

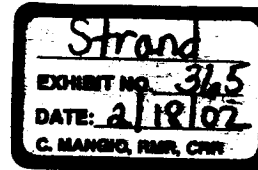
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Mr. Phil Schneider, Habitat Biologist
 Washington Department of Fish and Wildlife
 16018 Mill Creek Road
 Mill Creek, WA 98102



Subj: Sea-Tac International Airport SR-509 Temporary Interchange at S 176th Street
 and Its Potential Impacts on Fisheries Resources of Walker Creek

Dear Mr. Schneider:

On behalf of the Airport Communities Coalition, I have undertaken a review and evaluation of the subject construction project in Burien in an effort to determine whether or not fishery resources in Walker Creek, a major tributary of Miller Creek, are at risk. In undertaking this effort, I have relied on my relevant education, specialized training, and professional skills acquired over a 40-year career as a fisheries biologist (see attached Curriculum Vitae).

My opinion in this matter was first based on a review of the following documents prepared by the Port of Seattle or their contractors:

- *HNTB Corp. 2000. Hydraulic Report, SeaTac International Airport Third Runway Direct Access, Temporary Interchange at SR 509 and South 176th Street SR 509 MP 23.19 to 23.71. Prepared by D. A. Holmquist, Professional Engineer, HNTB Corp., Bellevue, Washington, dated April 12, 2000.*
- *Port of Seattle Commission. 2000. Project Manual Including Specifications for SR 509 Temporary Interchange at South 176th Street. Prepared under direction of R.P. Rawe, Director of Engineering, Port of Seattle at Sea-Tac International Airport. Issued by Port of Seattle Commission, Seattle, Washington.*
- *Parametrix, Inc. 2000. Analysis of Indirect Impacts to Wetlands from the Temporary SR-509 Interchange - Seattle-Tacoma International Airport. Memorandum to Jonathan Freedman, U.S. Army Corps of Engineers from Jim Kelley, Wetland Ecologist, Parametrix, Inc., Kirkland, Washington, dated May 3, 2000.*

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I reviewed these documents to understand what was to be constructed and where, and also to evaluate the Port's assessment of potential impacts to wetlands and surface waters that may result from this project. Finally, I evaluated the Port's use of best management practices, specifically how they intended to control erosion during construction and operation of the site.

I next visited the proposed construction site on June 2, 2000. Pertinent features of the site were observed from public right-of-ways or by obtaining permission from landowners to enter adjacent private properties. The objective was to 1) measure the distance from the construction project to the wetlands or surface water at risk, 2) estimate the slope of the land between the construction project and wetlands and or surface water, and 3) determine the nature of any vegetative barrier present.

Finally, I consulted with Amanda Azous (Azous Environmental Sciences) and Sarah Cooke (Cooke Scientific Services, Inc.), both wetland scientists familiar with the proposed construction site.

My conclusions and the detailed evaluations on which they are based are found in the succeeding sections:

Conclusions

- In my opinion, for the following reasons, the proposed construction project will result in periodic stormwater discharges of sediment-laden waters to the wetlands east and west of SR-509 that will adversely affect water quality and harm the fish species found there. While erosion control measures are installed on both the east and west sides of SR-509, they will not totally prevent runoff from reaching either Wetland 44 or 43, given the very steep terrain (estimated slope of 50 to 60 percent) in each area. The Port and its contractors also may have seriously underestimated the amount of sediment discharge that will be generated by this project. Stormwater discharges, originating as runoff from the on- and off-ramps of the temporary exchange will also contain increased concentrations of metals and polycyclic aromatic hydrocarbons. Wetland 43, lying west of SR-509, is generally of higher ecological value and may be more vulnerable to impact (e.g., Wetland 43 is larger, flows directly into Walker Creek, and is still exploited by fish, where Wetland 44 is not).
- The Port or its contractor, Parametrix, Inc., has offered little or no documentation to support their assertion that "no direct impacts and no significant indirect impacts to the wetlands will occur." There is no evidence that Parametrix has ever conducted an inventory of the fish species inhabiting the wetlands west of SR-509 or upper Walker Creek. As a consequence, they do not know which fish species are at risk. They also have not addressed the adverse effects of potential sediment discharges or the toxic effects of chemicals (metals, polycyclic aromatic hydrocarbons) on fish and other aquatic species inhabiting the wetlands adjacent to the construction site.

Construction Sediment and Erosion Control (Proposed Mitigation)

The proposed mitigation (Parametrix, 2000), which relies mainly on two layers of silt fence, whittles (relatively few), future planned mulch and seeding, as well as maintenance of the existing vegetation barrier is grossly inadequate, when one considers the key terrain features of the site.

Much of the proposed construction on the west side of SR-509 will occur adjacent to Wetland 43, a 33-acre wetland that includes much of the headwaters of Walker Creek still exploitable by salmonids and other fish species. Here, where the SR-509 south bound off-ramp will be constructed, the terrain is very steep (estimated slope of 60 percent). SR-509 is constructed at least 30 feet above and about 50 feet from an old asphalt access road lying immediately west of SR-509. After crossing the 12ft-wide abandoned access road, there is another drop (estimated slope of 50 percent) of about six feet to what appears to be the west boundary of Wetland 43. The proposed SR-509 north bound on-ramp is even closer to wetlands (Wetland 44) on the east side of SR-509. Here the distance to the west boundary of Wetland 44 is only 10 to 12 feet. The on-ramp on the east side will also be constructed in steep terrain (estimated slope of 40 percent).

The vegetation growing along and below the SR-509 embankment and on either side of the asphalt access road includes grasses and shrubs (Scots broom and red alder) that are mowed periodically. In its present state, it is of low value to hold back sediments originating during periods of heavy rain and runoff. If disturbed during construction, the movement across the landscape will be that much quicker. Also, the distance of about 12 feet from the SR-509 fill prism to the east boundary of Wetland 43 is significantly less than what is required to safeguard a high value wetland. (Azous 2000). The 10 to 12 feet between the north bound on-ramp and Wetland 44 will also provide little or no protection for Wetland 44.

The use of the proposed bioswale on the eastside of SR-509 also appears to be problematic due to the length of time it will take to establish an effective vegetative barrier, e.g., two to three growing seasons. There clearly is not enough time to establish the bioswale before the interchange will be used, or before the next rainy season. I also question if the density of vegetation will ever be sufficient to prevent sediments from entering the wetlands. Sarah Cooke (2000) has already raised this as an issue.

The slope of the site (estimated 40 to 60 percent) and the lack of much of a vegetative buffer along SR-509 indicates that there will be direct impacts on both Wetland 43 and Wetland 44 from sediment-laden runoff during the rainy season. Given the very few erosion control devices now installed on site, the Port or their contractors may also have seriously underestimated the volume of sediment that will arise from this project. Trucks carrying fill will always lose some of their contents along the way, particularly where they stop, such as the proposed interchange at S 176th Street. Trucks carrying fill will use the temporary interchange for five years and perhaps longer. Clearly, there will be more runoff than under present conditions. In the case of Wetland 43, some of this runoff will discharge directly into open water, which would quickly transport sediment to other parts

of the wetland and Walker Creek. Amanda Azous came to this same conclusion (Azous 2000).

Ecological Function

The Parametrix Report (2000) trivializes the ecological importance of the wetland to support fish, both resident and anadromous. Their rating of only moderate is arbitrary and without sound scientific basis. They have not adequately described the fishes inhabiting the site, nor is there any evidence that they recently conducted fish surveys in the wetlands or upper Walker Creek. If they had surveyed the wetlands including upper Walker Creek, they would have found the very abundant cutthroat trout in addition to juvenile coho salmon. They also would have noted that of all the small streams draining this region of King County, i.e., Walker, Miller and Des Moines Creeks, Walker Creek supported the most coho spawning in recent (1998-1999) spawning surveys (Hillman et al 1998). Based on my own observations, Walker Creek is the most undisturbed of the three drainages, which could account for its greater salmonid production.

Parametrix also does not acknowledge the ecological importance of wetlands as critical habitats supporting other aquatic life, e.g., dragonflies, damselflies, caddisflies, mayflies, and crayfish, many of which are key prey species for trout, salmon, and other fishes. Finally, Parametrix fails to mention that coho are a "candidate" species (a species under review for listing) under the Endangered Species Act (1973). It is also not known whether the cutthroat in Walker Creek are all resident fish or if some are migratory (sea-run). If some are migratory, they too are a "candidate" species, eligible for listing. For these reasons, then, the functional performance of Wetland 43 and upper Walker Creek must be rated as high.

Impact Assessment

The Port through its contractor, Parametrix, also has offered little or no documentation to support their assertion that "no direct impacts and no significant indirect impacts to the wetlands will occur" (Parametrix 2000). In my opinion, significant sediment loading of the wetlands and upper Walker Creek will occur, given their close proximity to proposed construction, and because so few erosion control devices will be installed. This will result in changes to wetland and stream substrates, which ultimately will affect the diversity of both plants and invertebrates found there. Such changes could bring about a decrease in distribution and abundance of important prey (invertebrates) for valued fish species such as trout and salmon.

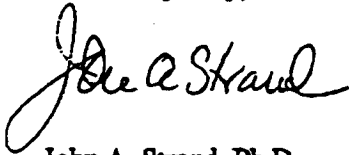
The impacts of sediment additions in the subject wetlands can last for many years, even after their control, because sediment-laden runoff often contains chemicals such as metals and polycyclic aromatic hydrocarbons which are toxic to aquatic life (Pratt et al. 1981). Metals (e.g., zinc, copper) come from tires and brake shoes and hydrocarbons are associated with combustion of petroleum-based fuels by cars and trucks (Miguel et al. 1998) or from oil and grease lost by the same vehicles to road surfaces (Larkin and Hall 1998). The many diesel trucks that will use the temporary interchange over the next five

years will surely be a source of metal- and polycyclic aromatic hydrocarbon-contaminants.

In summary, it is my opinion that the proposed construction project will result in periodic stormwater discharges of sediment-laden runoff to the wetlands east and west of SR-509 that will adversely affect water quality and harm the fish species found there. Stormwater discharges originating as runoff from the on- and off-ramps of the temporary interchange will contain heavy metals and polycyclic aromatic hydrocarbons that also have the potential to harm fish and other aquatic life. While erosion control devices are installed on either side of SR-509, they will not prevent sediments from reaching either Wetland 44 or 43, given the very steep terrain (estimated slope of 50 to 60 percent) in each area.

Thank you for the opportunity to comment on this issue. I am available at your convenience to discuss any of my comments in greater detail.

Yours very truly,



John A. Strand, Ph.D.
Principal Biologist

attachment: Curriculum Vitae

cc: Airport Communities Coalition
Peter Eglick
Mary Ortega
files

References

Azous, A. 2000. Letter Report: Review of Wetlands Impacts Resulting from Construction of Temporary Interchange at SR 509 and S. 176th Street. Azous Environmental Sciences, Olga, Washington.

Cooke, S. S. 2000. Letter Report: SeaTac Temporary Interchange at SR 509 Design Review, Airport Communities Coalition. Cooke Scientific Services, Inc., Seattle, Washington.

Hillman, T.W., Stevenson, J.R., and D. J. Snyder. 1999. Assessment of Spawning and Habitat in Three Puget Sound Streams, Washington. Prepared for the Airport Communities Coalition, Des Moines, Washington by Bioanalysts, Inc., Redmond, Washington.

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