Parametrix
ENGINEERING . PLANNING . ENVIRONMENTAL SCIENCES
411 108th AVENUE NE, SUITE 1800
BELLEVUE, WA 98004-5571
T. 425 . 458 . 6200 F. 425 . 458 . 6363
www.parametrix.com

May 20, 2011
PMX No. 554-1521-084 (B/2T300F)

Jason Rich
King County Department of Executive Services
Facilities Management Division
201 South Jackson, 7th Floor
Seattle, WA 98104

Re: No Effects Letter
Lake to Sound Trail Improvements – Segment B

Dear Mr. Rich:

The King County Department of Executive Services, Facilities Management Division (County) is proposing to develop a 1.5-mile segment (Segment B) of what will ultimately be the 16-mile Lake to Sound Trail. The project is a non-motorized trail located in the jurisdictions of SeaTac and Burien. We have prepared this assessment on behalf of the Federal Highway Administration (FHWA). The federal nexus for this project is federal-aid funding provided by FHWA, as administered by the Washington State Department of Transportation (WSDOT) Highways and Local Programs Division. This evaluation was prepared in accordance with section 7(c) of the Endangered Species Act (ESA) of 1973, to determine whether species listed or proposed for listing as threatened or endangered and potentially occurring in the project vicinity will be affected by project construction or operation. Effects upon critical habitat, as applicable, are also evaluated.

The listed or proposed fish species that the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) have identified as potentially occurring in the project vicinity are the Coastal-Puget Sound distinct population segment (DPS) of bull trout (*Salvelinus confluentus*), the Puget Sound evolutionarily significant unit (ESU) of Chinook salmon (*Oncorhynchus tshawytscha*), and the Puget Sound DPS of steelhead (*O. mykiss*) (see attachment). No listed or proposed wildlife or plant species are distributed within the project area, nor does habitat to support such species exist within the action area. Because the project would have no potential to affect marbled murrelets (*Brachyramphus marmoratus*) and northern spotted owls (*Strix occidentalis caurina*), they will not be addressed in this evaluation. NMFS recently listed the southern DPS of Pacific eulachon (*Thaleichthys pacificus*) as threatened (75 FR 13012, March 18, 2010) and has proposed critical habitat for this DPS (76 FR 534, January 5, 2011). Because there are no suitable eulachon spawning rivers occurring within at least 10 miles of the action area and no proposed critical habitat within 60 miles of the project, the project would have no potential to affect this species. Likewise, due to the lack of marine habitat in the action area, the project would have no potential to affect southern resident killer whales (*Orcinus orca*), Steller sea lions (*Eumetopias jubatus*), or humpback whales (*Megaptera novaeangliae*).

PROJECT LOCATION

The project is located adjacent to Des Moines Memorial Drive within the cities of SeaTac and Burien, King County, Washington (Figure 1). The Segment B project area is a linear corridor mostly within the existing roadway right-of-way. Segment B is located in Sections 20, 29, and 32, Township 23 North, Range 4 East, Willamette Meridian. North of State Route (SR) 509, the trail will be within in the City of SeaTac; south of SR 509, in the City of Burien. The project crosses a basin containing two sub-basins, Miller Creek (Watershed Resource Inventory Area [WRIA] Stream Number 09-0371) and Walker Creek (no assigned WRIA Stream Number. The basin has a sixth-field hydrologic unit code (HUC) designation of 171100190403.

The purpose of the Segment B project, as well as the longer Lake to Sound Trail, is to provide a Regional Trail System that serves as non-motorized, alternative transportation and as a recreation corridor for multiple trail users, including bicyclists, pedestrians, skaters, and others. Once complete, Segment B becomes part of a larger planned system that will serve employment and residential centers in South King County and connect to regional trails in Seattle and the greater Regional Trail System network.

Land use in the vicinity of the project is urban residential and airport facilities. Many of the properties within the project area have residential structures and outbuildings, with associated driveways, lawns, and ornamental plantings. Some properties associated with airport facilities have chain-link fence surrounding them, and are closed to public access.

The Segment B area is located in the Miller Creek subbasin. Waterbodies potentially affected by the project include Miller Creek (crossed by the project at river mile [RM] 2.0), a tributary to Miller Creek (Stream 0371G adjacent to the project alignment), Walker Creek (crossed at RM 2.0; Figure 2), and an unnamed tributary to Walker Creek. All three streams are located within the Duwamish River Watershed, within the Duwamish/Green WRIA 9.

The Miller Creek subbasin is located in southwest King County and drains approximately 8 square miles of predominantly urban area, mostly within the cities of Burien and SeaTac (Figure 2). The eastern boundary of the subbasin is formed by Sea-Tac Airport, the City of Normandy Park is to the south, and the plateau edge above Seahurst and the hill line north of Arbor Lake form the western and northern boundaries, respectively. A complex system of at least 15 locally named and unnamed tributaries form the Miller Creek subbasin. Multiple stream surveys agreed on Miller Creek's deteriorated habitat, particularly in the upper basin above RM 1.9, where the project is located. Factors contributing to the degraded instream habitat included degradation of water quality by pollutants, sediment, eutrophication of lakes and wetlands, and filling of wetlands; loss of protective streamside vegetation; and loss of instream large organic debris, natural meanders, and other diversity.

PROJECT DESCRIPTION

Segment B is typically 10 to 12 feet of porous asphalt pavement bounded by two 2-foot-wide shoulders and 1-foot-wide clear zones, in accordance with American Association of State Highway and Transportation Officials' guidelines. The project is tentatively scheduled to begin in June 2012 and will take approximately 120 working days (6 months) to complete, and will include the following features:

- Related earthwork;
- Separation of the trail from the adjacent road with a planter strip, which will include replacement elm trees where practical and other landscaping;

- Relocation of above-ground utilities to either the back side (east side) of the trail or underground;
- Drainage improvements related to the trail and conveyance of stormwater from the adjacent road across the trail;
- Retaining walls in some places to reduce the cut and fill areas needed for the trail;
- A short boardwalk section through an area in which the trail cannot avoid the adjacent Walker Creek wetland complex;
- Channelization and consolidation of driveways where multiple driveways exist for a given property to reduce the potential for conflicts between trail users and vehicles; and
- Other access and traffic control features (bollards, striping, signage, etc.)

The proposed project would not add any pollution generating impervious surface (PGIS) to the Miller Creek or Walker Creek subbasins. The non-motorized trail project would result in a total of 2.5 acres of additional trail surface, of which only 0.2 acre would be impervious surface associated with the new concrete boardwalk along Walker Creek and its associated wetlands. The remaining 2.3 acres of trail surface will be composed of pervious pavement, which allows precipitation to infiltrate through the pavement and into the soils below. These pavements are modeled in the King County Surface Water Design Manual (2009) as 50 percent impervious and 50 percent pervious.

No stormwater treatment or detention currently exists for the Des Moines Memorial Drive. Additionally, existing runoff sheetflows into adjacent wetlands and streams, including Miller Creek, Stream 0371G, and Walker Creek. Construction of the new trail requires an associated curb and gutter along the project alignment, so runoff from some areas of the adjacent roadway cannot sheetflow off of the roadway as it does under current conditions. Stormwater runoff from the roadway will be collected and discharged into, and adjacent to, project area streams, including Miller Creek, Walker Creek, and Stream 0371G. The project will utilize existing discharge points, but will also require the construction of new discharge points in several locations within the catchments of project streams and wetlands (Table 1). This will not increase the total amount of stormwater contaminants discharged (the pollutant loading) as the project will not add additional PGIS. The new discharge points will concentrate the discharge into several discreet locations, which may result in slight changes in pollutant concentrations at the end of pipe. However, no listed species are present at or immediately downstream of these outfalls, and pollutant concentrations would remain unchanged at the downstream points where listed species may be present (see fish distribution discussion below). Table 1 lists the amount of existing impervious surface generating stormwater that will be collected from each subbasin and the number of new and existing discharges. All new discharge locations will be located above the ordinary high water mark and include energy dissipation features to eliminate streambank erosion or sedimentation, and no interbasin transfers will result.

Table 1. Existing Roadway PGIS Collected and Discharged

Stream Name	Existing Roadway PGIS (acres)	Number of Existing Discharge Points Utilized	Number of New Discharge Points Constructed
Miller Creek	1.66	5	0
Stream 0371G	2.84	3	1
Walker Creek	1.60	0	3

Construction machinery that will be used includes typical equipment such as trucks, backhoes, compressors, and pumps. Limited drilling or pile driving activities will be necessary to install 9-inch diameter pin piles adjacent to Walker Creek, to support the elevated boardwalk, but no inwater pile driving will occur.

Potential best management practices (BMPs) for erosion and sediment control include, but are not limited to, placement of silt barriers, stormwater drain inserts, or straw bales/matting, as necessary. All erosion control measures will be inspected regularly to ensure adequacy and assess maintenance needs. A temporary erosion and sedimentation control (TESC) plan will be implemented to ensure that sediment-laden water does not enter any water body or drainage system. During the construction period, TESC measures will be implemented and maintained. Both a spill prevention control and countermeasures (SPCC) plan and a TESC plan will be closely followed during construction activities.

ACTION AREA

The action area for the proposed project is defined as the immediate construction area and all terrestrial habitat within 0.25 mile, as well as waters and aquatic habitat between the new stormwater discharges and 100 feet downstream of Des Moines Memorial Drive (Figures 2 and 3). We believe this is a conservative estimate of the maximum extent of downstream water quality effects, including turbidity and dissolved metals, on fish species.

HABITAT CONDITIONS AND POTENTIAL OCCURRENCE OF PROPOSED OR LISTED SPECIES AND CRITICAL HABITAT

A Parametrix biologist conducted a field reconnaissance on October 29, 2010. This site visit verified instream and riparian habitat conditions within the three project area streams. All of the streams are highly urbanized, although upstream of the project site Miller Creek and Walker Creek have fair to good riparian zones through the Port of Seattle property and large open-water wetlands, respectively. See attachments for photos of streams within the action area.

Miller Creek crosses the project corridor under Des Moines Memorial Drive, at about RM 2.0 through twin culverts. Walker Creek flows through Wetland WS-1, a large wetland located immediately upstream (east) of the study area. Through the wetland, much of the stream is ill-defined with multiple braided channels and open-water ponded areas. Water from Walker Creek crosses Des Moines Memorial Drive in two culverts.

The following assessments of species occurrence, habitat conditions, and potential project impacts are based on literature review, life-history analyses, habitat requirements, and data collected from agency sources and field reconnaissance. Sources of information include the Washington Department of Fish and Wildlife (WDFW) Salmonscape fish database and mapping application (WDFW 2010a), Priority Habitats and Species (PHS) data (WDFW 2010b), the Washington State salmon and steelhead stock inventory (WDF et al. 1993), the salmon and steelhead limiting factors analysis for WRIA 9 (WSSC 2000), and the catalog of Washington streams and salmon utilization (Williams et al. 1975). Natural Heritage Program data from the Washington Department of Natural Resources indicated that no threatened or endangered plants occur in the vicinity of the project site.

No Chinook salmon, steelhead, or bull trout have been reported within the Miller Creek or Walker Creek sub-basins (WDF et al. 1993; WSCC 2000; Washington Trout 2003; WDFW 2010a). Stream habitat conditions adjacent to the project site (in the middle to upper reaches of the streams) are not generally

adequate to support any of these species. For example, high summertime water temperatures of between 15 and 18 (King County 2011) are at or above the thermal tolerances of bull trout. These conditions, coupled with the lack of cold groundwater upwelling areas and lack of clean gravel, would preclude bull trout utilization of the action area. Likewise, the relatively small size of the stream s within the action area, coupled with habitat conditions that include low streamflows, shallow water depths, and lack of gravel and habitat complexity, would not support Chinook salmon spawning.

Recent surveys (Parametrix 1999; Trout Unlimited 2003) found a general lack of clean, unembedded gravel of a suitable size for Chinook salmon in Miller Creek, and a general lack of pools and instream cover. Furthermore, the Miller Creek subbasin is small, and occurs at low elevation. These habitat surveys, coupled with existing information on steelhead distribution, indicate that the action area is also not suitable for spawning steelhead salmon and out-of-basin juvenile steelhead have been reported, or sampled, within the Miller and Walker sub-basins.

The nearest waterbody containing listed or proposed species is Puget Sound, about 2 miles downstream of the project site. WDFW (2010a) fish distribution data indicate that coho salmon (*O. kisutch)* are potentially present within Miller Creek, while chum salmon (*O. keta*) have been documented in the lower reaches (RM 0 to 0.5) of the stream. Washington Trout (2003) has documented cutthroat trout (*O. clarkii*) and coho salmon within the project reach, as well as upstream and downstream. There is a single known report from the 1980s of a single sockeye salmon (*O. nerka*) adult observed in the lower reaches (Parametrix 1999). Coho salmon occur also in the lower reaches of Walker Creek (WDFW 2010a), and although the absolute upstream limit of coho use has not been documented, a single coho salmon was found 20 feet downstream of SR 509 (Washington Trout 2003). Hillman et al. (1999) conducted spawning surveys in Walker Creek from October 1998 to March 1999, and tallied 66 coho redds in the lower 2.3 miles of the stream, which includes the action area.

No portions of Miller Creek, Walker Creek, or tributaries within the subbasin, have been designated as critical habitat for Chinook salmon or bull trout. The closest critical habitat for Chinook salmon and bull trout is located along the nearshore of Puget Sound, more than 2 miles downstream from the project site. Critical habitat for the Puget Sound steelhead DPS has not been proposed or designated at this time, but based on steelhead distribution and life history requirements, it is highly unlikely these streams would be classified as steelhead critical habitat in the future.

EFFECTS ANALYSIS

No changes in water quality of the project area streams will result, because heavy metals, polycyclic aromatic hydrocarbons (PAHs), and other contaminants commonly associated with roadway runoff will not be generated on the pedestrian and bike trail. No changes in flow regime, including the peak flows and base flows of Miller Creek, Stream 0371G, and Walker Creek are expected because much of the stormwater generated on the trails surface will be infiltrated through the pervious pavement (2.3 acres), or sheet flow (0.2 acre) into the wetland buffer. The infiltration, coupled with the sheet flow off of the trail, will effectively disperse any remaining flow into a vegetated area with ample capacity for the interception, infiltration, or holding of the additional runoff from this small area.

Because inter-basin transfers of stormwater will not occur (all stormwater will remain in the basin it originated in), and because the stormwater will be dispersed in several locations along each waterbody, no measurable changes in stream baseflows or peakflows are expected to occur from the concentration of stormwater from these small areas of impervious surface. Because no additional PGIS is associated with the project, the only potential water quality effects would result from the concentration of stormwater

from some areas of existing project PGIS (existing sheetflow versus future discreet discharge points); however, many of the discharges are into vegetated areas that will partially intercept and infiltrate the water and west of Des Moines Memorial Drive, pollutant concentrations will be unchanged. Even if pollutant concentrations were elevated at discrete points within the action area, ESA-listed fish species would not be affected because the closest listed species to the project site is located about 2 miles downstream in Puget Sound, well outside of the action area.

Permanent impacts to stream buffers will occur where the proposed trail alignment encroaches into currently vegetated areas adjacent to the stream. The only area where permanent stream buffer impacts will occur is at the Miller Creek crossing of Des Moines Memorial Drive where 2,779 square feet (0.06 acre) of riparian buffer will be permanently displaced. The existing buffer is very low quality, consisting almost exclusively of maintained (mowed) grass. Because of the extremely limited existing functions that this portion of the buffer currently provides (limited to minor water quality filtration and infiltration), the permanent loss of this area is not expected to have a measurable effect on stream habitat in Miller Creek, and will have no effect on listed species. Likewise, 959 square feet (0.02 acre) of temporary clearing will occur in the same area, but once construction activities are complete, the area will be replanted, and no effects to listed species will occur.

Construction activities occurring directly adjacent to project area streams could increase turbidity and total suspended solids levels; however, these effects will be avoided or minimized through the development and implementation of TESC and SPCC plans.

Key project elements and mitigation measures to reduce and avoid impacts of the project are as follows:

- The streams in the study area have been avoided to the greatest feasible extent and no permanent filling of streams is anticipated.
- A high priority was also placed on avoiding and minimizing stream buffer impacts.
- The plan includes the use of retaining walls to narrow the trail footprint in the vicinity of the streams.
- A boardwalk will be used to minimize fill impacts to streams, wetlands, and buffers.
- Earthwork near streams will be limited to the dry season to reduce the potential for sediment runoff.

No direct or indirect effects to forage species are expected within, or downstream of, the action area. Traffic capacity will not increase and the project will have no measurable effect on human population growth in the area. Because Segment B will become part of a larger planned Lake to Sound trail system connecting to regional trails in Seattle and the greater Regional Trail System network, the improvement of the larger trail system is considered an interrelated activity under ESA, because the activity is related, but not dependent upon, completion of the larger Lake to Sound Trail system (Segment B has independent utility as a local trail). A second segment of the trail, Segment A, located adjacent to the Black River, is currently funded for design and will undergo a separate ESA consultation in the near-term. The other segments of the trail are not funded. Based on the location of the proposed trail, local land use codes, critical areas ordinances, and state and federal regulations, these interrelated activities are not expected to affect listed species.

EFFECTS DETERMINATION ON PROPOSED OR LISTED SPECIES AND CRITICAL HABITAT

The proposed project will have **no effect** on **bull trout**, **Chinook salmon**, or **Puget Sound steelhead** for the following reasons:

- No bull trout, steelhead, or Chinook salmon have been reported within Miller Creek, Walker Creek, or their tributaries, and stream habitat conditions are not adequate to support any of these species. The nearest waterbody containing listed or proposed species is Puget Sound, which is more than 2 miles downstream from the project site.
- The project will not result in additional PGIS within the action area and there will be no increase in pollutant loading. No changes in pollutant concentrations will occur at the point where listed species may be exposed (2 miles downstream from the action area in Puget Sound) , so no negative effects to ESA-listed fish would result.
- Of the 2.5 acres of new pavement associated with the trail surface, 2.3 acres will be composed of pervious pavement, allowing infiltration to occur and therefore not altering peak flows or baseflows in project area streams.
- No in-water or over-water work will occur and appropriate BMPs will be implemented to eliminate or reduce the risk of erosion and the chance of sediments entering action area water bodies. As part of this effort, TESC and SPCC plans will be prepared and implemented.

Based on the project location (relative distance to designated critical habitat) and the nature and scope of project activities as discussed above, the project will have **no effect** upon designated **Chinook salmon** or **bull trout critical habitat**.

Essential Fish Habitat (EFH) Analysis

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) includes a mandate that NOAA Fisheries must identify essential fish habitat (EFH) for federally managed commercially harvestable fish, and federal agencies must consult with NOAA Fisheries on all activities, or proposed activities, authorized, funded, or undertaken by the agency that may adversely affect EFH. The Pacific Fishery Management Council has designated EFH for the Pacific salmon fishery, federally managed ground fishes, and coastal pelagic fisheries.

Of the federally managed commercial habitat species, Miller Creek, Stream 0371G, and Walker Creek contain EFH for only coho salmon. However, for the reasons listed above, the project would have no deleterious effects on the physical, chemical, or biological components of these or other fish-bearing waterbodies. In compliance with the Magnuson Stevens Fishery Conservation and Management Act, essential fish habitat was assessed for the project. It was determined that the project will **not have an adverse effect on EFH.**

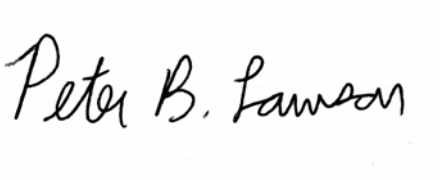
CONCLUSION

This concludes the ESA assessment and satisfies FHWA's responsibilities under Section 7(c) of the ESA. We are sending you this copy of our assessment for your files. We will continue to remain aware of any change in status of these species and will be prepared to reevaluate potential project impacts if necessary.

Please call me at 425-458-6259 if you require additional information or have any questions about this project.

Sincerely,

Parametrix



Pete Lawson
Fisheries Biologist

Attachments: Figure 1, Vicinity Map
Figure 2, Miller and Walker Basins
Figure 3, Action Area Map
USFWS King County Species List
NMFS Species List
Project Area Photographs

REFERENCES

Hillman, T.W., J.R. Stevenson, and D.J. Snyder. 1999. Assessment of spawning and habitat in three Puget Sound streams, Washington. Report to Airport Communities Coalition. BioAnalysts, Inc. 33 pages.

Parametrix. 1999. Draft natural resource mitigation plan for Seattle-Tacoma International Airport Master Plan Update improvements. Prepared for the Port of Seattle by Parametrix, Inc., Kirkland, Washington.

Washington Trout. 2003. Water Type Survey Results South King County May/June, 2003. Database and photos available at: <http://www.washingtontrout.org/kcpuget/index.shtml>.

WDF (Washington Department of Fisheries), Washington Department of Wildlife, and Western Washington Treaty Indian Tribes. 1993. 1992 Washington state salmon and steelhead stock inventory (SASSI): summary report. Washington Department of Fisheries, Olympia, Washington. 212 pp.

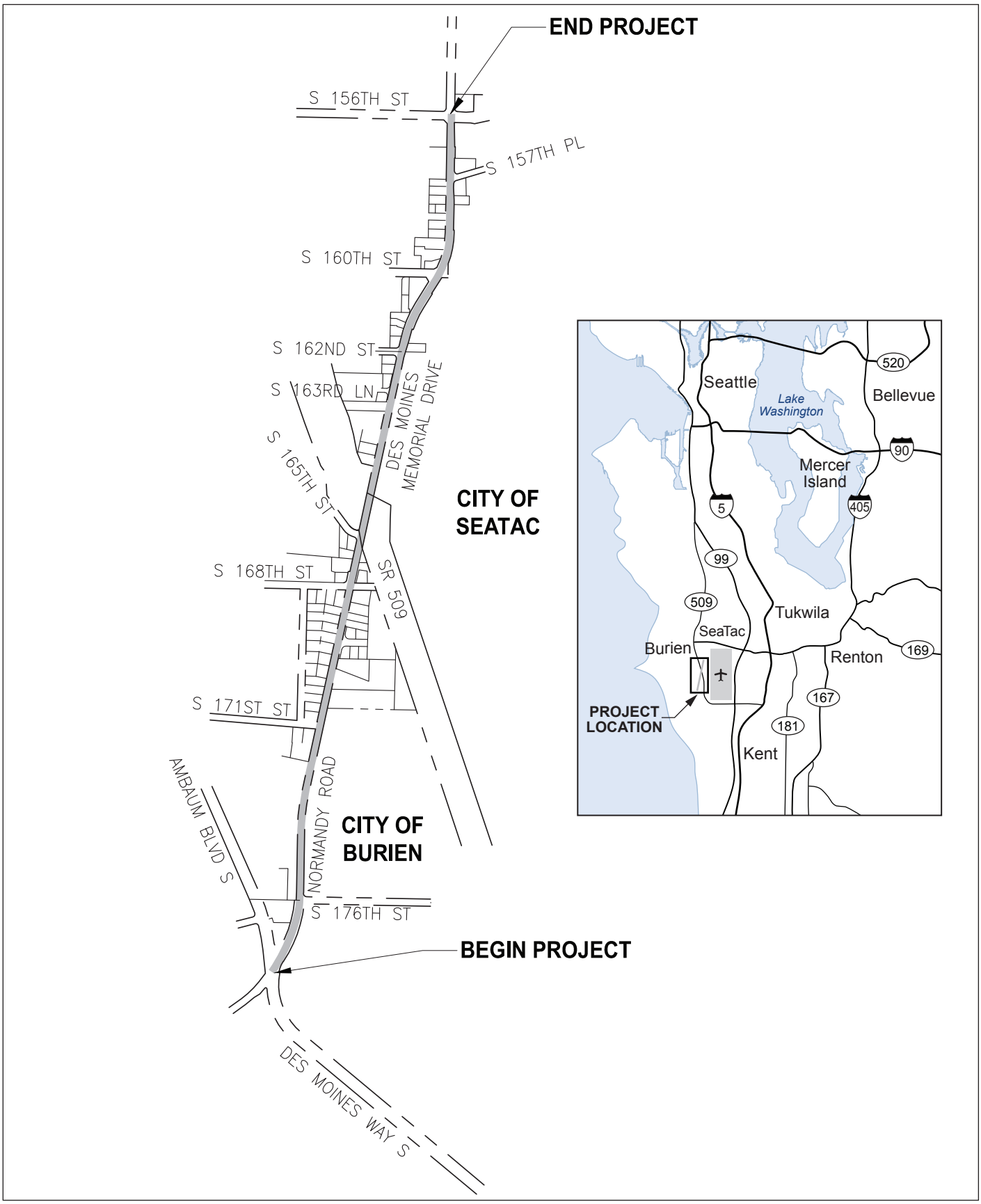
WDFW. 2010a. Salmonscape database. Available at: <http://wdfw.wa.gov/mapping/salmonscape/index.html>. Accessed on December 14, 2010.

WDFW. 2010b. Priority Habitats and Species Report for the Lake to Sound Trail – Segment B project vicinity. Olympia, Washington.

Williams, W.R., R.M. Laramie, and J.J. Ames. 1975. A catalog of Washington streams and salmon utilization. Volume 1: Puget Sound Region. Washington Department of Fisheries, Olympia, Washington.

WSSC (Washington State Conservation Commission). 2000. Salmon and steelhead limiting factors analysis. WRIA 9: Green and Duwamish Watershed.

ATTACHMENTS



Parametrix 554-1521-084/B(2T300B) 1/11 (B)

N

NOT TO SCALE

Figure 1
Vicinity Map

Lake to Sound Trail — Segment B

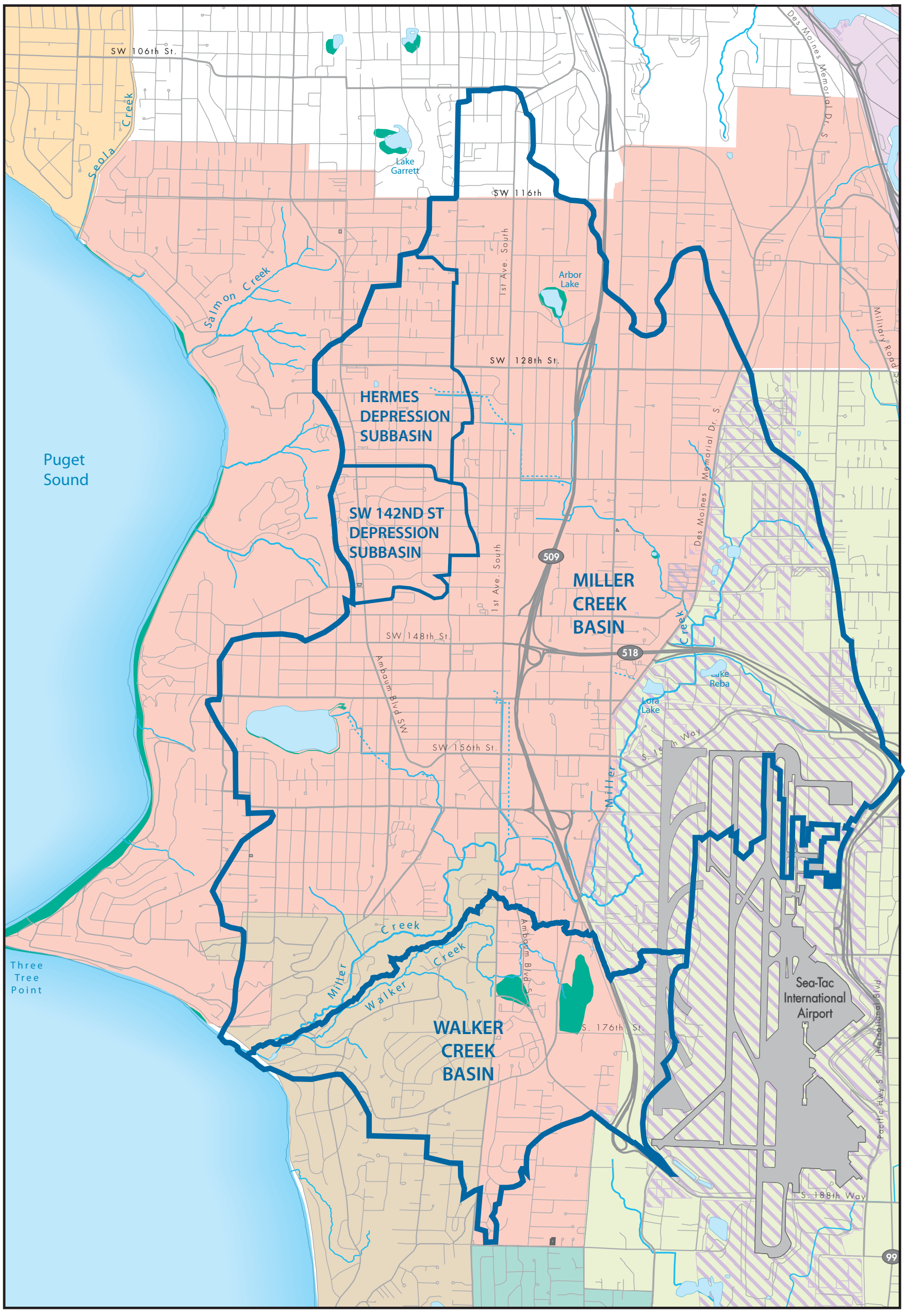


Figure 2
Miller and Walker Basins

- Burien
- Normandy Park
- Seattle
- SeaTac
- Tukwila
- Des Moines
- King County (unincorporated)
- Port of Seattle Property
- Basin Boundary
- Subbasin Boundary
- Streams & Waterline
- Freeways & Arterials
- Local Roads
- Railroads
- Pipes
- SAO Wetlands
- Other Significant Man-made Features

N

0 1/4 1/2 3/4 1 Mile

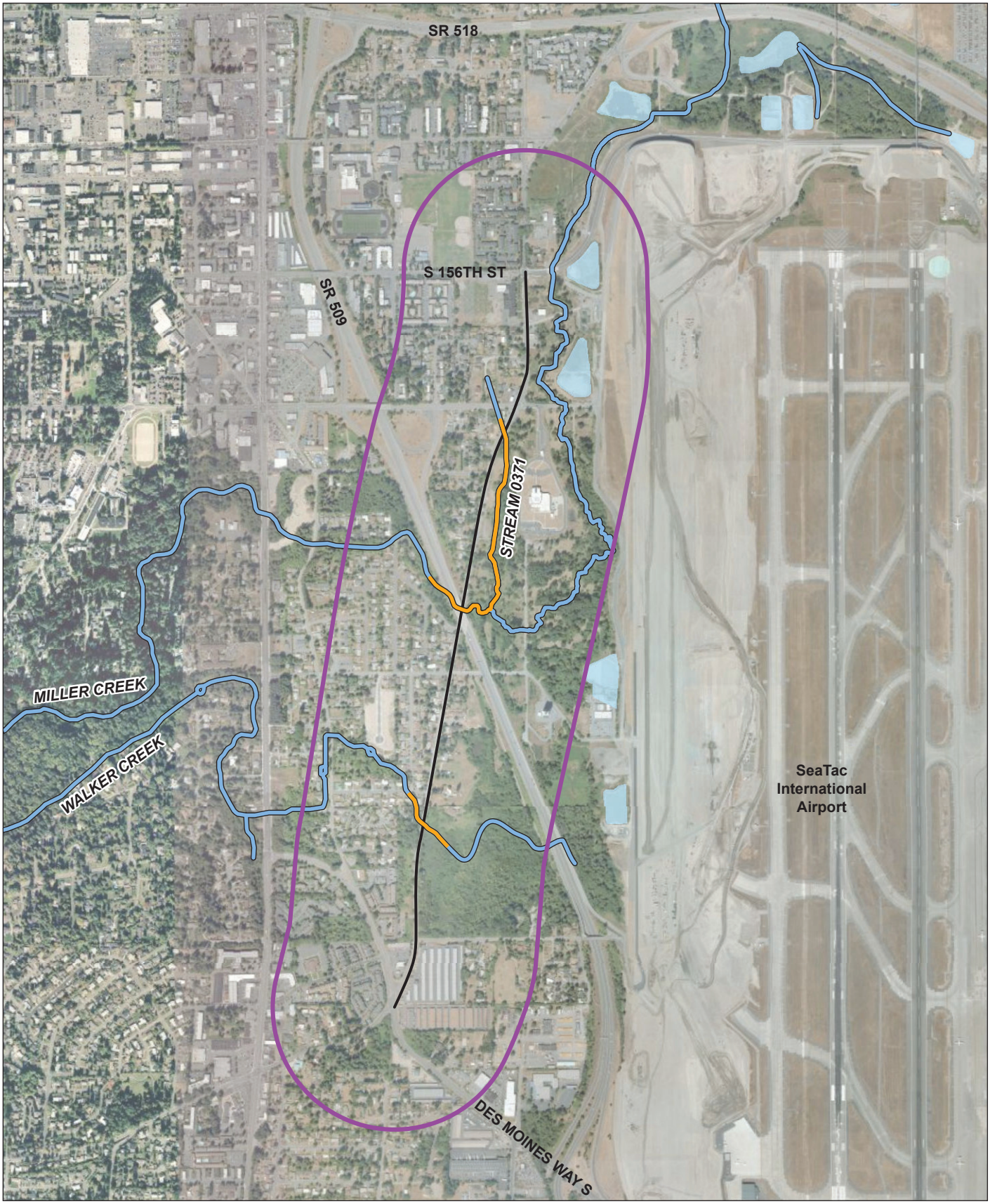
Compiled April, 1994, updated June 2010

1006_1502_MillerWalker2_HLineAnnex.ai LPRE,WG, LPRE, SK, BH, MD

Base Map Notes:
All updates register to USGS PLS.
Shoreline is USGS Mean High Water.

Data Sources:
Miller Creek Basin & Streams: Port of Seattle, 1/08
Other Stream Sources: King County "WTRCRS", 1/08
Roads: King County "TRANS_NETWORK", 1/08
Wetlands: From Environmental Division, 1994.

King County
Department of Natural Resources and Parks
Water and Land Resources Division



Parametrix 554-1521-084/B(2T300B) 5/11 (B)

N

0 1,500

SCALE IN FEET

Project Location

Terrestrial Portion of Action Area

Aquatic Portion of Action Area

Figure 3
Action Area Map

Lake to Sound Trail — Segment B

LISTED AND PROPOSED ENDANGERED AND THREATENED SPECIES AND CRITICAL HABITAT; CANDIDATE SPECIES; AND SPECIES OF CONCERN IN KING COUNTY AS PREPARED BY THE U.S. FISH AND WILDLIFE SERVICE WASHINGTON FISH AND WILDLIFE OFFICE

(Revised December 15, 2010)

LISTED

Bull trout *(Salvelinus confluentus)* – Coastal-Puget Sound DPS
Canada lynx *(Lynx canadensis)*
Gray wolf *(Canis lupus)*
Grizzly bear *(Ursus arctos = U. a. horribilis)*
Marbled murrelet *(Brachyramphus marmoratus)*
Northern spotted owl *(Strix occidentalis caurina)*

Major concerns that should be addressed in your Biological Assessment of project impacts to listed animal species include:

1. Level of use of the project area by listed species.

2. Effect of the project on listed species' primary food stocks, prey species, and foraging areas in all areas influenced by the project.

3. Impacts from project activities and implementation (e.g., increased noise levels, increased human activity and/or access, loss or degradation of habitat) that may result in disturbance to listed species and/or their avoidance of the project area.

Castilleja levisecta (golden paintbrush) [historic]

Major concerns that should be addressed in your Biological Assessment of project impacts to listed plant species include:

1. Distribution of taxon in project vicinity.

2. Disturbance (trampling, uprooting, collecting, etc.) of individual plants and loss of habitat.

1. Changes in hydrology where taxon is found.

DESIGNATED

Critical habitat for bull trout
Critical habitat for the marbled murrelet
Critical habitat for the northern spotted owl

PROPOSED

Revised critical habitat for bull trout

CANDIDATE

Fisher *(Martes pennanti)* – West Coast DPS
North American wolverine *(Gulo gulo luteus)* – contiguous U.S. DPS
Oregon spotted frog *(Rana pretiosa)* [historic]
Yellow-billed cuckoo *(Coccyzus americanus)*

SPECIES OF CONCERN

Bald eagle *(Haliaeetus leucocephalus)*
Beller's ground beetle *(Agonum belleri)*
Cascades frog *(Rana cascadae)*
Hatch's click beetle *(Eanus hatchi)*
Larch Mountain salamander *(Plethodon larselli)*
Long-eared myotis *(Myotis evotis)*
Long-legged myotis *(Myotis volans)*
Northern goshawk *(Accipiter gentilis)*
Northern sea otter *(Enhydra lutris kenyoni)*
Northwestern pond turtle *(Emys (= Clemmys) marmorata marmorata)*
Olive-sided flycatcher *(Contopus cooperi)*
Pacific lamprey *(Lampetra tridentata)*
Pacific Townsend's big-eared bat *(Corynorhinus townsendii townsendii)*
Peregrine falcon *(Falco peregrinus)*
River lamprey *(Lampetra ayresi)*
Tailed frog *(Ascaphus truei)*
Valley silverspot *(Speyeria zerene bremeri)*
Western toad *(Bufo boreas)*
Aster curtus (white-top aster)
Botrychium pedunculosum (stalked moonwort)
Cimicifuga elata (tall bugbane)

Endangered Species Act Status of West Coast Salmon & Steelhead

(Updated July 1, 2009)

Species[1]			*Current Endangered Species Act Listing Status*[2]	*ESA Listing Actions Under Review*
Sockeye Salmon (*Oncorhynchus nerka*)	1	Snake River	***Endangered***	
	2	Ozette Lake	***Threatened***	
	3	Baker River	*Not Warranted*	
	4	Okanogan River	*Not Warranted*	
	5	Lake Wenatchee	*Not Warranted*	
	6	Quinalt Lake	*Not Warranted*	
	7	Lake Pleasant	*Not Warranted*	
Chinook Salmon (*O. tshawytscha*)	8	Sacramento River Winter-run	***Endangered***	
	9	Upper Columbia River Spring-run	***Endangered***	
	10	Snake River Spring/Summer-run	***Threatened***	
	11	Snake River Fall-run	***Threatened***	
	12	Puget Sound	***Threatened***	
	13	Lower Columbia River	***Threatened***	
	14	Upper Willamette River	***Threatened***	
	15	Central Valley Spring-run	***Threatened***	
	16	California Coastal	***Threatened***	
	17	Central Valley Fall and Late Fall-run	***Species of Concern***	
	18	Upper Klamath-Trinity Rivers	*Not Warranted*	
	19	Oregon Coast	*Not Warranted*	
	20	Washington Coast	*Not Warranted*	
	21	Middle Columbia River spring-run	*Not Warranted*	
	22	Upper Columbia River summer/fall-run	*Not Warranted*	
	23	Southern Oregon and Northern California Coast	*Not Warranted*	
	24	Deschutes River summer/fall-run	*Not Warranted*	
Coho Salmon (*O. kisutch*)	25	Central California Coast	***Endangered***	
	26	Southern Oregon/Northern California	***Threatened***	
	27	Lower Columbia River	***Threatened***	• Critical habitat
	28	Oregon Coast	***Threatened***	
	29	Southwest Washington	*Undetermined*	
	30	Puget Sound/Strait of Georgia	***Species of Concern***	
	31	Olympic Peninsula	*Not Warranted*	
Chum Salmon (*O. keta*)	32	Hood Canal Summer-run	***Threatened***	
	33	Columbia River	***Threatened***	
	34	Puget Sound/Strait of Georgia	*Not Warranted*	
	35	Pacific Coast	*Not Warranted*	
Steelhead (*O. mykiss*)	36	Southern California	***Endangered***	
	37	Upper Columbia River	***Threatened***	
	38	Central California Coast	***Threatened***	
	39	South Central California Coast	***Threatened***	
	40	Snake River Basin	***Threatened***	
	41	Lower Columbia River	***Threatened***	
	42	California Central Valley	***Threatened***	
	43	Upper Willamette River	***Threatened***	
	44	Middle Columbia River	***Threatened***	
	45	Northern California	***Threatened***	
	46	Oregon Coast	***Species of Concern***	
	47	Southwest Washington	*Not Warranted*	
	48	Olympic Peninsula	*Not Warranted*	
	49	Puget Sound	***Threatened***	• Critical habitat
	50	Klamath Mountains Province	*Not Warranted*	
Pink Salmon (*O. gorbuscha*)	51	Even-year	*Not Warranted*	
	52	Odd-year	*Not Warranted*	

1 The ESA defines a "species" to include any distinct population segment of any species of vertebrate fish or wildlife. For Pacific salmon, NOAA Fisheries Service considers an evolutionarily significant unit, or "ESU," a "species" under the ESA. For Pacific steelhead, NOAA Fisheries Service has delineated distinct population segments (DPSs) for consideration as "species" under the ESA.

Photograph 1. View of Miller Creek, just upstream (east) from crossing of Des Moines Memorial Drive South. Note notched weir and pool, one of three such structures within this reach. (Photograph from Washington Trout, 2003)

Photograph 2. View of Miller Creek stream buffer that will be impacted by project (along east side of Des Moines Memorial Drive South). Note degraded condition of stream buffer, which consists primarily of maintained grasses.

Photograph 3. View of Stream 09-0371G, about 100 feet upstream from confluence with Miller Creek. Note narrow channel width and presence of invasive herbaceous vegetation. (Photograph from Washington Trout, 2003)

Photograph 4. View of Walker Creek, at inlet to northern culvert under Des Moines Memorial Drive. Note pooled area at inlet presence of beaver deceiver.