MEMORANDUM

To: Liz Fancher, Hearings Officer – T3-2022-16220

Date: *5/5/2025*

From: Steven P. Smith, Wildlife Biologist

RE: Response to N.56: *Wildlife Habitat Impact Analysis*, by Environmental Science Associates for Winterbrook, April 15, 2025

INTRODUCTION

The Portland Water Bureau (PWB) submitted several documents that are listed in the Multnomah County Planning Document Library. This submittal responds to questions raised during the 2023 hearing process and to additional information provided during the Remand process in Exhibit N.56.

I have divided my responses into three sections related to land use, habitats and wildlife associated with those habitats and Habitat Evaluation Procedures (HEP). The habitats present at the time of the land use change application include agricultural fields, seasonal waterways, wetlands, forested areas, and hedgerows.

In addition, I am responding to issues related to the wildlife assessments (N.54). Assessments submitted by PWB appear to arbitrarily dismiss the habitat values of existing agricultural lands and areas impacted by water delivery and infrastructure development. The PWB has proposed mitigation for impacts they acknowledge will occur as a result of the land use change, construction and long term operations at the site. This alone should have been a red flag indicating that the issue remanded by LUBA has merit and that the requirement for no adverse effects to natural resources was not met.

Review of Multnomah County's record of processes to date indicates the PWB assumes the adverse effects to natural resources will occur and that mitigation is necessary. PWB's expert wildlife species and habitat analysis focuses on how to mitigate impacts to the wildlife natural resources. On site assessments only refer to surveys within the agricultural fields themselves and were only conducted during the late spring and summer season. No effort was made to discuss use of the field by wintering resident wildlife. In my experience with ODFW, wildlife evaluations typically cover all four seasons, rather than just part of the year.

LAND USE

Permitting the land use change to allow construction and operation of the water filtration facility will cause adverse impacts to the wildlife natural resources found on this site. This is the issue remanded by LUBA. Because PWB proceeded with construction prior to completion of the

LUBA process, these impacts have occurred and exceed the impacts predicted in the planning and mitigation documents.

Impacts to the wildlife natural resource include destruction of wintering populations of resident pollinator species, permanent removal of resident and migratory bird habitats, off-site disturbance to mammals documented as using the immediate area before construction started (Shapiro, R.4), loss of mature conifer and hardwood trees (> 50 feet tall, >15" diameter) (Ciecko N.48) used as perches by osprey, eagles and owls, as noted by numerous residents testifying at the remand hearing. Impacts also include the elimination of large trees required for cavity nesting use and food resources by primary and secondary cavity nesting species and migratory song birds. The consultant dismisses the habitat value of small trees. This is not based on any observation by the consultant. In fact, diameter is not the only attribute that makes trees valuable habitat. Height, flowering, fruit production, shelter, and visual screening are very important to creating habitat. Pollinators, birds, reptiles, amphibians and mammals each respond differently to habitat structure regardless of native vs non-native vegetation. I presented this information in writing, with references, as part of the Cottrell CPO testimony at the Remand Hearing.

HABITAT AND WILDLIFE ASSESSMENTS

During the remand hearing, there was discussion concerning management of hedgerows by Multnomah County. The Comprehensive Plan (Chapter 12: Policy 16, Strategy C) recognizes the importance of hedgerows. Policy 9.c states: "Review of internal protocols related to road and road right-of -way maintenance including roadside hedgerow trimming and weed eradication. Work with the Soil and Water Conservation District, ODFW and wildlife conservation groups to protect wildlife and manage invasive species to ensure that habitat and water resource restoration projects are coordinated with road maintenance and control programs." Hedgerows also sequester carbon, attenuate heat and cold weather events, and filter storm and agricultural runoff. All of these attributes contribute to hedgerows natural resource values.

The habitat documents provided by the PWB (N.56) indicate that limited field effort was made to assess wildlife use of the proposed project area. The record refers to three field observation within the agricultural field to evaluate for presence of streaked horned lark. No discussion of the techniques used or data collected was provided, as would be customary. This would help determine the adequacy of the evaluations. Although some bird observations within the agricultural field were documented as part of the streaked horned lark survey, no apparent effort was made to assess the hedgerow, wetlands or forest edge for wildlife use or vegetation composition. Pages 9-10 of Exhibit N.56 document that ESA conducted pre-construction bird nesting surveys at the filtration site, raw water pipeline alignment area and right of ways in early spring and summer of 2024, these areas do not include hedgerow, wetlands or forest edge. Moreover, photographs in the record (EX.48, pages 8,10,12) show tree removal in progress on February 15, 2024 in the Dodge Park Blvd ROW (pg 8; along Carpenter Lane March 5, 2024 and February 8, 2024 at the raw water tunnel site. Construction of this project was well underway

some months before the bird nesting surveys were completed. Therefore, they are not reliable evidence of the quality and character of natural resources before construction began.

The consultant does not provide documentation of the techniques used, time of day observations occurred, or where observation points were located, which again, is customary based on my 25 years of reviewing habitat impact analysis. Again, based on my decades of experience as a wildlife biologist, I find it highly unlikely that a scientifically valid bird survey would detect no migratory song birds, reptiles, amphibians or mammals in the forest edge, wetlands or hedgerows during the spring and summer period unless the disturbance activities had already commenced and impacted wildlife use. Species inventory data that is provided relies primarily on data base searches for existing known locations and species associations, not on any evaluation of the actual site conditions.

Private lands are not routinely surveyed by the Oregon Department of Fish & Wildlife (ODFW) or US Fish & Wildlife Service (FWS) unless they are invited by the landowner. Existing data bases are generally compiled from public land records or previous land management actions that required field assessment of habitat and species presence. As a result, many existing populations of wildlife are not included in databases. Database records are a good initial screening of potential wildlife presence but does not provide a reliable source for concluding a lack of species presence. Field based inventory must be completed to establish baseline habitat conditions and existing use by wildlife populations. Vegetation plots data and wildlife sampling should have occurred for all impacted habitats. The record contains no evidence to document completion of these requisite components.

ESA relies on Habitat Evaluation Procedure (HEP) suggesting it is a widely accepted methodology and does not require species inventory. They suggest Habitat Suitability Indexes (HSI) and Wildlife Habitat Units (WHU) can be used to provide the information required for adequate assessment and mitigation. This is contrary to HEP analysis procedures outlined in the FWS HEP Manual(1996), as discussed in greater detail below. According to conversations this authority had with representatives of the Oregon FWS (personal communication, April/2025) did concur with the authors statement that HEP was widely used and accepted methodology by the FWS. However, FWS training for use of HEP was widely discontinued by the early 2000s. Use of HEP may be helpful but should only be relied on after peer review and validation using reference conditions. Neither of these conditions appear to have been satisfied in this case. Neither of these conditions appear to have been satisfied in this case.

Inventory for wildlife use requires multiple techniques and repetitive seasonal visits to assess wildlife presence. For example, bird surveys should be completed in winter and summer periods and include point-based listening/observation plots within each habitat type. Completion of valid scientific protocols allow more accurate quantification of habitat and its use. Mammal surveys typically use night cameras and scent stations to document movement and presence. Amphibian and reptile surveys should occur in the early spring and summer months when these species are moving to and from seasonal water features and forested cover. Field data and reference sites are then used to validate Habitat Suitability Indexes and thus, HEP models. ESA does not address any of these elements. No reference areas were identified to validate ESA's model assumptions.

Page 23 of Ex. N.56, photo 6 of the hedgerow along Dodge Park Blvd appears to misrepresent the size, quality and vegetation complexity of the hedgerow. Other photos of the site (see Ex. 48 pages 3,4, & 5) provide a much different picture of the existing habitat.

Reference sites are generally required to validate species assessments, habitat models, and mitigation proposals. Reference sites allow comparison of proposed impacts and remediation efforts with sites supporting similar habitat and species. They also help to verify "expert" assumptions used to predict affects and validate mitigation outcome predictions (WHUs).

The PWB consultants report refers to baseline inventories are made but the techniques used and a full accounting of species presence and habitat conditions within each impacted habitat was not completed. Again, this would be customary. ESA's assessments or mitigation proposals are not based on actual wildlife presence or use of the impacted areas. This is a significant limiting factor and calls into question the reliability of project impact analysis and mitigation effectiveness.

HABITAT EVALUATION PROCEDURE (HEP) AND HABITAT SUITABILITY INDEX (HSI)

HEP was developed in the 1980s as a means to encourage consistency in evaluating proposed projects affecting wildlife species having Federal jurisdiction (Federally Listed Species and migratory wildlife). HEP has many limitations and its use has been largely discontinued (FWS personal communication -2025). I reviewed the HEP Manual (FWS 1989) guidelines and found several items of concern related to how use of this procedure was used by PWB consultant(s).

HEP requirements and limitations include:

1. HEP is a single species analysis. It cannot be used to address other species impacted by the proposed project. Because HEP is a species-based "expert" assessment methodology, it is applicable only for the species evaluated and does not to species within other ecosystem components. The only species addressed by the current HEP and HSI analysis are those species referenced (bobcat, elk, red-legged frog, little brown bat, downy woodpecker, western bubble bee). The PWB apparently used these species as surrogates for all species of the area potentially impacted by the pipeline and filtration projects. The use of only these surrogate species is a misrepresentation of wildlife impacts and mitigation adequacy. Furthermore, ESA purposefully left out species in their analyses, such as the streaked horned larks. Streaked horned larks are assumed to be present in the impacted area, according to OCS. However, because ESA did not detect the streaked horned lark in their singular bird observation day and is designated a rare species, they intentionally chose not to include it in their analysis. According to ODFW, other rare and threatened or endangered species are also present in the area (as previously identified in Exhibit J.19). Such species include, but are not limited to:
    a. Northern spotted owl (sensitive species, ODFW; threatened, ESA)

b. Bald eagle (protected and threatened, USFWS)
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d. Columbia white-tailed deer (endangered, USFWS; sensitive, ODFW)
e. Columbia torrent salamander (sensitive species, ODFW)
f. Oregon slender salamander (sensitive species, ODFW)

Given the potential for impacts to many sensitive, threatened, or endangered species, at the filtration and pipeline sites, the use of surrogate species is clearly not adequate and wholly ignores potential impacts.

2. HEP requires creditable inventories of possible impacted species. This includes on-the-ground surveys aimed at specific species or groups of species, their life history, and habitat use throughout the year. Project inventories should include resident and migratory birds, mammals, and pollinators regardless of whether these groups include Federally protected Threatened or Endangered Species. As I previously stated, HEP is considered an "expert" model. Expert models refer to the use of a team of species experts to evaluate individual species impacts and select species which may be used to estimate Habitat Units for mitigation.

3. HEP and HSI require habitat assessment of the impacted area. Typical habitat characteristics critical for evaluating habitat quality and quantity include ground cover, vegetation composition, habitat structure (height of shrubs and trees), and presence/location of dead and down wood. Each of these habitat components is important for determining Habitat Suitability and which wildlife species may be present. Habitat characteristics also determine what technique is appropriate to inventory for species presence, as well as how to select a reference area that represents the current conditions and mitigation outcomes. In the case of agricultural fields, this must include a history of crop rotation and wildlife use of that habitat. Wildlife responds to each condition differently and one cannot assume species presence or absence from a single growing season. Accurate habitat evaluation (using HEP and HSI) requires assessing multiple habitat characteristics across different conditions and seasons, especially in agricultural fields where crop rotation and changing habitat states significantly influence wildlife presence — meaning species presence can't be determined from a single season alone.

   The current HEP/HSI analysis limits the habitat structure and vegetation composition evaluated. Thus, the current analysis on records provides a limited assessment of what constitutes suitable habitat for nesting, foraging or wintering habitat for individual species or for communities of wildlife expected within those habitats.

   The impacted habitats that should have been quantitatively assessed include the seasonal waterway and wetlands within the construction zone, the agricultural fields, hedgerows and forest edge habitats. In addition, the assessment of the agricultural fields reflects a single agricultural use present at the time of evaluation and makes no reference to habitat suitability changes within agricultural systems as crops are rotated, cover crops planted or fields left fallow. These are significant factors which make agricultural land valuable to wildlife over

time. None of this data was presented by the PWB. There is no evidence in the record indicating quantitative field data was collected during the planning process or that there was an effort made to look at how changes in agriculture production changes HSI over time. Quantitative field data is critical to supporting HEP and HSI conclusions, and its absence makes the HEP and HSI reporting incomplete and casts doubt over the reliability of the conclusions.

4. HEP was designed as an "expert model." It is not designed to be not completed in a vacuum by a single professional. HEP is designed to be collaborative, team effort and involve multiple types of species experts to review and select species of concern. Yet, this expert-level evaluation did not occur here. The FWS manual recommends experts from agencies and NGOs provide input and evaluation of species and their habitats. In Oregon these "experts" could have included biologists from ODFW, FWS, NRCS, OSU Extension Service, Audubon Society, American Bird Conservancy, Xerces Society. Selected experts work as a team to assess model outputs, species selection and HSI development. No documentation of the requirement to use experts to evaluate qualitative wildlife species assessments and habitat analysis has been submitted as part of the record.

5. HEP does not address loss of habitat function or the time required to replace the impacted functions resulting from a new use. The differences in habitat quality (HSI) and quantity (area) between existing habitat (baseline) and projected future conditions is required to document project-related impacts to selected evaluation species. Neither HSI nor HEP were designed to predict outcomes from development for communities of species. HEP also does not provide guidance for performing future projections. The FWS Manual on HEP states that projected impacts are no better than the user's ability to predict future conditions.

   For example, planting several tree seedlings to replace a single large conifer, maple, or cherry tree does not compensate for the loss of structural complexity and habitat functions those mature trees provide to wildlife. Exhibit N.56 illustrates post-construction planting plans, which fail to replicate the original habitat conditions and composition. In particular, the proposed plantings do not resemble the previous hedgerow structure. Even under ideal conditions, it could take up to 60 years for newly planted trees to develop comparable habitat functions. Moreover, there is no evidence that the planted trees will ever achieve the canopy size, structural complexity, resilience, or cavity formation characteristic of existing mature trees.

HEP and HSI do not account for the long-term costs and care required to monitor or maintain habitat. Given that it will be several decades before the habitat function returns and wildlife populations respond, impacts to wildlife will accumulate over time. This is a primary reason for having a reference area to assist in comparing landscape designs for habitat replacement. Reference sites become critical to assessing when mitigation efforts are completed and adverse effects to wildlife mitigated.

In Oregon, the Division of State Lands (DSL) working with ODFW has implemented a successful wetland mitigation policy. The policy relies on the establishment of Wetland

Mitigation Banks to replace wetland habitats impacted by development. The program uses reference sites to validate habitat conditions that mitigate wetland impacts. A significant component of the Wetland Mitigation Bank program is the establishment of habitat conditions prior to development impacts, and the creation of stewardship funds to ensure long-term maintenance and monitoring of the mitigation site. This helps remove some of the risk associated with creating habitat and hydrology to replace impacted wetlands. This model should be applied to other mitigation proposals that rely on mitigation of habitat functions over long periods of time.

CONCLUSION

The review of the Portland Water Bureau's submittals and assessments reveals significant deficiencies in both the methodology and execution of their habitat and wildlife evaluations. The reliance on incomplete field surveys, the selective use of surrogate species, and the failure to apply standard, validated protocols undermine the credibility of their impact analysis and proposed mitigation measures. The PWB's current approach does not meet the scientific rigor required to demonstrate that adverse effects to natural resources have been avoided or adequately mitigated, as required by law and policy. Key habitats—including hedgerows, wetlands, forest edges, and seasonally dynamic agricultural fields—were either insufficiently surveyed or entirely omitted from meaningful evaluation. Furthermore, the use of Habitat Evaluation Procedures (HEP) and Habitat Suitability Indexes (HSI), without appropriate field validation, expert review, or reference sites, falls short of accepted scientific standards. Without comprehensive, seasonally representative data and collaborative, expert-driven assessment, the conclusions drawn by PWB consultants cannot be considered reliable. As such, the mitigation proposals currently on record are inadequate, and the impacts to wildlife and natural resources remain unresolved. A more rigorous, transparent, and science-based evaluation is necessary before this project can be found compliant with natural resource protection requirements.

CITATIONS

Habitat Evaluation Procedure Manual. (1996). 870 FW1, FWM #241. Office of Environmental Review.

Jeff Dillon J. and Collins M. 2025. *Personal Communication*, Oregon State Fish & Wildlife Service Office.

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Mitigation Banks to replace wetland habitats impacted by development. The program uses reference sites to validate habitat conditions that mitigate wetland impacts. A significant component of the Wetland Mitigation Bank program is the establishment of habitat conditions prior to development impacts, and the creation of stewardship funds to ensure long-term maintenance and monitoring of the mitigation site. This helps remove some of the risk associated with creating habitat and hydrology to replace impacted wetlands. This model should be applied to other mitigation proposals that rely on mitigation of habitat functions over long periods of time.

CONCLUSION

The review of the Portland Water Bureau's submittals and assessments reveals significant deficiencies in both the methodology and execution of their habitat and wildlife evaluations. The reliance on incomplete field surveys, the selective use of surrogate species, and the failure to apply standard, validated protocols undermine the credibility of their impact analysis and proposed mitigation measures. The PWB's current approach does not meet the scientific rigor required to demonstrate that adverse effects to natural resources have been avoided or adequately mitigated, as required by law and policy. Key habitats—including hedgerows, wetlands, forest edges, and seasonally dynamic agricultural fields—were either insufficiently surveyed or entirely omitted from meaningful evaluation. Furthermore, the use of Habitat Evaluation Procedures (HEP) and Habitat Suitability Indexes (HSI), without appropriate field validation, expert review, or reference sites, falls short of accepted scientific standards. Without comprehensive, seasonally representative data and collaborative, expert-driven assessment, the conclusions drawn by PWB consultants cannot be considered reliable. As such, the mitigation proposals currently on record are inadequate, and the impacts to wildlife and natural resources remain unresolved. A more rigorous, transparent, and science-based evaluation is necessary before this project can be found compliant with natural resource protection requirements.

CITATIONS

Habitat Evaluation Procedure Manual. (1996). 870 FW1, FWM #241. Office of Environmental Review.

Jeff Dillon J. and Collins M. 2025. *Personal Communication*, Oregon State Fish & Wildlife Service Office.

Multnomah County

LUP Hearings <lup-hearings@multco.us>

#T3-2022-16220: Response to N.56

2 messages

Cottrell CPO <cottrellcpo@gmail.com> Mon, May 5, 2025 at 10:53 AM
To: LUP Hearings <LUP-hearings@multco.us>

External Sender - Be Suspicious of Attachments, Links, and Requests for Payment or Login Information.

LUP,

With regards to the remand of T3-2022-16220, attached is our response to N.56 - Wildlife Impact Analysis.

Please acknowledge receipt of this email.

Thank you,
Cottrell CPO

Smith Response to N.56 - Wildlife Habitat Impact Analysis.pdf
145K

LUP Hearings <lup-hearings@multco.us> Mon, May 5, 2025 at 10:59 AM
To: Cottrell CPO <cottrellcpo@gmail.com>

Hello,

We have received your comment and added it to the record in the case. Thank you.

Best regards,
Land Use Planning

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Department of Community Services - Land Use Planning Division
1600 SE 190th Ave., Portland OR 97233
T: 503-988-3043
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