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POLLUTION CONTROL HEARINGS BOARD  
FOR THE STATE OF WASHINGTON

AIRPORT COMMUNITIES COALITION,

Appellant,

v.

DEPARTMENT OF ECOLOGY and  
THE PORT OF SEATTLE,

Respondents.

No. PCHB 01-133

DECLARATION OF DONALD E.  
WEITKAMP, PH. D

DONALD E. WEITKAMP declares as follows:

1. Identity of Declarant. I am over the age of 18 years, am competent to testify as a witness herein, and have personal knowledge of the facts stated in this declaration.

2. Resume and Experience. I am a fish biologist with experience in freshwater and marine aspects of the biology of salmonids, resident fishes, and invertebrates of the Pacific Northwest. My experience has been with the freshwater spawning, rearing and migrations of salmonids together with the estuarine rearing and migrations of juvenile salmonids. I have over 30 years professional experience working as a fisheries and resource biologist throughout the United States, Central America, and China. A true and correct copy of my professional resume is attached as Exhibit A to this declaration.

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1           3.     Involvement With Project. With respect to the Port of Seattle's planned projects at  
2 Seattle-Tacoma International Airport ("STIA") that are covered by the pending application for a  
3 §404 permit from the U.S. Army Corps of Engineers, I have worked on preparation of the Biological  
4 Assessment for the federal Fish and Wildlife Service and the National Marine Fisheries Service for  
5 the various projects at STIA; I am thoroughly familiar with existing stream conditions and flow  
6 conditions in the area of STIA; and I have reviewed the existing and proposed stormwater  
7 management plans for STIA and the proposed low flow analysis and mitigation plan for the Port's  
8 projects.

9           4.     Materials Reviewed. In addition to the declarations submitted by ACC declarants, I  
10 have reviewed the Biological Assessment, Master Plan Update Improvements, Seattle-Tacoma  
11 International Airport (Parametrix 1999) that was prepared for the federal agencies, the Biological  
12 Opinion issued by the United States Fish and Wildlife Service, the Essential Fish Habitat assessment  
13 prepared for the services, the Low Streamflow Analysis and the Summer Low Flow Impact Offset  
14 Facility Proposal prepared for the STIA projects, the Natural Resources Mitigation Plan prepared for  
15 the Corps of Engineers, the Stormwater Management Plan for the STIA projects, and the §401  
16 Certification issued by the Department of Ecology.

17           5.     Purpose of Declaration. This declaration is provided to explain and respond to  
18 comments in declarations submitted by the Airport Communities Coalition ("ACC") in conjunction  
19 with the ACC's motion to stay the §401 Certification issued by the Washington Department of  
20 Ecology for U. S. Army Corps of Engineers Public Notice 1996-4-02325, which includes  
21 construction of a new third runway and other improvements for which a §404 permit is needed from  
22 the Army Corps of Engineers. In particular, I wish to address comments and opinions submitted  
23 regarding fisheries and aquatic resources.

24           6.     No Adverse Impacts to Aquatic Biota of Area Streams. In John Strand declaration,  
25 he states that the project and conditions in the §401 Certification will not adequately protect water  
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1 sources around the Seattle-Tacoma International Airport ("STIA"), but will likely harm sensitive  
2 streams and aquatic life. In my opinion, Dr. Strand is incorrect. The water quality controls and  
3 conditions in the project design, and placed on the project in the §401 Certification, which will  
4 include best management practices as well as site-specific water quality standards for the Port's  
5 stormwater runoff, will be adequate to protect the streams and aquatic resources in the streams near  
6 STIA to which the project will discharge. Water quality criteria are generally set in a conservative  
7 manner that prevents detectable impacts to aquatic resources. It is unlikely that the streams in the  
8 urban setting of the STIA vicinity are more sensitive than most northwest streams. As identified by  
9 Dr. Strand, these streams are already disturbed by urban development. In fact, the streams have been  
10 highly altered by urban development that is independent of STIA. This urban development has  
11 substantially changed the stream's hydraulic and chemical characteristics. Runoff from developed  
12 urban areas is highly altered from pre-development conditions areas with roadway pollutants,  
13 fertilizers and pesticides that alter the urban stream characteristics. Treatment of STIA runoff prior  
14 to discharge to these streams avoids the impacts resulting from other urban development to the  
15 aquatic biota in the streams near STIA.

16 7. Fish and Salmon Use of Creeks Near STIA. The materials submitted by Dr. Strand  
17 seem to imply that coho, chum and chinook salmon are in the portions of Miller, Walker and Des  
18 Moines Creek near STIA. In fact, there is not evidence that these species are present near the STIA  
19 property, which is located along the headwaters of these creeks.

20 As pointed out by Dr. Strand, the streams in the area of STIA have several warm water fish  
21 species that are exotic or introduced species, including yellow perch, black crappie and pumpkinseed  
22 sunfish. These species commonly inhabit streams having characteristics adverse to salmonids and  
23 are not commonly found in the same habitats as salmonids. Most likely the effects of urbanization  
24 have sufficiently altered the streams to make them more suitable for these warm water species than  
25 for salmonids. The presence of these warm water species together with the small size of the  
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1 headwater reaches of Miller, Walker, Des Moines and Gilliam Creeks (which constitute the portions  
2 of those creeks near STIA) provides evidence that salmonids are not likely to inhabit the streams in  
3 the vicinity of STIA.

4 There is no direct evidence that during their outmigration from other streams juvenile  
5 chinook "frequent" the mouth (i.e., outfall) of Miller, Walker, or Des Moines creeks where those  
6 creeks enter Puget Sound. The studies prepared for the federal agencies' consultation under the  
7 Endangered Species Act state that there is no data or observations to support the presumed use of  
8 these creek estuaries by chinook. It is expected that chinook might hold near the mouth of those  
9 streams during migration along Puget Sound's shoreline, but it is unlikely any would venture  
10 upstream past the vicinity of the stream mouth. Young salmonids, including chum and chinook,  
11 commonly frequent the discharge of small tributaries into mainstem streams, lakes and estuarine  
12 areas. This association is likely due to the food sources the streams carry in their discharges. Stream  
13 discharges carry aquatic insects into estuarine habitats providing concentrated sources of prey the  
14 young salmon commonly have been consuming during their freshwater rearing phase. Chum and  
15 coho salmon have been found in the lower portions of the streams, some distance from STIA. In the  
16 vicinity of STIA, however, these streams are not of adequate size to provide salmon habitat.

17 The identification of juvenile chinook in Gilliam Creek is not evidence this species is  
18 produced in Gilliam Creek. Young chinook are commonly planted by school rearing programs in a  
19 number of Puget Sound streams. Small numbers of young chinook also occasionally migrate  
20 upstream into tributaries from mainstem rivers for brief rearing in streams other than where they  
21 were spawned. Gilliam Creek is a small stream that does not have the physical characteristics of a  
22 chinook spawning stream. It would be extraordinary for a stream of Gilliam Creek's size and  
23 characteristics to have a reproducing population of chinook salmon. Streams of this size and  
24 characteristics may have cutthroat trout, but are unlikely to support salmon reproduction. While the  
25 Biological Assessment prepared for the federal agencies does discuss Gilliam Creek, the  
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1 characteristics of Gilliam Creek are of questionable relevance for the §401 Certification, because the  
2 stormwater discharges from the project elements listed in the JARPA for the §401 Certification all  
3 go to either the Miller Creek, Des Moines Creek or Walker Creek basins.

4 8. Biological Assessment Prepared for Federal Agencies. Pursuant to the requirements  
5 of the Endangered Species Act, the Port prepared a Biological Assessment, for the actions being  
6 taken pursuant to the Port's Master Plan Update at STIA, for the National Marine Fisheries Service  
7 and the U.S. Fish & Wildlife Service (collectively, the "Services"). The Services are the agencies  
8 with responsibility for protection of species listed under the Endangered Species Act. The  
9 Biological Assessment concluded that the Master Plan Update projects at STIA will not be likely to  
10 adversely affect the listed species under the Endangered Species Act. A copy of the Biological  
11 Assessment is attached as Exhibit B to this declaration.

12 9. Letter of Concurrence from NMFS Concludes Not Likely to Adversely Affect. The  
13 National Marine Fisheries Service has issued a letter of concurrence with the finding that the project  
14 will be not likely to adversely affect chinook salmon. A copy of the letter of concurrence is attached  
15 as Exhibit C to this declaration.

16 10. Biological Opinion from USF&WS Concludes Not Likely to Adversely Affect. The  
17 U.S. Fish & Wildlife Service has issued a Biological Opinion indicating concurrence with the  
18 finding of not likely to adversely affect their listed species. A copy of that Biological Opinion is  
19 attached as Exhibit D to this declaration.

20 11. Essential Fish Habitat Study Concludes No Long-Term Adverse Affects. An analysis  
21 of Essential Fish Habitat has also been conducted by the Federal Aviation Agency ("FAA") and U.S.  
22 Army Corps of Engineers to comply with the provisions of Section 305(b) of the Magnuson-Stevens  
23 Act (MSA). The FAA assumed the role of lead federal agency for purposes of this consultation and  
24 designated the Port of Seattle as its non-federal representative for the purposes of preparing this  
25 Essential Fish Habitat assessment. See 50 C.F.R. § 600.920(b)-(c). In addition to species listed  
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1 under the ESA, the Essential Fish Habitat analysis included other, non-listed fish species such as  
2 coho salmon. That analysis concluded that the Port's Master Plan Update projects, including the  
3 projects for which the §401 Certification was issued, would have no adverse effects to chinook or  
4 pink salmon, and no long-term effects will occur to coho salmon. Because of construction  
5 associated with the habitat restoration projects planned for Miller Creek as part of the Master Plan  
6 Update projects, there may be some short-term effects on coho salmon, but the Essential Fish  
7 Habitat assessment concluded that those restoration projects would actually provide a long-term  
8 benefit to the species. A copy of the Essential Fish Habitat analysis is attached as Exhibit E.

9 12. A Quantitative Survey of Aquatic Organisms in Streams is Unnecessary to Estimate  
10 Impacts. In his declaration for ACC, Dr. Strand indicates that a substantial amount of information is  
11 available on the species of fish present in the four streams of the STIA area. Yet in the next  
12 paragraph, he expresses concern that a quantitative survey of the fish and other aquatic organisms  
13 has not been undertaken. A quantitative survey of fish and other aquatic organisms is not necessary  
14 to identify the species present in the streams and the appropriate actions to protect them and their  
15 habitat. The fish species present have been identified, and appropriate information exists in the  
16 literature and water quality criteria to determine the appropriate actions to protect these species. It is  
17 not necessary to quantitatively establish baseline conditions of every stream in order to determine  
18 appropriate measures to protect the aquatic fauna and flora of these streams. Furthermore, the Port  
19 has conducted numerous habitat surveys and incorporated other (non-Port) survey data into its  
20 analysis of conditions in Miller, Walker and Des Moines creeks. These surveys consist of data on  
21 fish, other aquatic species, water quality, water quantity, habitat features, and stream stability.

22 Surveys include:

- 23 • Ames 1970
- 24 • Aquatic Resources Consultants, Inc. 1996
- 25 • Batchko 1999 personal communication

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- 1 • Des Moines Creek Basin Committee 1997
- 2 • Herrera Environmental Consultants, Inc. 1995, 1996 and 1997
- 3 • Hillman 1999
- 4 • King County Surface Water Management 1997
- 5 • Luchessa 1995
- 6 • Parametrix, Inc. 1997, 1999a
- 7 • Port of Seattle 1994
- 8 • Resources Planning Associates et al 1994
- 9 • Trout Unlimited 1993

10 These surveys were used to determine the conditions prior to the Port's Master Plan Improvements  
11 (which include the projects for which a §404 permit and §401 certification are required).

12 Specifically, "baseline conditions" were established in the Biological Assessment (Parametrix  
13 2000a) and Essential Fish Habitat Consultation (Parametrix 2000b) for salmonids and salmonid  
14 habitat. The United States Fish and Wildlife Service issued a Biological Opinion that accepted the  
15 baseline conditions established by the Port in those documents.

16 13. Sediments in Miller Creek Near Lake Reba Do Not Indicate Water Quality Problems  
17 From the Proposed Project. Dr. Strand raises a concern regarding sediments in Miller Creek near  
18 Lake Reba. Lake Reba is not a "water of the state" to which water quality standards apply, but is a  
19 stormwater detention and treatment facility maintained by the Port pursuant to its NPDES permit.  
20 Dr. Strand implies that the sediment levels indicate that the Port's stormwater may violate state  
21 water quality standards. No such conclusion is possible, however, given the lack of evidence cited  
22 by Dr. Strand and the standards he utilizes.

23 As an initial matter, the constituents of concern – copper, lead and zinc – are common  
24 constituents of urban runoff from roadways. The Port of Seattle and STIA constitute only a small  
25 percentage of the Miller Creek watershed (approximately five percent after the recent purchase of  
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1 west side properties for the third runway and less prior to those recent purchases). The presence of  
2 these metals in sediments of urban streams such as Miller Creek is common due to their origin from  
3 roadways. Because these metals are not commonly metabolized by aquatic biota, they can remain in  
4 sediments for relatively prolonged periods. Thus, it is impossible to determine either the source and  
5 the timing of these metals simply because of their existence in the sediments downstream from Lake  
6 Reba. It is likely that drainage from SR 518 and residential roads in the area has contributed to the  
7 sediment concentrations over a prolonged period of time.

8 More importantly for impacts to the streams and aquatic biota, it is unlikely that any of the  
9 measured sediment concentrations would produce adverse aquatic effects. Although the state of  
10 Washington has not adopted any water quality standards for sediments in fresh water, in 1997 the  
11 Washington Department of Ecology published proposed sediment quality values for copper, lead and  
12 zinc – the three elements of concern to Dr. Strand. Those proposed sediment quality values included  
13 both Sediment Quality Values and Lowest Apparent Effects thresholds. The highest sediment  
14 concentrations cited by Dr. Strand downstream from Lake Reba are substantially lower than the  
15 Sediment Quality Values proposed for copper, lead and zinc by the Washington State Department of  
16 Ecology in 1997, and they are well below the Lowest Apparent Effects threshold calculated for fresh  
17 water in those 1997 proposed Ecology standards. Thus the conclusion reached by ACC that the  
18 existence of these sediments indicates impacts to aquatic resources is not warranted by the available  
19 science, do not indicate any violation of water quality standards by STIA stormwater, and do not  
20 raise a concern over potential adverse effects to aquatic biota in the area creeks.

21 14. Flows In Area Streams Below 1.0 CFS Are Common Historically and Have Not  
22 Adversely Impacted Fish. In his declaration, Dr. Strand also expresses concern that stream flows of  
23 less than 1.0 cubic feet per secons (“cfs”) will impact anadromous and resident fish species. He fails  
24 to note that stream flows have decreased to less than 1.0 cfs for every year on record except one year  
25 for one creek. This record covering the past fifty years was examined by Parametrix and others in  
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1 preparation of the Low Flow Analysis for the §401 Certification and the Biological Assessment for  
2 the federal agencies. In fact, the summer low flows in the STIA-area streams have mean annual  
3 flows of 0.75 cfs. These normal low flow conditions establish the carrying capacity of the streams  
4 and demonstrate that the streams do not provide (either currently or in the past) desirable salmonid  
5 habitat in the vicinity of STIA. The project will not change these limiting flow conditions for any of  
6 the four streams. Again, Dr. Strand's conclusions that these normal conditions in the area streams  
7 will impact fish are unwarranted.

8 Moreover, small changes in flow are not likely to produce the effects Dr. Strand fears.  
9 Temperature and dissolved oxygen are not measurably altered by small changes in stream flow.  
10 Local weather and water source conditions have a much greater effect on these stream  
11 characteristics. Stranding and mortality of larger fish are only likely if substantial decreases in flow  
12 below normal conditions occur. Small decreases in stream flow are unlikely to cause stranding or  
13 mortality of any fish. The project mitigation is designed to mitigate low stream flow, and no such  
14 adverse impacts are expected.

15 15. The Benthic Index of Biotic Integrity (BIBI) Is an Appropriate Condition to Assess  
16 and Monitor the Biological Resource Present in Area Streams at STIA. Dr. Strand criticizes the  
17 choice by Ecology of requiring a Benthic Index of Biotic Integrity ("BIBI") monitoring study in  
18 order to assess impacts from project stormwater. He states that the BIBI assessment will not detect  
19 potential early impacts and that bioassays should be used in the alternative.

20 As an initial matter, Dr. Strand is incorrect about the potential for information gathered  
21 through a BIBI assessment. The BIBI is a direct measure of the biological resource present in  
22 streams. Although BIBI is typically employed as a long-term monitoring technique, it is certainly  
23 capable of detecting annual changes in the lower levels of the food web within the monitored  
24 streams. The BIBI is the most appropriate measurement tool for this resource, and its requirement  
25 by Ecology will provide the best monitoring available to provide reasonable assurance that the  
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1 project stormwater is not having adverse effects on the overall biological resource. The sediment  
2 bioassays recommended by Dr. Strand, on the other hand, are not a good tool because they are only  
3 an indirect indicator of toxic or bioaccumulation conditions. Bioassays are a conservative measure,  
4 which are useful in determining when a more direct (and much more expensive) study of the  
5 biological resource (such as BIBI) is warranted. However, in order to document the actual real  
6 world impacts such techniques as the BIBI are required.

7 It is also important to recognize that the stormwater discharged from the new project at STIA  
8 is not unique and will primarily be runoff from runways and grassy areas. The best management  
9 practices for treating such stormwater have proven effective at treating and managing these types of  
10 waters in projects all over the country. Moreover, the §401 Certification requires that stormwater  
11 from new project will have to meet site-specific water quality standards, which will be developed  
12 through a Water Effects Ratio Study or other site-specific study. Both BMPs for stormwater and the  
13 site-specific study will assure that the stormwater meets appropriate quality standards. In addition,  
14 the proposed retrofitting and treatment of the stormwater prior to discharge from the project will  
15 likely provide water of higher quality than existing conditions. Not only will most of the existing  
16 STIA facility be retrofitted, but the uses being replaced on the west side of STIA (roadways, single  
17 family residences on septic systems, farming use with livestock, etc.) were not treating their  
18 stormwater and were likely pollution sources. Therefore, it is unlikely there will be any early  
19 adverse impacts resulting from project stormwater.

20 16. The Timing of Low Flow Mitigation. The ACC also raises a concern about the  
21 Hydrologic model (HSPF) calculation and argues that there is no mitigation provided in June and  
22 July, when ACC alleges lowest flows actually occur, and that this will impact aquatic biota in area  
23 streams. In my opinion, this concern is unfounded and the conclusion about the timing of low flows  
24 and low flow impacts in the ACC declarations is mistaken. The claim that the lowest flows occur in  
25 June/July in Mr. Rozeboom's declaration seems to be based on data from a single creek gauge  
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1 during a single year. This analysis is not appropriate to represent the stream flows for the STIA  
2 vicinity. In connection with the low streamflow analysis for STIA, Parametrix reviewed data  
3 collected over 50 years for area streams – not just a single year. In all but a few of those years, the  
4 low flow events in the creeks occur in August and September. This is consistent with stream gauge  
5 data from most Puget Sound lowland streams, which commonly show lowest flows from late July  
6 through early September. It is during this late summer period that mitigation of stream flows is most  
7 important and of most value to the aquatic biota. In all but a few years of the 50 years reviewed, the  
8 mean flow in Des Moines, Walker, and Miller Creeks tended to decrease slowly from June through  
9 late October, with the lowest mean flows in August through early October. Stream flows then tend  
10 to increase rapidly after mid- to late-October with the autumn rains in the Puget Sound region. The  
11 Port's proposed low flow mitigation plan provides a higher level of flow during extreme low flow  
12 periods than currently is provided or would be provided in the absence of the project. Thus, the  
13 action provides increased flow protection for the aquatic resources of the stream.

14 17. In conclusion, based on my review of the project and scientific evidence, the  
15 mitigation measures contained in the Port's proposed Master Plan Update projects and the additional  
16 requirements in Ecology's §401 Certification provide reasonable assurance that the Master Plan  
17 Update projects will not be the cause of a significant adverse impact to fish and aquatic biota.

18  
19 I declare under penalty of perjury under the laws of the state of Washington that the  
20 foregoing is true and correct.

21 Executed at Kirkland, Washington, this 27 day of September 2001.

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Donald E. Weitkamp, Ph.D.

DECLARATION OF DONALD E. WEITKAMP - 11

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