goldfinch	1	PWB Filtration Plant	Traveling	5/2/2024	9:12:00 AM	52 minute(s)	0.51 mile(s)		1	TRUE	20 species
American Goldfinch	12	PWB Filtration Plant	Traveling	5/2/2024	9:12:00 AM	52 minute(s)	0.51 mile(s)		1	TRUE	20 species
Chipping Sparrow	2	PWB Filtration Plant	Traveling	5/2/2024	9:12:00 AM	52 minute(s)	0.51 mile(s)		1	TRUE	20 species
White-crowned Sparrow	7	PWB Filtration Plant	Traveling	5/2/2024	9:12:00 AM	52 minute(s)	0.51 mile(s)		1	TRUE	20 species
Golden-crowned Sparrow	1	PWB Filtration Plant	Traveling	5/2/2024	9:12:00 AM	52 minute(s)	0.51 mile(s)		1	TRUE	20 species
Lincoln's Sparrow	2	PWB Filtration Plant	Traveling	5/2/2024	9:12:00 AM	52 minute(s)	0.51 mile(s)		1	TRUE	20 species
Spotted Towhee	1	PWB Filtration Plant	Traveling	5/2/2024	9:12:00 AM	52 minute(s)	0.51 mile(s)		1	TRUE	20 species
Brown-headed Cowbird	1	PWB Filtration Plant	Traveling	5/2/2024	9:12:00 AM	52 minute(s)	0.51 mile(s)		1	TRUE	20 species
Yellow-rumped Warbler	6	PWB Filtration Plant	Traveling	5/2/2024	9:12:00 AM	52 minute(s)	0.51 mile(s)		1	TRUE	20 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Mourning Dove	2	SE Carpenter Ln	Traveling	5/2/2024	11:16:00 AM	9 minute(s)	0.58 mile(s)		1	TRUE	15 species
Anna's Hummingbird	1	SE Carpenter Ln	Traveling	5/2/2024	11:16:00 AM	9 minute(s)	0.58 mile(s)		1	TRUE	15 species
Rufous Hummingbird	2	SE Carpenter Ln	Traveling	5/2/2024	11:16:00 AM	9 minute(s)	0.58 mile(s)		1	TRUE	15 species
Bald Eagle	2	SE Carpenter Ln	Traveling	5/2/2024	11:16:00 AM	9 minute(s)	0.58 mile(s)		1	TRUE	15 species
California Scrub-Jay	1	SE Carpenter Ln	Traveling	5/2/2024	11:16:00 AM	9 minute(s)	0.58 mile(s)		1	TRUE	15 species
Black-capped Chickadee	2	SE Carpenter Ln	Traveling	5/2/2024	11:16:00 AM	9 minute(s)	0.58 mile(s)		1	TRUE	15 species
Violet-green Swallow	4	SE Carpenter Ln	Traveling	5/2/2024	11:16:00 AM	9 minute(s)	0.58 mile(s)		1	TRUE	15 species
European Starling	2	SE Carpenter Ln	Traveling	5/2/2024	11:16:00 AM	9 minute(s)	0.58 mile(s)		1	TRUE	15 species
American Robin	2	SE Carpenter Ln	Traveling	5/2/2024	11:16:00 AM	9 minute(s)	0.58 mile(s)		1	TRUE	15 species
House Finch	1	SE Carpenter Ln	Traveling	5/2/2024	11:16:00 AM	9 minute(s)	0.58 mile(s)		1	TRUE	15 species
Purple Finch	1	SE Carpenter Ln	Traveling	5/2/2024	11:16:00 AM	9 minute(s)	0.58 mile(s)		1	TRUE	15 species
Pine Siskin	4	SE Carpenter Ln	Traveling	5/2/2024	11:16:00 AM	9 minute(s)	0.58 mile(s)		1	TRUE	15 species
American Goldfinch	3	SE Carpenter Ln	Traveling	5/2/2024	11:16:00 AM	9 minute(s)	0.58 mile(s)		1	TRUE	15 species
Spotted Towhee	1	SE Carpenter Ln	Traveling	5/2/2024	11:16:00 AM	9 minute(s)	0.58 mile(s)		1	TRUE	15 species
Red-winged Blackbird	1	SE Carpenter Ln	Traveling	5/2/2024	11:16:00 AM	9 minute(s)	0.58 mile(s)		1	TRUE	15 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Vaux's Swift	3	SE Carpenter Ln	Traveling	5/13/2024	8:10:00 AM	30 minute(s)	0.25 mile(s)		2	TRUE	17 species
Anna's Hummingbird	1	SE Carpenter Ln	Traveling	5/13/2024	8:10:00 AM	30 minute(s)	0.25 mile(s)		2	TRUE	17 species
Black-capped Chickadee	1	SE Carpenter Ln	Traveling	5/13/2024	8:10:00 AM	30 minute(s)	0.25 mile(s)		2	TRUE	17 species
Violet-green Swallow	4	SE Carpenter Ln	Traveling	5/13/2024	8:10:00 AM	30 minute(s)	0.25 mile(s)		2	TRUE	17 species
European Starling	3	SE Carpenter Ln	Traveling	5/13/2024	8:10:00 AM	30 minute(s)	0.25 mile(s)		2	TRUE	17 species
American Robin	5	SE Carpenter Ln	Traveling	5/13/2024	8:10:00 AM	30 minute(s)	0.25 mile(s)		2	TRUE	17 species
Evening Grosbeak	12	SE Carpenter Ln	Traveling	5/13/2024	8:10:00 AM	30 minute(s)	0.25 mile(s)		2	TRUE	17 species
House Finch	3	SE Carpenter Ln	Traveling	5/13/2024	8:10:00 AM	30 minute(s)	0.25 mile(s)		2	TRUE	17 species
Pine Siskin	11	SE Carpenter Ln	Traveling	5/13/2024	8:10:00 AM	30 minute(s)	0.25 mile(s)		2	TRUE	17 species
American Goldfinch	3	SE Carpenter Ln	Traveling	5/13/2024	8:10:00 AM	30 minute(s)	0.25 mile(s)		2	TRUE	17 species
Chipping Sparrow	1	SE Carpenter Ln	Traveling	5/13/2024	8:10:00 AM	30 minute(s)	0.25 mile(s)		2	TRUE	17 species
Dark-eyed Junco	2	SE Carpenter Ln	Traveling	5/13/2024	8:10:00 AM	30 minute(s)	0.25 mile(s)		2	TRUE	17 species
Spotted Towhee	3	SE Carpenter Ln	Traveling	5/13/2024	8:10:00 AM	30 minute(s)	0.25 mile(s)		2	TRUE	17 species
Bullock's Oriole	1	SE Carpenter Ln	Traveling	5/13/2024	8:10:00 AM	30 minute(s)	0.25 mile(s)		2	TRUE	17 species
Brown-headed Cowbird	3	SE Carpenter Ln	Traveling	5/13/2024	8:10:00 AM	30 minute(s)	0.25 mile(s)		2	TRUE	17 species
Brewer's Blackbird	1	SE Carpenter Ln	Traveling	5/13/2024	8:10:00 AM	30 minute(s)	0.25 mile(s)		2	TRUE	17 species
Black-headed Grosbeak	2	SE Carpenter Ln	Traveling	5/13/2024	8:10:00 AM	30 minute(s)	0.25 mile(s)		2	TRUE	17 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
California Quail	1	PWB Filtration Plant	Traveling	5/13/2024	8:50:00 AM	3 hour(s), 43 minute(s)	2.61 mile(s)		1	TRUE	16 species
Band-tailed Pigeon	1	PWB Filtration Plant	Traveling	5/13/2024	8:50:00 AM	3 hour(s), 43 minute(s)	2.61 mile(s)		1	TRUE	16 species
Red-tailed Hawk	1	PWB Filtration Plant	Traveling	5/13/2024	8:50:00 AM	3 hour(s), 43 minute(s)	2.61 mile(s)		1	TRUE	16 species
Steller's Jay	2	PWB Filtration Plant	Traveling	5/13/2024	8:50:00 AM	3 hour(s), 43 minute(s)	2.61 mile(s)		1	TRUE	16 species
Northern Rough-winged Swallow	1	PWB Filtration Plant	Traveling	5/13/2024	8:50:00 AM	3 hour(s), 43 minute(s)	2.61 mile(s)		1	TRUE	16 species
Barn Swallow	3	PWB Filtration Plant	Traveling	5/13/2024	8:50:00 AM	3 hour(s), 43 minute(s)	2.61 mile(s)		1	TRUE	16 species
European Starling	6	PWB Filtration Plant	Traveling	5/13/2024	8:50:00 AM	3 hour(s), 43 minute(s)	2.61 mile(s)		1	TRUE	16 species
American Robin	2	PWB Filtration Plant	Traveling	5/13/2024	8:50:00 AM	3 hour(s), 43 minute(s)	2.61 mile(s)		1	TRUE	16 species
House Finch	2	PWB Filtration Plant	Traveling	5/13/2024	8:50:00 AM	3 hour(s), 43 minute(s)	2.61 mile(s)		1	TRUE	16 species
Purple Finch	1	PWB Filtration Plant	Traveling	5/13/2024	8:50:00 AM	3 hour(s), 43 minute(s)	2.61 mile(s)		1	TRUE	16 species
Pine Siskin	75	PWB Filtration Plant	Traveling	5/13/2024	8:50:00 AM	3 hour(s), 43 minute(s)	2.61 mile(s)		1	TRUE	16 species
American Goldfinch	32	PWB Filtration Plant	Traveling	5/13/2024	8:50:00 AM	3 hour(s), 43 minute(s)	2.61 mile(s)		1	TRUE	16 species
White-crowned Sparrow	7	PWB Filtration Plant	Traveling	5/13/2024	8:50:00 AM	3 hour(s), 43 minute(s)	2.61 mile(s)		1	TRUE	16 species
Song Sparrow	1	PWB Filtration Plant	Traveling	5/13/2024	8:50:00 AM	3 hour(s), 43 minute(s)	2.61 mile(s)		1	TRUE	16 species
Spotted Towhee	1	PWB Filtration Plant	Traveling	5/13/2024	8:50:00 AM	3 hour(s), 43 minute(s)	2.61 mile(s)		1	TRUE	16 species
Brown-headed Cowbird	2	PWB Filtration Plant	Traveling	5/13/2024	8:50:00 AM	3 hour(s), 43 minute(s)	2.61 mile(s)		1	TRUE	16 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Mourning Dove	1	PWB Filtration Plant	Traveling	5/21/2024	12:21:00 PM	3 hour(s), 26 minute(s)	1.449 mile(s)		1	TRUE	12 species
Bushtit	1	PWB Filtration Plant	Traveling	5/21/2024	12:21:00 PM	3 hour(s), 26 minute(s)	1.449 mile(s)		1	TRUE	12 species
European Starling	1	PWB Filtration Plant	Traveling	5/21/2024	12:21:00 PM	3 hour(s), 26 minute(s)	1.449 mile(s)		1	TRUE	12 species
American Robin	2	PWB Filtration Plant	Traveling	5/21/2024	12:21:00 PM	3 hour(s), 26 minute(s)	1.449 mile(s)		1	TRUE	12 species
Pine Siskin	32	PWB Filtration Plant	Traveling	5/21/2024	12:21:00 PM	3 hour(s), 26 minute(s)	1.449 mile(s)		1	TRUE	12 species
Lesser Goldfinch	10	PWB Filtration Plant	Traveling	5/21/2024	12:21:00 PM	3 hour(s), 26 minute(s)	1.449 mile(s)		1	TRUE	12 species
American Goldfinch	16	PWB Filtration Plant	Traveling	5/21/2024	12:21:00 PM	3 hour(s), 26 minute(s)	1.449 mile(s)		1	TRUE	12 species
Chipping Sparrow	1	PWB Filtration Plant	Traveling	5/21/2024	12:21:00 PM	3 hour(s), 26 minute(s)	1.449 mile(s)		1	TRUE	12 species
White-crowned Sparrow	4	PWB Filtration Plant	Traveling	5/21/2024	12:21:00 PM	3 hour(s), 26 minute(s)	1.449 mile(s)		1	TRUE	12 species
Savannah Sparrow	2	PWB Filtration Plant	Traveling	5/21/2024	12:21:00 PM	3 hour(s), 26 minute(s)	1.449 mile(s)		1	TRUE	12 species
Spotted Towhee	1	PWB Filtration Plant	Traveling	5/21/2024	12:21:00 PM	3 hour(s), 26 minute(s)	1.449 mile(s)		1	TRUE	12 species
Wilson's Warbler	1	PWB Filtration Plant	Traveling	5/21/2024	12:21:00 PM	3 hour(s), 26 minute(s)	1.449 mile(s)		1	TRUE	12 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
American Robin	2	SE Carpenter Ln	Traveling	5/21/2024	3:56:00 PM	8 minute(s)	0.197 mile(s)		2	TRUE	4 species
Evening Grosbeak	2	SE Carpenter Ln	Traveling	5/21/2024	3:56:00 PM	8 minute(s)	0.197 mile(s)		2	TRUE	4 species
House Finch	3	SE Carpenter Ln	Traveling	5/21/2024	3:56:00 PM	8 minute(s)	0.197 mile(s)		2	TRUE	4 species
White-crowned Sparrow	1	SE Carpenter Ln	Traveling	5/21/2024	3:56:00 PM	8 minute(s)	0.197 mile(s)		2	TRUE	4 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
California Quail	1	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
Band-tailed Pigeon	7	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
Vaux's Swift	3	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
Anna's Hummingbird	1	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
Turkey Vulture	1	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
Barn Swallow	1	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
Bewick's Wren	2	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
European Starling	2	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
American Robin	4	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
Evening Grosbeak	2	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
House Finch	2	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
Pine Siskin	1	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
Lesser Goldfinch	3	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
American Goldfinch	85	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
Chipping Sparrow	4	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
Dark-eyed Junco	1	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
White-crowned Sparrow	10	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
Savannah Sparrow	3	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
Song Sparrow	1	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
Black-throated Gray Warbler	1	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
Wilson's Warbler	3	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
Western Tanager	1	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species
Black-headed Grosbeak	3	PWB Filtration Plant	Traveling	5/29/2024	8:05:00 AM	4 hour(s), 57 minute(s)	4.74 mile(s)		1	TRUE	23 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Turkey Vulture	1	SE Carpenter Ln	Traveling	5/29/2024	8:26:00 AM	22 minute(s)	1.081 mile(s)		1	TRUE	8 species
Violet-green Swallow	2	SE Carpenter Ln	Traveling	5/29/2024	8:26:00 AM	22 minute(s)	1.081 mile(s)		1	TRUE	8 species
European Starling	2	SE Carpenter Ln	Traveling	5/29/2024	8:26:00 AM	22 minute(s)	1.081 mile(s)		1	TRUE	8 species
American Robin	1	SE Carpenter Ln	Traveling	5/29/2024	8:26:00 AM	22 minute(s)	1.081 mile(s)		1	TRUE	8 species
Purple Finch	1	SE Carpenter Ln	Traveling	5/29/2024	8:26:00 AM	22 minute(s)	1.081 mile(s)		1	TRUE	8 species
Song Sparrow	2	SE Carpenter Ln	Traveling	5/29/2024	8:26:00 AM	22 minute(s)	1.081 mile(s)		1	TRUE	8 species
Brown-headed Cowbird	1	SE Carpenter Ln	Traveling	5/29/2024	8:26:00 AM	22 minute(s)	1.081 mile(s)		1	TRUE	8 species
Black-headed Grosbeak	3	SE Carpenter Ln	Traveling	5/29/2024	8:26:00 AM	22 minute(s)	1.081 mile(s)		1	TRUE	8 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Vaux's Swift	2	PWB Filtration Plant	Traveling	5/30/2024	12:15:00 PM	2 hour(s), 12 minute(s)	1.77 mile(s)		1	TRUE	5 species
Tree Swallow	2	PWB Filtration Plant	Traveling	5/30/2024	12:15:00 PM	2 hour(s), 12 minute(s)	1.77 mile(s)		1	TRUE	5 species
American Goldfinch	2	PWB Filtration Plant	Traveling	5/30/2024	12:15:00 PM	2 hour(s), 12 minute(s)	1.77 mile(s)		1	TRUE	5 species
White-crowned Sparrow	2	PWB Filtration Plant	Traveling	5/30/2024	12:15:00 PM	2 hour(s), 12 minute(s)	1.77 mile(s)		1	TRUE	5 species
Savannah Sparrow	2	PWB Filtration Plant	Traveling	5/30/2024	12:15:00 PM	2 hour(s), 12 minute(s)	1.77 mile(s)		1	TRUE	5 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
California Quail	1	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
Band-tailed Pigeon	7	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
Vaux's Swift	2	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
Anna's Hummingbird	1	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
Turkey Vulture	1	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
Osprey	1	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
Cooper's Hawk	1	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
Red-tailed Hawk	1	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
Pileated Woodpecker	1	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
American Kestrel	1	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
Willow Flycatcher	1	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
California Scrub-Jay	1	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
Common Raven	1	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
Tree Swallow	1	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
Violet-green Swallow	2	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
Barn Swallow	2	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
European Starling	1	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
American Robin	5	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
Evening Grosbeak	2	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
House Finch	2	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
Purple Finch	1	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
Pine Siskin	2	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
Lesser Goldfinch	2	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
American Goldfinch	4	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
Chipping Sparrow	1	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
Dark-eyed Junco	1	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
White-crowned Sparrow	6	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
Savannah Sparrow	4	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species
Song Sparrow	1	PWB Filtration Plant	Traveling	5/31/2024	9:30:00 AM	3 hour(s), 59 minute(s)	2.145 mile(s)		2	TRUE	29 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Band-tailed Pigeon	2	PWB Filtration Plant	Traveling	6/3/2024	9:31:00 AM	4 hour(s), 22 minute(s)	2.364 mile(s)		2	TRUE	18 species
Vaux's Swift	4	PWB Filtration Plant	Traveling	6/3/2024	9:31:00 AM	4 hour(s), 22 minute(s)	2.364 mile(s)		2	TRUE	18 species
Turkey Vulture	2	PWB Filtration Plant	Traveling	6/3/2024	9:31:00 AM	4 hour(s), 22 minute(s)	2.364 mile(s)		2	TRUE	18 species
Red-tailed Hawk	1	PWB Filtration Plant	Traveling	6/3/2024	9:31:00 AM	4 hour(s), 22 minute(s)	2.364 mile(s)		2	TRUE	18 species
Northern Flicker	1	PWB Filtration Plant	Traveling	6/3/2024	9:31:00 AM	4 hour(s), 22 minute(s)	2.364 mile(s)		2	TRUE	18 species
American Kestrel	1	PWB Filtration Plant	Traveling	6/3/2024	9:31:00 AM	4 hour(s), 22 minute(s)	2.364 mile(s)		2	TRUE	18 species
Steller's Jay	1	PWB Filtration Plant	Traveling	6/3/2024	9:31:00 AM	4 hour(s), 22 minute(s)	2.364 mile(s)		2	TRUE	18 species
Common Raven	1	PWB Filtration Plant	Traveling	6/3/2024	9:31:00 AM	4 hour(s), 22 minute(s)	2.364 mile(s)		2	TRUE	18 species
Violet-green Swallow	22	PWB Filtration Plant	Traveling	6/3/2024	9:31:00 AM	4 hour(s), 22 minute(s)	2.364 mile(s)		2	TRUE	18 species
Barn Swallow	4	PWB Filtration Plant	Traveling	6/3/2024	9:31:00 AM	4 hour(s), 22 minute(s)	2.364 mile(s)		2	TRUE	18 species
European Starling	3	PWB Filtration Plant	Traveling	6/3/2024	9:31:00 AM	4 hour(s), 22 minute(s)	2.364 mile(s)		2	TRUE	18 species
Lesser Goldfinch	2	PWB Filtration Plant	Traveling	6/3/2024	9:31:00 AM	4 hour(s), 22 minute(s)	2.364 mile(s)		2	TRUE	18 species
American Goldfinch	28	PWB Filtration Plant	Traveling	6/3/2024	9:31:00 AM	4 hour(s), 22 minute(s)	2.364 mile(s)		2	TRUE	18 species
Chipping Sparrow	2	PWB Filtration Plant	Traveling	6/3/2024	9:31:00 AM	4 hour(s), 22 minute(s)	2.364 mile(s)		2	TRUE	18 species
White-crowned Sparrow	10	PWB Filtration Plant	Traveling	6/3/2024	9:31:00 AM	4 hour(s), 22 minute(s)	2.364 mile(s)		2	TRUE	18 species
Savannah Sparrow	2	PWB Filtration Plant	Traveling	6/3/2024	9:31:00 AM	4 hour(s), 22 minute(s)	2.364 mile(s)		2	TRUE	18 species
Wilson's Warbler	1	PWB Filtration Plant	Traveling	6/3/2024	9:31:00 AM	4 hour(s), 22 minute(s)	2.364 mile(s)		2	TRUE	18 species
Black-headed Grosbeak	1	PWB Filtration Plant	Traveling	6/3/2024	9:31:00 AM	4 hour(s), 22 minute(s)	2.364 mile(s)		2	TRUE	18 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Turkey Vulture	2	PWB Filtration Plant	Traveling	6/3/2024	9:52:00 AM	2 hour(s), 3 minute(s)	1.984 mile(s)		1	TRUE	6 species
Downy Woodpecker	1	PWB Filtration Plant	Traveling	6/3/2024	9:52:00 AM	2 hour(s), 3 minute(s)	1.984 mile(s)		1	TRUE	6 species
Violet-green Swallow	10	PWB Filtration Plant	Traveling	6/3/2024	9:52:00 AM	2 hour(s), 3 minute(s)	1.984 mile(s)		1	TRUE	6 species
American Goldfinch	30	PWB Filtration Plant	Traveling	6/3/2024	9:52:00 AM	2 hour(s), 3 minute(s)	1.984 mile(s)		1	TRUE	6 species
White-crowned Sparrow	4	PWB Filtration Plant	Traveling	6/3/2024	9:52:00 AM	2 hour(s), 3 minute(s)	1.984 mile(s)		1	TRUE	6 species
Savannah Sparrow	1	PWB Filtration Plant	Traveling	6/3/2024	9:52:00 AM	2 hour(s), 3 minute(s)	1.984 mile(s)		1	TRUE	6 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Turkey Vulture	2	PWB Filtration Plant	Traveling	6/4/2024	12:24:00 PM	3 hour(s), 5 minute(s)	1.409 mile(s)		1	TRUE	5 species
Red-tailed Hawk	2	PWB Filtration Plant	Traveling	6/4/2024	12:24:00 PM	3 hour(s), 5 minute(s)	1.409 mile(s)		1	TRUE	5 species
Violet-green Swallow	10	PWB Filtration Plant	Traveling	6/4/2024	12:24:00 PM	3 hour(s), 5 minute(s)	1.409 mile(s)		1	TRUE	5 species
American Goldfinch	20	PWB Filtration Plant	Traveling	6/4/2024	12:24:00 PM	3 hour(s), 5 minute(s)	1.409 mile(s)		1	TRUE	5 species
White-crowned Sparrow	3	PWB Filtration Plant	Traveling	6/4/2024	12:24:00 PM	3 hour(s), 5 minute(s)	1.409 mile(s)		1	TRUE	5 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Vaux's Swift	1	PWB Filtration Plant	Traveling	6/5/2024	10:57:00 AM	3 hour(s), 49 minute(s)	1.76 mile(s)		1	TRUE	15 species
Anna's Hummingbird	1	PWB Filtration Plant	Traveling	6/5/2024	10:57:00 AM	3 hour(s), 49 minute(s)	1.76 mile(s)		1	TRUE	15 species
Turkey Vulture	1	PWB Filtration Plant	Traveling	6/5/2024	10:57:00 AM	3 hour(s), 49 minute(s)	1.76 mile(s)		1	TRUE	15 species
Red-tailed Hawk	1	PWB Filtration Plant	Traveling	6/5/2024	10:57:00 AM	3 hour(s), 49 minute(s)	1.76 mile(s)		1	TRUE	15 species
Western Wood-Pewee	1	PWB Filtration Plant	Traveling	6/5/2024	10:57:00 AM	3 hour(s), 49 minute(s)	1.76 mile(s)		1	TRUE	15 species
Willow Flycatcher	2	PWB Filtration Plant	Traveling	6/5/2024	10:57:00 AM	3 hour(s), 49 minute(s)	1.76 mile(s)		1	TRUE	15 species
Warbling Vireo	1	PWB Filtration Plant	Traveling	6/5/2024	10:57:00 AM	3 hour(s), 49 minute(s)	1.76 mile(s)		1	TRUE	15 species
Violet-green Swallow	2	PWB Filtration Plant	Traveling	6/5/2024	10:57:00 AM	3 hour(s), 49 minute(s)	1.76 mile(s)		1	TRUE	15 species
Purple Martin	1	PWB Filtration Plant	Traveling	6/5/2024	10:57:00 AM	3 hour(s), 49 minute(s)	1.76 mile(s)		1	TRUE	15 species
Bewick's Wren	1	PWB Filtration Plant	Traveling	6/5/2024	10:57:00 AM	3 hour(s), 49 minute(s)	1.76 mile(s)		1	TRUE	15 species
Red Crossbill	2	PWB Filtration Plant	Traveling	6/5/2024	10:57:00 AM	3 hour(s), 49 minute(s)	1.76 mile(s)		1	TRUE	15 species
American Goldfinch	4	PWB Filtration Plant	Traveling	6/5/2024	10:57:00 AM	3 hour(s), 49 minute(s)	1.76 mile(s)		1	TRUE	15 species
Chipping Sparrow	1	PWB Filtration Plant	Traveling	6/5/2024	10:57:00 AM	3 hour(s), 49 minute(s)	1.76 mile(s)		1	TRUE	15 species
White-crowned Sparrow	7	PWB Filtration Plant	Traveling	6/5/2024	10:57:00 AM	3 hour(s), 49 minute(s)	1.76 mile(s)		1	TRUE	15 species
Lazuli Bunting	2	PWB Filtration Plant	Traveling	6/5/2024	10:57:00 AM	3 hour(s), 49 minute(s)	1.76 mile(s)		1	TRUE	15 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Turkey Vulture	2	PWB Filtration Plant	Traveling	6/5/2024	10:58:00 AM	3 hour(s), 10 minute(s)	1.662 mile(s)		1	TRUE	9 species
Red-tailed Hawk	1	PWB Filtration Plant	Traveling	6/5/2024	10:58:00 AM	3 hour(s), 10 minute(s)	1.662 mile(s)		1	TRUE	9 species
American Crow	2	PWB Filtration Plant	Traveling	6/5/2024	10:58:00 AM	3 hour(s), 10 minute(s)	1.662 mile(s)		1	TRUE	9 species
American Goldfinch	8	PWB Filtration Plant	Traveling	6/5/2024	10:58:00 AM	3 hour(s), 10 minute(s)	1.662 mile(s)		1	TRUE	9 species
White-crowned Sparrow	2	PWB Filtration Plant	Traveling	6/5/2024	10:58:00 AM	3 hour(s), 10 minute(s)	1.662 mile(s)		1	TRUE	9 species
Savannah Sparrow	2	PWB Filtration Plant	Traveling	6/5/2024	10:58:00 AM	3 hour(s), 10 minute(s)	1.662 mile(s)		1	TRUE	9 species
Wilson's Warbler	1	PWB Filtration Plant	Traveling	6/5/2024	10:58:00 AM	3 hour(s), 10 minute(s)	1.662 mile(s)		1	TRUE	9 species
Western Tanager	1	PWB Filtration Plant	Traveling	6/5/2024	10:58:00 AM	3 hour(s), 10 minute(s)	1.662 mile(s)		1	TRUE	9 species
Lazuli Bunting	1	PWB Filtration Plant	Traveling	6/5/2024	10:58:00 AM	3 hour(s), 10 minute(s)	1.662 mile(s)		1	TRUE	9 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Band-tailed Pigeon	5	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
Vaux's Swift	2	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
Anna's Hummingbird	1	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
Bald Eagle	1	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
Red-tailed Hawk	1	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
Northern Flicker	1	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
Western Wood-Pewee	1	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
Willow Flycatcher	1	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
Warbling Vireo	1	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
Steller's Jay	1	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
Common Raven	1	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
Tree Swallow	1	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
Violet-green Swallow	8	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
Barn Swallow	3	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
European Starling	1	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
American Robin	2	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
Cedar Waxwing	2	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
Purple Finch	1	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
Red Crossbill	2	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
American Goldfinch	5	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
Chipping Sparrow	1	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
White-crowned Sparrow	8	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
Savannah Sparrow	5	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
Wilson's Warbler	1	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
Black-headed Grosbeak	1	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species
Lazuli Bunting	2	PWB Filtration Plant	Traveling	6/7/2024	7:18:00 AM	4 hour(s), 49 minute(s)	3.27 mile(s)		2	TRUE	26 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Band-tailed Pigeon	1	PWB Filtration Plant	Traveling	6/10/2024	7:32:00 AM	3 hour(s), 57 minute(s)	2.13 mile(s)		1	TRUE	17 species
Mourning Dove	2	PWB Filtration Plant	Traveling	6/10/2024	7:32:00 AM	3 hour(s), 57 minute(s)	2.13 mile(s)		1	TRUE	17 species
Vaux's Swift	2	PWB Filtration Plant	Traveling	6/10/2024	7:32:00 AM	3 hour(s), 57 minute(s)	2.13 mile(s)		1	TRUE	17 species
Turkey Vulture	2	PWB Filtration Plant	Traveling	6/10/2024	7:32:00 AM	3 hour(s), 57 minute(s)	2.13 mile(s)		1	TRUE	17 species
Red-tailed Hawk	1	PWB Filtration Plant	Traveling	6/10/2024	7:32:00 AM	3 hour(s), 57 minute(s)	2.13 mile(s)		1	TRUE	17 species
Willow Flycatcher	1	PWB Filtration Plant	Traveling	6/10/2024	7:32:00 AM	3 hour(s), 57 minute(s)	2.13 mile(s)		1	TRUE	17 species
Steller's Jay	2	PWB Filtration Plant	Traveling	6/10/2024	7:32:00 AM	3 hour(s), 57 minute(s)	2.13 mile(s)		1	TRUE	17 species
Tree Swallow	2	PWB Filtration Plant	Traveling	6/10/2024	7:32:00 AM	3 hour(s), 57 minute(s)	2.13 mile(s)		1	TRUE	17 species
Barn Swallow	3	PWB Filtration Plant	Traveling	6/10/2024	7:32:00 AM	3 hour(s), 57 minute(s)	2.13 mile(s)		1	TRUE	17 species
House Finch	4	PWB Filtration Plant	Traveling	6/10/2024	7:32:00 AM	3 hour(s), 57 minute(s)	2.13 mile(s)		1	TRUE	17 species
Red Crossbill	2	PWB Filtration Plant	Traveling	6/10/2024	7:32:00 AM	3 hour(s), 57 minute(s)	2.13 mile(s)		1	TRUE	17 species
Lesser Goldfinch	2	PWB Filtration Plant	Traveling	6/10/2024	7:32:00 AM	3 hour(s), 57 minute(s)	2.13 mile(s)		1	TRUE	17 species
American Goldfinch	8	PWB Filtration Plant	Traveling	6/10/2024	7:32:00 AM	3 hour(s), 57 minute(s)	2.13 mile(s)		1	TRUE	17 species
White-crowned Sparrow	4	PWB Filtration Plant	Traveling	6/10/2024	7:32:00 AM	3 hour(s), 57 minute(s)	2.13 mile(s)		1	TRUE	17 species
Savannah Sparrow	3	PWB Filtration Plant	Traveling	6/10/2024	7:32:00 AM	3 hour(s), 57 minute(s)	2.13 mile(s)		1	TRUE	17 species
Black-headed Grosbeak	1	PWB Filtration Plant	Traveling	6/10/2024	7:32:00 AM	3 hour(s), 57 minute(s)	2.13 mile(s)		1	TRUE	17 species
Lazuli Bunting	3	PWB Filtration Plant	Traveling	6/10/2024	7:32:00 AM	3 hour(s), 57 minute(s)	2.13 mile(s)		1	TRUE	17 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Hairy Woodpecker	1	PWB Filtration Plant	Traveling	6/11/2024	6:59:00 AM	4 hour(s), 40 minute(s)	3.21 mile(s)		1	TRUE	10 species
Willow Flycatcher	1	PWB Filtration Plant	Traveling	6/11/2024	6:59:00 AM	4 hour(s), 40 minute(s)	3.21 mile(s)		1	TRUE	10 species
Red-breasted Nuthatch	1	PWB Filtration Plant	Traveling	6/11/2024	6:59:00 AM	4 hour(s), 40 minute(s)	3.21 mile(s)		1	TRUE	10 species
Bewick's Wren	1	PWB Filtration Plant	Traveling	6/11/2024	6:59:00 AM	4 hour(s), 40 minute(s)	3.21 mile(s)		1	TRUE	10 species
Swainson's Thrush	1	PWB Filtration Plant	Traveling	6/11/2024	6:59:00 AM	4 hour(s), 40 minute(s)	3.21 mile(s)		1	TRUE	10 species
American Robin	1	PWB Filtration Plant	Traveling	6/11/2024	6:59:00 AM	4 hour(s), 40 minute(s)	3.21 mile(s)		1	TRUE	10 species
White-crowned Sparrow	6	PWB Filtration Plant	Traveling	6/11/2024	6:59:00 AM	4 hour(s), 40 minute(s)	3.21 mile(s)		1	TRUE	10 species
Savannah Sparrow	3	PWB Filtration Plant	Traveling	6/11/2024	6:59:00 AM	4 hour(s), 40 minute(s)	3.21 mile(s)		1	TRUE	10 species
Western Tanager	1	PWB Filtration Plant	Traveling	6/11/2024	6:59:00 AM	4 hour(s), 40 minute(s)	3.21 mile(s)		1	TRUE	10 species
Lazuli Bunting	4	PWB Filtration Plant	Traveling	6/11/2024	6:59:00 AM	4 hour(s), 40 minute(s)	3.21 mile(s)		1	TRUE	10 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Turkey Vulture	2	PWB Filtration Plant	Traveling	6/12/2024	10:31:00 AM	1 hour(s), 40 minute(s)	0.793 mile(s)		1	TRUE	5 species
Red-tailed Hawk	1	PWB Filtration Plant	Traveling	6/12/2024	10:31:00 AM	1 hour(s), 40 minute(s)	0.793 mile(s)		1	TRUE	5 species
Violet-green Swallow	8	PWB Filtration Plant	Traveling	6/12/2024	10:31:00 AM	1 hour(s), 40 minute(s)	0.793 mile(s)		1	TRUE	5 species
White-crowned Sparrow	3	PWB Filtration Plant	Traveling	6/12/2024	10:31:00 AM	1 hour(s), 40 minute(s)	0.793 mile(s)		1	TRUE	5 species
Savannah Sparrow	2	PWB Filtration Plant	Traveling	6/12/2024	10:31:00 AM	1 hour(s), 40 minute(s)	0.793 mile(s)		1	TRUE	5 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Anna's Hummingbird	1	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species
Red-breasted Sapsucker	1	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species
Western Wood-Pewee	1	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species
Willow Flycatcher	1	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species
Western Flycatcher	1	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species
Warbling Vireo	1	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species
Violet-green Swallow	2	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species
European Starling	3	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species
Swainson's Thrush	1	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species
American Robin	2	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species
House Finch	2	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species
Purple Finch	1	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species
Lesser Goldfinch	2	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species
American Goldfinch	8	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species
White-crowned Sparrow	6	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species
Spotted Towhee	1	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species
Brown-headed Cowbird	4	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species
Brewer's Blackbird	1	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species
Black-throated Gray Warbler	1	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species
Western Tanager	1	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species
Black-headed Grosbeak	1	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species
Lazuli Bunting	2	PWB Filtration Plant	Traveling	6/14/2024	7:14:00 AM	2 hour(s), 58 minute(s)	1.08 mile(s)		1	TRUE	22 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Anna's Hummingbird	1	PWB Filtration Plant	Traveling	6/14/2024	8:23:00 AM	3 hour(s), 51 minute(s)	2.183 mile(s)		1	TRUE	7 species
Killdeer	2	PWB Filtration Plant	Traveling	6/14/2024	8:23:00 AM	3 hour(s), 51 minute(s)	2.183 mile(s)		1	TRUE	7 species
Turkey Vulture	2	PWB Filtration Plant	Traveling	6/14/2024	8:23:00 AM	3 hour(s), 51 minute(s)	2.183 mile(s)		1	TRUE	7 species
Red-tailed Hawk	1	PWB Filtration Plant	Traveling	6/14/2024	8:23:00 AM	3 hour(s), 51 minute(s)	2.183 mile(s)		1	TRUE	7 species
White-crowned Sparrow	4	PWB Filtration Plant	Traveling	6/14/2024	8:23:00 AM	3 hour(s), 51 minute(s)	2.183 mile(s)		1	TRUE	7 species
Spotted Towhee	1	PWB Filtration Plant	Traveling	6/14/2024	8:23:00 AM	3 hour(s), 51 minute(s)	2.183 mile(s)		1	TRUE	7 species
Lazuli Bunting	3	PWB Filtration Plant	Traveling	6/14/2024	8:23:00 AM	3 hour(s), 51 minute(s)	2.183 mile(s)		1	TRUE	7 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Turkey Vulture	2	PWB Filtration Plant	Stationary	6/17/2024	8:00:00 AM	4 hour(s)			2	TRUE	8 species
Bald Eagle	1	PWB Filtration Plant	Stationary	6/17/2024	8:00:00 AM	4 hour(s)			2	TRUE	8 species
Red-tailed Hawk	1	PWB Filtration Plant	Stationary	6/17/2024	8:00:00 AM	4 hour(s)			2	TRUE	8 species
Violet-green Swallow	10	PWB Filtration Plant	Stationary	6/17/2024	8:00:00 AM	4 hour(s)			2	TRUE	8 species
Barn Swallow	4	PWB Filtration Plant	Stationary	6/17/2024	8:00:00 AM	4 hour(s)			2	TRUE	8 species
American Goldfinch	6	PWB Filtration Plant	Stationary	6/17/2024	8:00:00 AM	4 hour(s)			2	TRUE	8 species
White-crowned Sparrow	4	PWB Filtration Plant	Stationary	6/17/2024	8:00:00 AM	4 hour(s)			2	TRUE	8 species
Lazuli Bunting	2	PWB Filtration Plant	Stationary	6/17/2024	8:00:00 AM	4 hour(s)			2	TRUE	8 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Turkey Vulture	2	PWB Filtration Plant	Traveling	6/18/2024	11:11:00 AM	3 hour(s), 15 minute(s)	1.105 mile(s)		1	TRUE	8 species
American Kestrel	1	PWB Filtration Plant	Traveling	6/18/2024	11:11:00 AM	3 hour(s), 15 minute(s)	1.105 mile(s)		1	TRUE	8 species
Tree Swallow	2	PWB Filtration Plant	Traveling	6/18/2024	11:11:00 AM	3 hour(s), 15 minute(s)	1.105 mile(s)		1	TRUE	8 species
Violet-green Swallow	2	PWB Filtration Plant	Traveling	6/18/2024	11:11:00 AM	3 hour(s), 15 minute(s)	1.105 mile(s)		1	TRUE	8 species
Barn Swallow	2	PWB Filtration Plant	Traveling	6/18/2024	11:11:00 AM	3 hour(s), 15 minute(s)	1.105 mile(s)		1	TRUE	8 species
White-crowned Sparrow	6	PWB Filtration Plant	Traveling	6/18/2024	11:11:00 AM	3 hour(s), 15 minute(s)	1.105 mile(s)		1	TRUE	8 species
Savannah Sparrow	5	PWB Filtration Plant	Traveling	6/18/2024	11:11:00 AM	3 hour(s), 15 minute(s)	1.105 mile(s)		1	TRUE	8 species
Lazuli Bunting	1	PWB Filtration Plant	Traveling	6/18/2024	11:11:00 AM	3 hour(s), 15 minute(s)	1.105 mile(s)		1	TRUE	8 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Turkey Vulture	3	PWB Filtration Plant	Traveling	6/19/2024	10:30:00 AM	3 hour(s), 4 minute(s)	2.061 mile(s)		2	TRUE	7 species
Red-tailed Hawk	1	PWB Filtration Plant	Traveling	6/19/2024	10:30:00 AM	3 hour(s), 4 minute(s)	2.061 mile(s)		2	TRUE	7 species
American Kestrel	1	PWB Filtration Plant	Traveling	6/19/2024	10:30:00 AM	3 hour(s), 4 minute(s)	2.061 mile(s)		2	TRUE	7 species
Violet-green Swallow	6	PWB Filtration Plant	Traveling	6/19/2024	10:30:00 AM	3 hour(s), 4 minute(s)	2.061 mile(s)		2	TRUE	7 species
White-crowned Sparrow	4	PWB Filtration Plant	Traveling	6/19/2024	10:30:00 AM	3 hour(s), 4 minute(s)	2.061 mile(s)		2	TRUE	7 species
Savannah Sparrow	4	PWB Filtration Plant	Traveling	6/19/2024	10:30:00 AM	3 hour(s), 4 minute(s)	2.061 mile(s)		2	TRUE	7 species
Brewer's Blackbird	1	PWB Filtration Plant	Traveling	6/19/2024	10:30:00 AM	3 hour(s), 4 minute(s)	2.061 mile(s)		2	TRUE	7 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Turkey Vulture	3	PWB Filtration Plant	Traveling	6/20/2024	8:21:00 AM	3 hour(s), 52 minute(s)	1.934 mile(s)		1	TRUE	8 species
Red-tailed Hawk	1	PWB Filtration Plant	Traveling	6/20/2024	8:21:00 AM	3 hour(s), 52 minute(s)	1.934 mile(s)		1	TRUE	8 species
Northern Flicker	2	PWB Filtration Plant	Traveling	6/20/2024	8:21:00 AM	3 hour(s), 52 minute(s)	1.934 mile(s)		1	TRUE	8 species
American Robin	3	PWB Filtration Plant	Traveling	6/20/2024	8:21:00 AM	3 hour(s), 52 minute(s)	1.934 mile(s)		1	TRUE	8 species
American Goldfinch	3	PWB Filtration Plant	Traveling	6/20/2024	8:21:00 AM	3 hour(s), 52 minute(s)	1.934 mile(s)		1	TRUE	8 species
White-crowned Sparrow	5	PWB Filtration Plant	Traveling	6/20/2024	8:21:00 AM	3 hour(s), 52 minute(s)	1.934 mile(s)		1	TRUE	8 species
Spotted Towhee	1	PWB Filtration Plant	Traveling	6/20/2024	8:21:00 AM	3 hour(s), 52 minute(s)	1.934 mile(s)		1	TRUE	8 species
Lazuli Bunting	1	PWB Filtration Plant	Traveling	6/20/2024	8:21:00 AM	3 hour(s), 52 minute(s)	1.934 mile(s)		1	TRUE	8 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Turkey Vulture	2	PWB Filtration Plant	Traveling	6/21/2024	6:42:00 AM	3 hour(s), 19 minute(s)	0.81 mile(s)		1	TRUE	20 species
Red-breasted Sapsucker	1	PWB Filtration Plant	Traveling	6/21/2024	6:42:00 AM	3 hour(s), 19 minute(s)	0.81 mile(s)		1	TRUE	20 species
Downy Woodpecker	1	PWB Filtration Plant	Traveling	6/21/2024	6:42:00 AM	3 hour(s), 19 minute(s)	0.81 mile(s)		1	TRUE	20 species
Hairy Woodpecker	1	PWB Filtration Plant	Traveling	6/21/2024	6:42:00 AM	3 hour(s), 19 minute(s)	0.81 mile(s)		1	TRUE	20 species
Northern Flicker	1	PWB Filtration Plant	Traveling	6/21/2024	6:42:00 AM	3 hour(s), 19 minute(s)	0.81 mile(s)		1	TRUE	20 species
Western Wood-Pewee	1	PWB Filtration Plant	Traveling	6/21/2024	6:42:00 AM	3 hour(s), 19 minute(s)	0.81 mile(s)		1	TRUE	20 species
Willow Flycatcher	1	PWB Filtration Plant	Traveling	6/21/2024	6:42:00 AM	3 hour(s), 19 minute(s)	0.81 mile(s)		1	TRUE	20 species
Cassin's Vireo	1	PWB Filtration Plant	Traveling	6/21/2024	6:42:00 AM	3 hour(s), 19 minute(s)	0.81 mile(s)		1	TRUE	20 species
Steller's Jay	2	PWB Filtration Plant	Traveling	6/21/2024	6:42:00 AM	3 hour(s), 19 minute(s)	0.81 mile(s)		1	TRUE	20 species
California Scrub-Jay	2	PWB Filtration Plant	Traveling	6/21/2024	6:42:00 AM	3 hour(s), 19 minute(s)	0.81 mile(s)		1	TRUE	20 species
European Starling	4	PWB Filtration Plant	Traveling	6/21/2024	6:42:00 AM	3 hour(s), 19 minute(s)	0.81 mile(s)		1	TRUE	20 species
American Robin	2	PWB Filtration Plant	Traveling	6/21/2024	6:42:00 AM	3 hour(s), 19 minute(s)	0.81 mile(s)		1	TRUE	20 species
House Finch	4	PWB Filtration Plant	Traveling	6/21/2024	6:42:00 AM	3 hour(s), 19 minute(s)	0.81 mile(s)		1	TRUE	20 species
Chipping Sparrow	1	PWB Filtration Plant	Traveling	6/21/2024	6:42:00 AM	3 hour(s), 19 minute(s)	0.81 mile(s)		1	TRUE	20 species
Dark-eyed Junco	2	PWB Filtration Plant	Traveling	6/21/2024	6:42:00 AM	3 hour(s), 19 minute(s)	0.81 mile(s)		1	TRUE	20 species
White-crowned Sparrow	4	PWB Filtration Plant	Traveling	6/21/2024	6:42:00 AM	3 hour(s), 19 minute(s)	0.81 mile(s)		1	TRUE	20 species
Savannah Sparrow	4	PWB Filtration Plant	Traveling	6/21/2024	6:42:00 AM	3 hour(s), 19 minute(s)	0.81 mile(s)		1	TRUE	20 species
Brown-headed Cowbird	5	PWB Filtration Plant	Traveling	6/21/2024	6:42:00 AM	3 hour(s), 19 minute(s)	0.81 mile(s)		1	TRUE	20 species
Western Tanager	1	PWB Filtration Plant	Traveling	6/21/2024	6:42:00 AM	3 hour(s), 19 minute(s)	0.81 mile(s)		1	TRUE	20 species
Lazuli Bunting	1	PWB Filtration Plant	Traveling	6/21/2024	6:42:00 AM	3 hour(s), 19 minute(s)	0.81 mile(s)		1	TRUE	20 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
American Kestrel	1	PWB Filtration Plant	Traveling	6/21/2024	8:14:00 AM	4 hour(s), 19 minute(s)	2.618 mile(s)		3	TRUE	7 species
Violet-green Swallow	2	PWB Filtration Plant	Traveling	6/21/2024	8:14:00 AM	4 hour(s), 19 minute(s)	2.618 mile(s)		3	TRUE	7 species
European Starling	1	PWB Filtration Plant	Traveling	6/21/2024	8:14:00 AM	4 hour(s), 19 minute(s)	2.618 mile(s)		3	TRUE	7 species
Lesser Goldfinch	4	PWB Filtration Plant	Traveling	6/21/2024	8:14:00 AM	4 hour(s), 19 minute(s)	2.618 mile(s)		3	TRUE	7 species
Chipping Sparrow	1	PWB Filtration Plant	Traveling	6/21/2024	8:14:00 AM	4 hour(s), 19 minute(s)	2.618 mile(s)		3	TRUE	7 species
White-crowned Sparrow	9	PWB Filtration Plant	Traveling	6/21/2024	8:14:00 AM	4 hour(s), 19 minute(s)	2.618 mile(s)		3	TRUE	7 species
Lazuli Bunting	1	PWB Filtration Plant	Traveling	6/21/2024	8:14:00 AM	4 hour(s), 19 minute(s)	2.618 mile(s)		3	TRUE	7 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Turkey Vulture	2	PWB Filtration Plant	Traveling	6/24/2024	10:48:00 AM	1 hour(s), 37 minute(s)	2.509 mile(s)		2	TRUE	4 species
Red-tailed Hawk	1	PWB Filtration Plant	Traveling	6/24/2024	10:48:00 AM	1 hour(s), 37 minute(s)	2.509 mile(s)		2	TRUE	4 species
Tree Swallow	4	PWB Filtration Plant	Traveling	6/24/2024	10:48:00 AM	1 hour(s), 37 minute(s)	2.509 mile(s)		2	TRUE	4 species
White-crowned Sparrow	4	PWB Filtration Plant	Traveling	6/24/2024	10:48:00 AM	1 hour(s), 37 minute(s)	2.509 mile(s)		2	TRUE	4 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Band-tailed Pigeon	2	PWB Filtration Plant	Traveling	7/1/2024	6:47:00 AM	4 hour(s)	1.0 mile(s)		1	TRUE	17 species
Vaux's Swift	1	PWB Filtration Plant	Traveling	7/1/2024	6:47:00 AM	4 hour(s)	1.0 mile(s)		1	TRUE	17 species
Northern Flicker	1	PWB Filtration Plant	Traveling	7/1/2024	6:47:00 AM	4 hour(s)	1.0 mile(s)		1	TRUE	17 species
Western Wood-Pewee	1	PWB Filtration Plant	Traveling	7/1/2024	6:47:00 AM	4 hour(s)	1.0 mile(s)		1	TRUE	17 species
California Scrub-Jay	2	PWB Filtration Plant	Traveling	7/1/2024	6:47:00 AM	4 hour(s)	1.0 mile(s)		1	TRUE	17 species
Black-capped Chickadee	3	PWB Filtration Plant	Traveling	7/1/2024	6:47:00 AM	4 hour(s)	1.0 mile(s)		1	TRUE	17 species
Tree Swallow	1	PWB Filtration Plant	Traveling	7/1/2024	6:47:00 AM	4 hour(s)	1.0 mile(s)		1	TRUE	17 species
Bewick's Wren	2	PWB Filtration Plant	Traveling	7/1/2024	6:47:00 AM	4 hour(s)	1.0 mile(s)		1	TRUE	17 species
Swainson's Thrush	1	PWB Filtration Plant	Traveling	7/1/2024	6:47:00 AM	4 hour(s)	1.0 mile(s)		1	TRUE	17 species
American Robin	3	PWB Filtration Plant	Traveling	7/1/2024	6:47:00 AM	4 hour(s)	1.0 mile(s)		1	TRUE	17 species
American Goldfinch	2	PWB Filtration Plant	Traveling	7/1/2024	6:47:00 AM	4 hour(s)	1.0 mile(s)		1	TRUE	17 species
Chipping Sparrow	2	PWB Filtration Plant	Traveling	7/1/2024	6:47:00 AM	4 hour(s)	1.0 mile(s)		1	TRUE	17 species
White-crowned Sparrow	12	PWB Filtration Plant	Traveling	7/1/2024	6:47:00 AM	4 hour(s)	1.0 mile(s)		1	TRUE	17 species
Song Sparrow	1	PWB Filtration Plant	Traveling	7/1/2024	6:47:00 AM	4 hour(s)	1.0 mile(s)		1	TRUE	17 species
Spotted Towhee	2	PWB Filtration Plant	Traveling	7/1/2024	6:47:00 AM	4 hour(s)	1.0 mile(s)		1	TRUE	17 species
Western Tanager	2	PWB Filtration Plant	Traveling	7/1/2024	6:47:00 AM	4 hour(s)	1.0 mile(s)		1	TRUE	17 species
Lazuli Bunting	1	PWB Filtration Plant	Traveling	7/1/2024	6:47:00 AM	4 hour(s)	1.0 mile(s)		1	TRUE	17 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Western Wood-Pewee	1	PWB Filtration Plant	Traveling	7/2/2024	6:54:00 AM	3 hour(s), 46 minute(s)	2.93 mile(s)		1	TRUE	10 species
Western Flycatcher	1	PWB Filtration Plant	Traveling	7/2/2024	6:54:00 AM	3 hour(s), 46 minute(s)	2.93 mile(s)		1	TRUE	10 species
Steller's Jay	2	PWB Filtration Plant	Traveling	7/2/2024	6:54:00 AM	3 hour(s), 46 minute(s)	2.93 mile(s)		1	TRUE	10 species
Red-breasted Nuthatch	1	PWB Filtration Plant	Traveling	7/2/2024	6:54:00 AM	3 hour(s), 46 minute(s)	2.93 mile(s)		1	TRUE	10 species
Bewick's Wren	1	PWB Filtration Plant	Traveling	7/2/2024	6:54:00 AM	3 hour(s), 46 minute(s)	2.93 mile(s)		1	TRUE	10 species
American Robin	4	PWB Filtration Plant	Traveling	7/2/2024	6:54:00 AM	3 hour(s), 46 minute(s)	2.93 mile(s)		1	TRUE	10 species
Chipping Sparrow	4	PWB Filtration Plant	Traveling	7/2/2024	6:54:00 AM	3 hour(s), 46 minute(s)	2.93 mile(s)		1	TRUE	10 species
White-crowned Sparrow	8	PWB Filtration Plant	Traveling	7/2/2024	6:54:00 AM	3 hour(s), 46 minute(s)	2.93 mile(s)		1	TRUE	10 species
Black-throated Gray Warbler	5	PWB Filtration Plant	Traveling	7/2/2024	6:54:00 AM	3 hour(s), 46 minute(s)	2.93 mile(s)		1	TRUE	10 species
Lazuli Bunting	2	PWB Filtration Plant	Traveling	7/2/2024	6:54:00 AM	3 hour(s), 46 minute(s)	2.93 mile(s)		1	TRUE	10 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Vaux's Swift	6	PWB Filtration Plant	Traveling	7/10/2024	7:28:00 AM	46 minute(s)	0.656 mile(s)		1	TRUE	5 species
Violet-green Swallow	6	PWB Filtration Plant	Traveling	7/10/2024	7:28:00 AM	46 minute(s)	0.656 mile(s)		1	TRUE	5 species
American Robin	1	PWB Filtration Plant	Traveling	7/10/2024	7:28:00 AM	46 minute(s)	0.656 mile(s)		1	TRUE	5 species
White-crowned Sparrow	6	PWB Filtration Plant	Traveling	7/10/2024	7:28:00 AM	46 minute(s)	0.656 mile(s)		1	TRUE	5 species
Lazuli Bunting	1	PWB Filtration Plant	Traveling	7/10/2024	7:28:00 AM	46 minute(s)	0.656 mile(s)		1	TRUE	5 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Anna's Hummingbird	1	PWB Filtration Plant	Traveling	2/12/2025	9:58:00 AM	30 minute(s)	0.321 mile(s)		1	TRUE	7 species
Bald Eagle	1	PWB Filtration Plant	Traveling	2/12/2025	9:58:00 AM	30 minute(s)	0.321 mile(s)		1	TRUE	7 species
Red-tailed Hawk	3	PWB Filtration Plant	Traveling	2/12/2025	9:58:00 AM	30 minute(s)	0.321 mile(s)		1	TRUE	7 species
Red-breasted Sapsucker	1	PWB Filtration Plant	Traveling	2/12/2025	9:58:00 AM	30 minute(s)	0.321 mile(s)		1	TRUE	7 species
Common Raven	2	PWB Filtration Plant	Traveling	2/12/2025	9:58:00 AM	30 minute(s)	0.321 mile(s)		1	TRUE	7 species
European Starling	6	PWB Filtration Plant	Traveling	2/12/2025	9:58:00 AM	30 minute(s)	0.321 mile(s)		1	TRUE	7 species
Dark-eyed Junco (Oregon)	2	PWB Filtration Plant	Traveling	2/12/2025	9:58:00 AM	30 minute(s)	0.321 mile(s)		1	TRUE	7 species

Species	Count	Location	Observation Type	Observation Date	Start Time	Duration	Distance	Area	Party Size	Complete Checklist	# of species
Canada Goose	2	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
Vaux's Swift	2	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
Greater Yellowlegs	1	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
Least Sandpiper	10	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
Western Sandpiper	1	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
Northern Flicker	2	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
Steller's Jay	3	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
Common Raven	1	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
Tree Swallow	3	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
Violet-green Swallow	12	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
Barn Swallow	3	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
Golden-crowned Kinglet	2	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
Red-breasted Nuthatch	2	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
European Starling	4	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
Hermit Thrush	1	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
American Robin	5	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
Evening Grosbeak	3	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
Purple Finch	1	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
Pine Siskin	6	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
Lesser Goldfinch	4	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
Chipping Sparrow	3	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
White-crowned Sparrow	11	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
Savannah Sparrow	6	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
Spotted Towhee	2	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species
Yellow-rumped Warbler	4	PWB Filtration Plant	Traveling	4/22/2025	7:17:00 AM	3 hour(s), 57 minute(s)	3.63 mile(s)		1	TRUE	25 species

Exhibit 3:

ESA Streak Horned Lark Memo

819 SE Morrison Street
Suite 310
Portland, OR 97214
503.274.2010 phone
503.274.2024 fax

www.esassoc.com

memorandum

date October 28, 2021

to Tim Brooks, Winterbrook Planning

from Sarah Hartung, ESA

subject Bull Run Water Filtration—Streaked Horned Lark Occupancy Survey (ESA Project No. D202100326.00)

BACKGROUND

Winterbrook Planning is assisting the Portland Water Bureau (PWB) with planning and permitting for a water project in rural east Multnomah County where potential suitable habitat occurs for streaked horned lark (*Eremophila alpestris strigata*) (SHLA), a federally threatened species protected under the Endangered Species Act (78 Federal Register 61451). The U.S. Fish and Wildlife Service determined that the project was not likely to adversely affect SHLA; however, the PWB requested species-specific surveys in the spring of 2021 to confirm the presence/absence of SHLA in the project area (Figure 1).

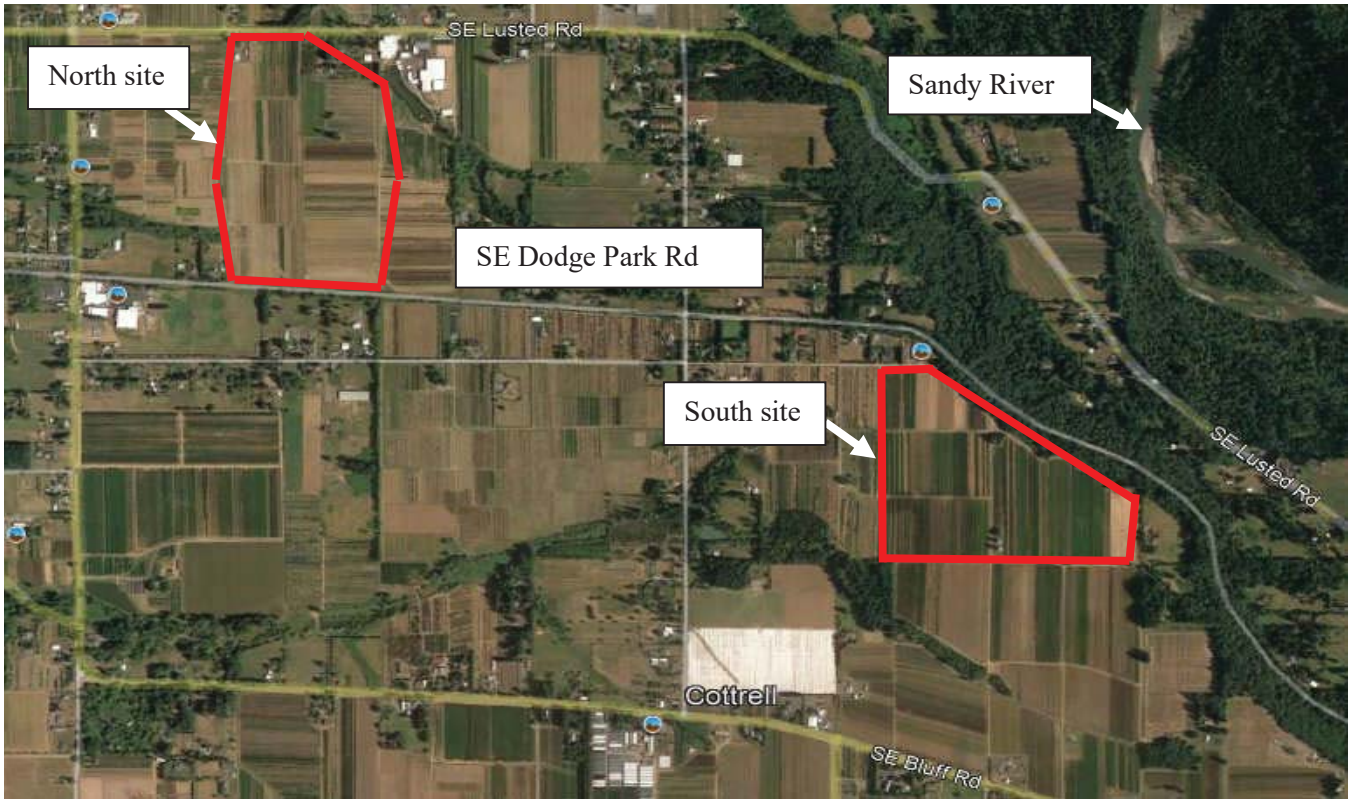


Figure 1: Project area consisting of two sites north and south of SE Dodge Park Blvd in east Multnomah County.

The SHLA is a small, ground-nesting songbird endemic to the Pacific Northwest that was federally listed as threatened in 2013 (78 Federal Register 61451). The project area is within the potential range of SHLA; with the nearest occupied site (Portland International Airport) located 15 to 20 miles to the northwest (Port of Portland 2018). Critical habitat for streaked horned lark has been designated but does not include the project area. Basket Slough National Wildlife Refuge, located over 50 miles to the southwest, is the nearest designated critical habitat for SHLA (78 Federal Register 61505).

Field surveys were completed for two of the large, open fields within the project area where SHLA, if present, would be expected to occur. The north site is where a water pipeline is proposed and the south site is where the water filtration facility would be constructed. Suitable SHLA habitat consists of flat, wide open spaces with low, patchy herbaceous vegetation and few to no shrubs or trees (78 Federal Register 61451). Conditions at the north site are typified in Figure 2 and conditions at the south site are depicted in Figure 3.

Figure 2: Typical conditions at the north site in east Multnomah County. A woman's size 8 knee boot is shown for scale.

Figure 3: Typical conditions at the south site, proposed water filtration facility.

SURVEY METHODOLOGY

Surveys were conducted in accordance with *Survey Protocols and Strategies for Assessing Streaked Horned Lark Site Occupancy Status, Population Abundance, and Trends* (protocol) (Pearson et al. 2016) to determine occupancy in the project area.

Several walking transects were established for each site where existing farm access roads or walking paths existed. The ends of the transects extended to the limits of the survey sites. Three surveys were conducted during the 2021 breeding season on April 23, June 10, and July 14. These surveys were conducted by ESA biologist Sarah Hartung, who is experienced with SHLA surveys and familiar with SHLA ecology. Surveys were conducted during morning hours, beginning within one half-hour of sunrise to 11:00 am. Conditions for each survey were conducive to bird activity and detection. Surveys consisted of walking transects while scanning visually with 10x42 binoculars and listening for vocalizations.

RESULTS AND CONCLUSIONS

No SHLAs were detected during any of the three occupancy surveys performed at the two survey sites. Field datasheets from these surveys are provided as Attachment A to this memo.

Breeding SHLAs prefer sparsely vegetated areas (less than 80% vegetation cover) of bunched or tufted vegetation that they use as nest cover. Nest sites are typically surrounded by flat, obstacle-free ground that allows unobstructed flight-paths between breeding territories and feeding or socializing patches. These habitat characteristics are often available at agricultural sites or along rural roads where gravel shoulders are located.

Possible reasons why SHLA were not detected in the project area include 1) lack of historic presence; and 2) lack of suitable terrain and vegetation cover. SHLA exhibit high nest site fidelity (Pearson et al., 2016), and it may be that SHLA never were present in large numbers in the project area, if at all. The nearest occupied site (Portland International Airport) is 15 to 20 miles to the northwest on flat terrain adjacent to the Columbia River.

Potentially suitable habitat in the project area is within relatively close proximity to trees, buildings, and vertical structures. The north site (pipeline site) is an active nursery with varying small patches of bare ground and 2- to 6-foot tall shrubs and saplings. However, several vertical structures (stakes) support the nursery plants and provide perch sites for aerial predators, which reduces SHLA habitat suitability.

The south site (proposed water filtration facility) has marginally suitable habitat. Although the site is tilled agricultural land, the rolling landscape and nearby tall trees and water tower reduce the overall suitability of the habitat for SHLA.

Due to the absence of SHLA detections during protocolled surveys and the unsuitable terrain at both survey sites and vicinity, the project is anticipated to have no effect on the federally listed streaked horned lark or its habitat.

LITERATURE CITED

Pearson, S.F., M. Linders, I. Keren, H. Anderson, R. Moore, G. Slater, and A. Kreager. 2016. Survey protocols and strategies for assessing streaked horned lark site occupancy status, population abundance, and trends. Wildlife Science Division, Washington Department of Fish and Wildlife, Olympia, Washington.

Port of Portland. 2018. Port of Portland's Streaked Horned Lark Habitat Conservation Plan. Available: https://cdn.portofportland.com/pdfs/PDX%20CAC%20Streaked%20Horn%20Lark%20January%202017.pdf

ATTACHMENT A

Field Survey Datasheets

Streaked Horned Lark Bird Detection Form (20 March 2015)

Site: Bull Run Pipeline Date (DD-Mon-YYYY): 23-04-2021 OBSERVER: S. Hartung

Start time (24 hr): 08:10 End time (24hr): 11:00 OBSERVER (2): —

Ave. temp (°F): 50 Ave. wind (mph): little to no wind

Predators/competitors (tally number)	
WEME	
AMCR	II
CORA	
CORVID	
NOHA	
KILL	
VESP	WCSP - IIII
AMKE	II
Other	RTHA-1 SAVS - IIII

Data Codes

Age: A = Adult, YOY = young of the year, U = unknown

Sex: M = Male, F = Female, U = unknown

Initial Detection (choose only one):

If audio: If initial detection was audio pick **S**ong or **C**all

Other Behavior (circle all that apply): S= Song, FD = flight display, MF = male within few meters of female, CO = copulation, NM = nest material, FC = food carry

Bird#	Time	Age	Sex	Initial Detctn	If AUDIO Pick 1		Other Behavior Circle all that apply						Notes - If banded record color.
1				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
2				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
3				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
4				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
5				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	No
6				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	SHLAs
7				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
8				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
9				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
10				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
11				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
12				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
13				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
14				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
15				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
16				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	

*Record color for left leg first, right leg second; record color top to bottom for each leg.

Bold is color code: **A**qua, **B**lue, **G**reen, Blac**K**, Brow**N**, **L**ime, **O**range, **P**ink, **R**ed, **S**ilver, **V**iolet, **W**hite, **Y**ellow

Streaked Horned Lark Bird Detection Form (20 March 2015)

Site: Bull Run Water Trt. Date (DD-Mon-YYYY): 23-04-2021 OBSERVER: S. Hartung

Start time (24 hr): 05:30 End time (24hr): 08:00 OBSERVER (2): —

Ave. temp (°F): 50 Ave. wind (mph): Little to no wind

Predators/competitors (tally number)	
WEME	
AMCR	II
CORA	III
CORVID	
NOHA	
KILL	
VESP	
AMKE	
Other	RTHA-1; AMRO-### WCSP-III EUST-IIII

Data Codes

Age: A = Adult, YOY = young of the year, U = unknown

Sex: M = Male, F = Female, U = unknown

Initial Detection (choose only one):

If audio: If initial detection was audio pick **S**ong or **C**all

Other Behavior (circle all that apply): S= Song, FD = flight display, MF = male within few meters of female, CO = copulation, NM = nest material, FC = food carry

Bird#	Time	Age	Sex	Initial Detctn	If AUDIO Pick 1		Other Behavior Circle all that apply						Notes - If banded record color.
1				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
2				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
3				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
4				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
5				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	No SHLA
6				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
7				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
8				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
9				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
10				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
11				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
12				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
13				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
14				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
15				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
16				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	

*Record color for left leg first, right leg second; record color top to bottom for each leg.

Bold is color code: **A**qua, **B**lue, **G**reen, Blac**K**, Brow**N**, **L**ime, **O**range, **P**ink, **R**ed, **S**ilver, **V**iolet, **W**hite, **Y**ellow

Streaked Horned Lark Bird Detection Form (20 March 2015)

Site: Bull Run Pipeline Date (DD-Mon-YYYY): 10-6-2021 OBSERVER: S. Hartung

Start time (24 hr): 04:50 End time (24hr): 07:50 OBSERVER (2): —

Ave. temp (°F): 60° Ave. wind (mph): low

Predators/competitors (tally number)	
WEME	
AMCR	III
CORA	
CORVID	
NOHA	
KILL	
VESP	
AMKE	
Other	COHA 1 RTHA 1

Data Codes

Age: A = Adult, YOY = young of the year, U = unknown

Sex: M = Male, F = Female, U = unknown

Initial Detection (choose only one):

If audio: If initial detection was audio pick **S**ong or **C**all

Other Behavior (circle all that apply): S= Song, FD = flight display, MF = male within few meters of female, CO = copulation, NM = nest material, FC = food carry

Bird#	Time	Age	Sex	Initial Detctn	If AUDIO Pick 1		Other Behavior Circle all that apply						Notes - If banded record color*
1				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
2				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
3				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
4				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	No
5				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
6				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	SHLA
7				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
8				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
9				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
10				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
11				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
12				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
13				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
14				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
15				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
16				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	

*Record color for left leg first, right leg second; record color top to bottom for each leg.

Bold is color code: **A**qua, **B**lue, **G**reen, Blac**K**, Brow**N**, **L**ime, **O**range, **P**ink, **R**ed, **S**ilver, **V**iolet, **W**hite, **Y**ellow

Streaked Horned Lark Bird Detection Form (20 March 2015)

Site: Bull Run Water Trt. Plant Date (DD-Mon-YYYY): 10-6-2021 OBSERVER: Sarah Hartung

Start time (24 hr): 08:00 End time (24hr): 11:00 OBSERVER (2): —

Ave. temp (°F): 60° Ave. wind (mph): low

Predators/competitors (tally number)	
WEME	
AMCR	II
CORA	
CORVID	
NOHA	
KILL	
VESP	
AMKE	
Other	AMRO I RTHA I

Data Codes

Age: A = Adult, YOY = young of the year, U = unknown

Sex: M = Male, F = Female, U = unknown

Initial Detection (choose only one):

If audio: If initial detection was audio pick **S**ong or **C**all

Other Behavior (circle all that apply): S= Song, FD = flight display, MF = male within few meters of female, CO = copulation, NM = nest material, FC = food carry

Bird#	Time	Age	Sex	Initial Detctn	If AUDIO Pick 1		Other Behavior Circle all that apply						Notes - If banded record color.
1				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
2				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
3				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
4				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
5				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
6				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
7				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	NO SHLA
8				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
9				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
10				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
11				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
12				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
13				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
14				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
15				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
16				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	

*Record color for left leg first, right leg second; record color top to bottom for each leg.

Bold is color code: **A**qua, **B**lue, **G**reen, Blac**K**, Brow**N**, **L**ime, **O**range, **P**ink, **R**ed, **S**ilver, **V**iolet, **W**hite, **Y**ellow

Streaked Horned Lark Bird Detection Form (20 March 2015)

Site: Bull Run Pipeline Date (DD-Mon-YYYY): 14-7-2021 OBSERVER: S. Hartwig

Start time (24 hr): 07:15 End time (24hr): 10:00 OBSERVER (2): —

Ave. temp (°F): 58 Ave. wind (mph): light

Predators/competitors (tally number)		
WEME	—	
AMCR	///	
CORA	—	
CORVID	STJA	II
NOHA	—	
KILL	—	
VESP	—	
AMKE	I	
Other	RTHA	I

Data Codes

Age: A = Adult, YOY = young of the year, U = unknown

Sex: M = Male, F = Female, U = unknown

Initial Detection (choose only one):

If audio: If initial detection was audio pick **S**ong or **C**all

Other Behavior (circle all that apply): S= Song, FD = flight display, MF = male within few meters of female, CO = copulation, NM = nest material, FC = food carry

Bird#	Time	Age	Sex	Initial Detctn	If AUDIO Pick 1		Other Behavior Circle all that apply						Notes - If banded record color.
1				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
2				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
3				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
4				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
5				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
6				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
7				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
8				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
9				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
10				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
11				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
12				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
13				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
14				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
15				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
16				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	

NO Streaked Horned Larks

*Record color for left leg first, right leg second; record color top to bottom for each leg.

Bold is color code: **A**qua, **B**lue, **G**reen, Blac**K**, Brow**N**, **L**ime, **O**range, **P**ink, **R**ed, **S**ilver, **V**iolet, **W**hite, **Y**ellow

Streaked Horned Lark Bird Detection Form (20 March 2015)

Site: Bull Run Water Trt. plant Date (DD-Mon-YYYY): 14-7-2021 OBSERVER: S. Hartung

Start time (24 hr): 04:30 End time (24hr): 07:00 OBSERVER (2): —

Ave. temp (°F): 54° Ave. wind (mph): none to very light, overcast

Predators/competitors (tally number)	
WEME	—
AMCR	//
CORA	—
CORVID	—
NOHA	—
KILL	—
VESP	—
AMKE	—
Other	RTHA 1 AMRO ///

Data Codes

Age: A = Adult, YOY = young of the year, U = unknown

Sex: M = Male, F = Female, U = unknown

Initial Detection (choose only one):

If audio: If initial detection was audio pick **S**ong or **C**all

Other Behavior (circle all that apply): S= Song, FD = flight display, MF = male within few meters of female, CO = copulation, NM = nest material, FC = food carry

Bird#	Time	Age	Sex	Initial Detctn	If AUDIO Pick 1		Other Behavior Circle all that apply						Notes - If banded record color.
1				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
2				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
3				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
4				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
5				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
6				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
7				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
8				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
9				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
10				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
11				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
12				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
13				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
14				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
15				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	
16				VIS / AUD	S	C	S	FD	MF	CO	NM	FC	

NO streaked horned larks

*Record color for left leg first, right leg second; record color top to bottom for each leg.

Bold is color code: **A**qua, **B**lue, **G**reen, Blac**K**, Brow**N**, **L**ime, **O**range, **P**ink, **R**ed, **S**ilver, **V**iolet, **W**hite, **Y**ellow

Exhibit 4:

PWB Resource Protection Projects

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

Quisha Light, Interim Director

1120 SW Fifth Avenue, Room 405
Portland, Oregon 97204-1926
Information: 503-823-7770
Portland.gov/water

Portland Water Bureau |Resource Protection & Planning

The Resource Protection and Planning Group of the City of Portland Water Bureau (PWB) is responsible for Bull Run Watershed and Columbia South Shore Well Field (CSSWF) management and coordination with federal, state, and local partners to protect the quality of both of the City's drinking water sources. This responsibility includes addressing legislative and environmental regulatory issues and performing integrated resource planning, comprehensive planning on major issues, supply and demand analysis, environmental compliance, and coordination of the Regional Water Providers Consortium. This work group is also responsible for the PWB's business, residential and multifamily water conservation programs and PWB sustainability efforts.

The Vegetation Stewardship Program is housed within the Bull Run Environmental Compliance division within Resource Protection and Planning. One of the primary functions of this program is to serve as a resource advisor to the Resource Protection and Planning, Engineering, Operations, and Maintenance and Construction work groups within PWB. The program advises on and performs environmental mitigation for construction projects and daily operations within PWB. Staff in this group are also responsible for coordinating with federal partners with similar roles and for the planning and implementation of reforestation efforts and invasive species and rare plant management in the Bull Run. The highest priority for this program is to retain and restore ecological function in the unique habitats where the PWB manages Portland's water system.

Figure 1 – PWB's Vegetation Stewardship staff specialize in native plantings and control of invasive species which threaten the ecological integrity of the easements.

Restoration and Habitat Enhancement Projects

Examples of restoration and habitat enhancement projects managed by the Resource Protection and Planning group are provided below.

Sandy Basin Watershed: Riparian Conservation Easement Program

Restoring and protecting riparian habitat in the Sandy River Basin

The Bull Run Water Supply Habitat Conservation Plan (HCP) is a 50-year plan to protect and improve aquatic habitat while continuing to manage the Bull Run River watershed as a water supply for the City of Portland (City), Oregon. PWB created the HCP, with technical assistance from the Sandy River Basin Partners, to minimize and mitigate the effects of covered activities associated with the Bull Run water supply operations on listed and unlisted Endangered Species Act (ESA) species and their associated habitat. As a component of the Bull Run HCP, the PWB established a Conservation Easement Program throughout the Sandy Basin. Since 2011, PWB has planted over 86,000 trees on easements throughout the Sandy River Basin. Key elements of the Conservation Easement Program are to:

- Acquire conservation easements on riparian land in the Sandy River Basin. To date, PWB has acquired 295 acres.
- Acquire easements on priority streams identified as ESA-listed salmon and steelhead streams. PWB has acquired easements on the Sandy River and Bull Run River, and Gordon and Cedar Creeks.
- Ensure riparian forest canopy targets of 70% cover over the management period of the easements.

EDT Reach	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
Cedar 2 & 3						1,800	1,200	850	100				240	300	4,490
Gordon 1A & 1B			1,325	800	500	6,700		250	1,290	360			375	800	12,400
Lower Bull Run				2,800	2,850	1,950		150	375	500					8,625
Sandy 2				2,900	5,500	15,300	2,700	4,015	13,853	2,950	1,080	600	2,175	350	51,423
Sandy 3	1,820	1,730	450	200	400	350	600		350	50				150	6,100
Sandy 7										1,250		1,650			2,900
Sandy 8				105											105
Total	1,820	1,730	1,775	6,805	9,250	26,100	4,500	5,265	15,968	5,110	1,080	2,250	2,790	1,600	86,043

Table 1 - Trees planted on PWB Easements throughout the Sandy Basin

Bull Run Dam 2 Tower Improvement

Restoring reservoir edges after construction

Figure 2- Staging area for Dam 2 Construction Project in 2012.

In 2014, PWB completed construction on a major modification to one of the water supply dams in the Bull Run Watershed. The intake tower for Dam 2 was modified to allow operators to selectively draw water from different reservoir depths. This was a major construction project and required the site to be restored once the construction was completed.

The project included creation of a 1.3-acre construction landing area along the edge of the reservoir that required tree and vegetation removal in preparation for the site's heavy equipment use. This area was cleared of over 100 Douglas fir trees. In the Bull Run Watershed, the PWB follows a Tree Protection and Revegetation Standard Operating Protocol (SOP) which requires mitigation when avoidance of tree cutting is not possible during the process of building or maintaining infrastructure.

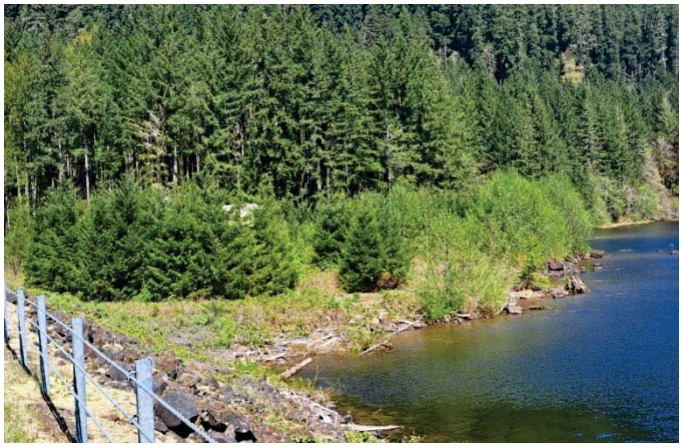


Figure 3- Staging area after site restoration in 2025, plantings 25-35 feet high

Rehabilitation of the construction staging site began with the removal of cobbles and soil de-compaction. The area was hydroseeded with approximately 11 pounds of native grasses and replanted with over 11,500 native shrubs. In compliance with the Tree Protection and Revegetation SOP, over 500 native bareroot trees were planted.

Due to its proximity to the water supply reservoir, many alternative rehabilitation actions were implemented to eliminate the potential for contamination of the drinking water supply. These included the following:

- All weed control and removal of invasive species was done by hand (herbicide use is prohibited in the drinking water supply drainage area).
- All rock and fill materials imported onto the site were inspected at the source. The Mt. Hood Rock quarry meets federal criteria for a weed-free quarry.

Eleven years later, native vegetation is fully established on the former construction site and trees are now over 25 feet tall.

Kelly Butte: Habitat Enhancement

Restoring oak savannah and mitigating for construction project

Figure 4- Plants installed at Kelly Butte in 2015 are now 15-20 feet in height. Ponderosa pine (above)

Kelly Butte Natural Area is a 23-acre parcel of land in southeast Portland that plays a critical role in the city's drinking water system and wildlife habitat. Kelly Butte is a lava dome with several miles of hiking trails. In 2015, PWB completed the construction of a 25-million-gallon underground drinking water reservoir on Kelly Butte. The project included several permit and mitigation requirements. Construction created the opportunity to enhance and restore the site, leaving it in better condition than it was prior to construction. Key elements of the habitat restoration were to:

- Create oak savannah and grassland habitat prioritized by the City of Portland as an at-risk habitat type. Historic Oregon white oak habitats have been declining due to agriculture and urban development.
- Reduce the dominance of invasive species to increase botanic diversity and improve habitat for native wildlife.
- Create 12 acres of newly planted oak savannah; the unique habitat is home to rare wildflowers and serves migratory birds along the Pacific flyway.
- Enhance 13 acres of existing forest on the north Butte areas through conifer tree plantings and mitigate for the loss of trees while constructing the new reservoir. Planting conifers and shrubs in the north area added shade tolerant species and increased plant diversity of Kelly Butte.
- Convert 12 acres of the south woodland from degraded blackberry and non-native hawthorn habitat to a native Oregon white oak savannah.
- Plant approximately 1,700 trees, 7,300 shrubs, and over 175 pounds of native grass and wildflower seeds.

Restoration of the site has been successful, including establishment of a well-developed native shrub layer and oak and pine trees that are now 15 to 20 feet tall.

Powell Butte Reservoir 2: Habitat Enhancement

Restoring oak savannah and mitigating for construction project

Figure 5 - Oak trees planted at Powell Butte in 2012 are now 10-20' in height

Powell Butte Nature Park is a 600-acre wildlife refuge atop an extinct cinder cone volcano in outer southeast Portland. The unique open meadow and forested habitat support abundant wildlife and rare plant populations. Powell Butte is also the central hub of Portland's drinking water system. In 2011, a project began to construct Reservoir 2, a 50-million-gallon underground tank. As part of that project, a restoration project was developed and implemented to develop the natural attributes of the site and to increase the ecological complexity of the habitat, including the oak savannah, prairie, wetlands, and forested perimeter. The project involved the planting of over 35,000 native trees and shrubs on the top and south sides of the Butte. Key elements of the project include:

- During construction 120 trees were removed from the site, and over 900 trees (Oregon white oaks, bitter cherry, Oregon ash, and ponderosa pine) were planted across 28 acres for the establishment of the new oak savannah habitat.
- To mitigate for vegetation removal in temporary construction disturbance areas, 370 pounds of native grass and forb seed mix was applied across eight acres of restoration area.
- The Phase II project planted 1,400 trees and 27,000 shrubs and native groundcover including seeding the meadow area with native grass and forb species.
- The oak savannah was planted with long term maintenance in mind; clumping oaks helps maintain visibility and avoids shading frog ponds, and under-planting native shrubs and forbs help maximize understory diversity and minimizes fire risk.

The site now provides well established oak savannah habitat with well-developed trees and shrubs.

Powell Butte: Upland Prairie Habitat Enhancement

Restoring Upland Prairie and Mitigating for Construction Project

Figure 6 - A photo of the Savannah sparrow (above, courtesy of Oregon Department of Fish and Wildlife)

In 2021, the PWB began a project to repair the Reservoir 1 roof and replace the waterproof seal on top of the reservoir at Powell Butte. As part of that work, an upland prairie restoration project was developed and implemented to mitigate impacts and meet permit requirements. Historic Oregon upland prairie has declined significantly due to agriculture and urban development. The project also worked to create improved habitat for Savannah sparrow and other birds which are known to nest in the area. The habitat restoration also benefits native birds and other wildlife species, including rare species associated with upland prairie. Key elements of the project were:

- Create 10 acres of upland prairie on Powell Butte; the unique habitat is home to rare wildflowers and serves as a breeding area for Savannah sparrows.
- Replace the membrane over the top of Reservoir 1 while working around nesting bird season and minimizing impacts to nests.
- Apply over 240 pounds of native grass and wildflower seeds, including rare native annuals and perennials which are preferred by nesting Savannah sparrows.

The restoration project has successfully restored native forb cover on the site and provides improved nesting habitat for Savannah sparrows and other species.

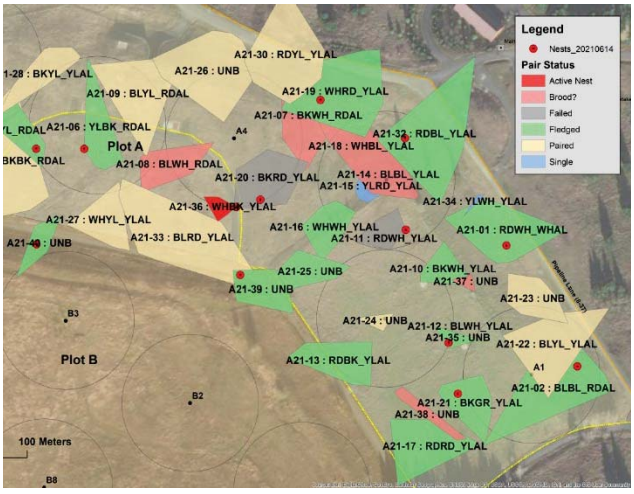


Figure 7- Nest survey data was used to communicate between the construction team, and City and community partners (left, courtesy of Tom Virzi, Conservation Insight).

Multnomah County

LUP Hearings <lup-hearings@multco.us>

Applicant's First Open Record Period Submission -- T3-2022-16220

Zoee Powers <zpowers@radlerwhite.com> Mon, May 5, 2025 at 11:47 AM
To: LUP Hearings <lup-hearings@multco.us>
Cc: "Peters, David" <David.Peters@portlandoregon.gov>, Renee France <rfrance@radlerwhite.com>, Zoee Powers <zpowers@radlerwhite.com>

Multnomah County Staff,

At this link, please find the applicant's submissions into the record for the First Open Record Period of T3-2022-16220 on remand:

https://radlerwhite.sharefile.com/d-sc32887acc9964f03b16e192384a89def

I have personally endeavored to make sure these are all searchable, unlocked/editable, and of a proper size. I understand that in our last submission we missed recognizing that one of the documents was locked by an engineer's stamping procedure and it caused additional work for staff. Please let me know if you have that issue again and I will have the document corrected.

Thank you,

Zoee Lynn Powers

Partner

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Work Hours: I work normal business hours all days except for Tuesdays. On Tuesdays, I work until 2:30 PM and then return around 7 PM. If you have an urgent matter on a Tuesday afternoon between 2:30 PM and 7 PM, please call my legal assistant, Brittany, at 971.634.0216. Brittany will be able to contact me.