Exhibit 8

Boundary Hydroelectric Project (FERC No. 2144)

Fish Tissue Sampling Plan

Seattle City Light

March 2010

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Fish Tissue Sampling Plan
Boundary Hydroelectric Project (FERC No. 2144)

1 INTRODUCTION

This document describes Seattle City Light's (SCL) proposed Fish Tissue Sampling Plan for the Boundary Hydroelectric Project (Project), Federal Energy Regulatory Commission (FERC) No. 2144.

1.1. Purpose

Attachment 1 to the Boundary Project Relicensing Joint Agreement in Principle (AIP), Specific Protection, Mitigation, and Enhancement Provisions, Section (C)(9)(vii), states that SCL shall include the following information in its application to WDOE (Washington Department of Ecology or Ecology) for 401 Water Quality certification:

> A plan for collecting and analyzing tissue samples from sport fish, and sucker (spp.) in Boundary reservoir regarding lead and zinc concentrations. Data will be collected and provided to WDOE and Washington Department of Health (WDOH) to assess human health risks from fish consumption one year after license issuance. If health advisories are warranted, WDOE and WDOH will determine the next steps for tissue sampling or health advisory issuance.

The following sections describe the proposed field methods, laboratory analysis, reporting of results, and implementation schedule associated with the fish tissue sampling effort in Boundary Reservoir.

2 FIELD METHODS

2.1. Sample Site Locations

Sampling will take place in the vicinity of four of the 14 sites sampled for toxics concentrations as part of SCL's Toxics Assessment: Evaluation of Contaminant Pathways (SCL 2009):

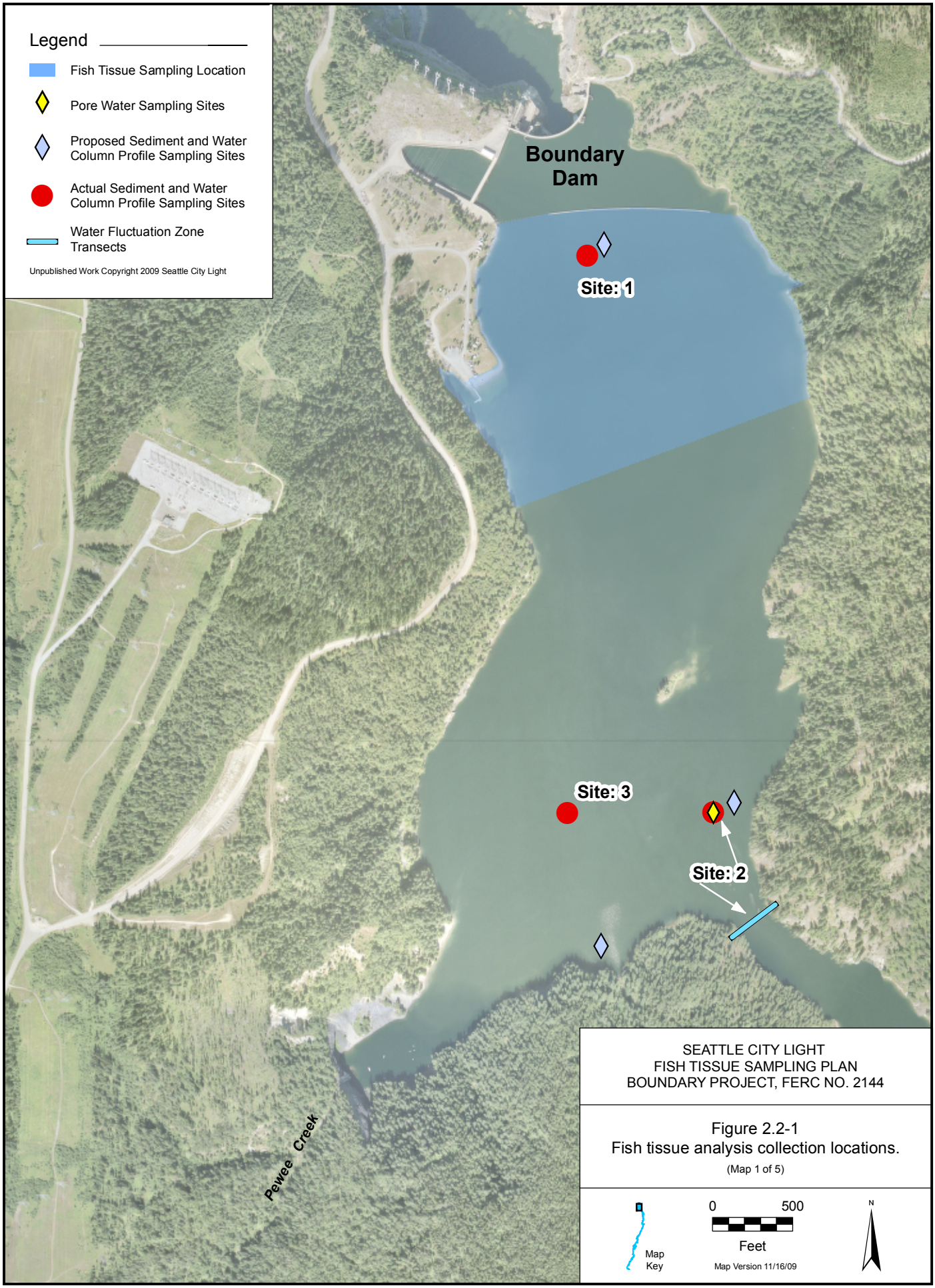
- Site 1 - Boundary Dam forebay
- Sites 4 and 5 - Downstream of these sites near Everett Island in the Canyon Reach
- Site 10 - Metaline Falls area
- Site 14 - Downstream of the Box Canyon Dam tailrace

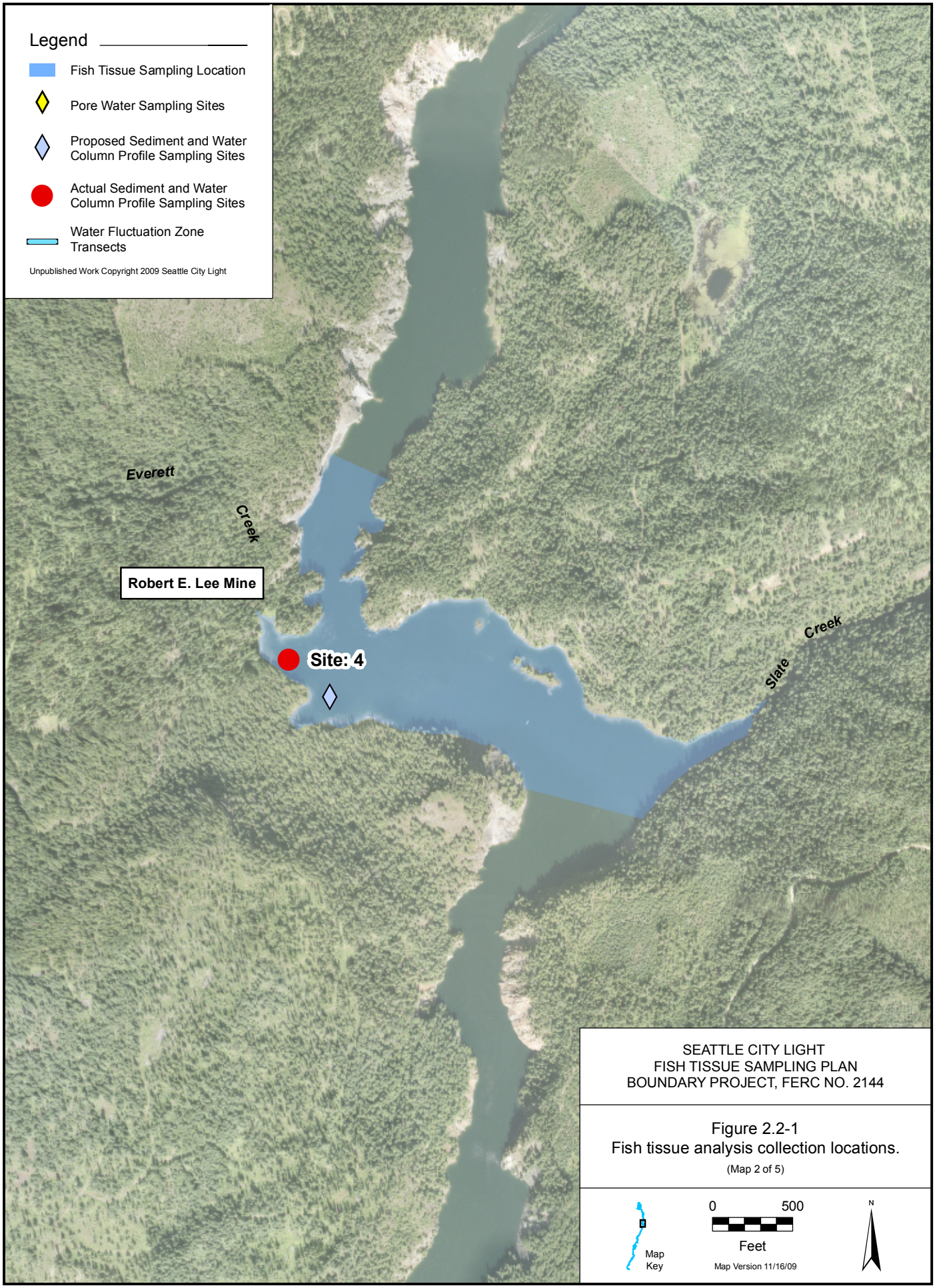
Two of these sites are located to represent the inflow (i.e. Site 14) and outflow (i.e., Site 1) points of the reservoir, and two of the locations were selected to correspond to areas where lead and zinc exceedances were observed as part of the toxics assessment (SCL 2009). Site 10 was selected to obtain fish in the vicinity of sites 10 and 11, where lead levels in some surface water samples exceeded relevant criteria. Site 4 was selected because it is located downstream of sites 5 and 8, where lead and zinc exceedances were measured in sediment and pore water, and because it is an area within the Canyon Reach of the reservoir where target fish species are likely abundant enough to allow field crews to capture sufficient numbers of fish within the desired size ranges. For a summary of toxics exceedances in the Project area, see Table E.4-18 of SCL's Boundary Project License Application. Maps showing the toxics sampling sites can be found on pages 10 through 16 of the Toxics Assessment: Evaluation of Contaminant Pathways (SCL 2009).

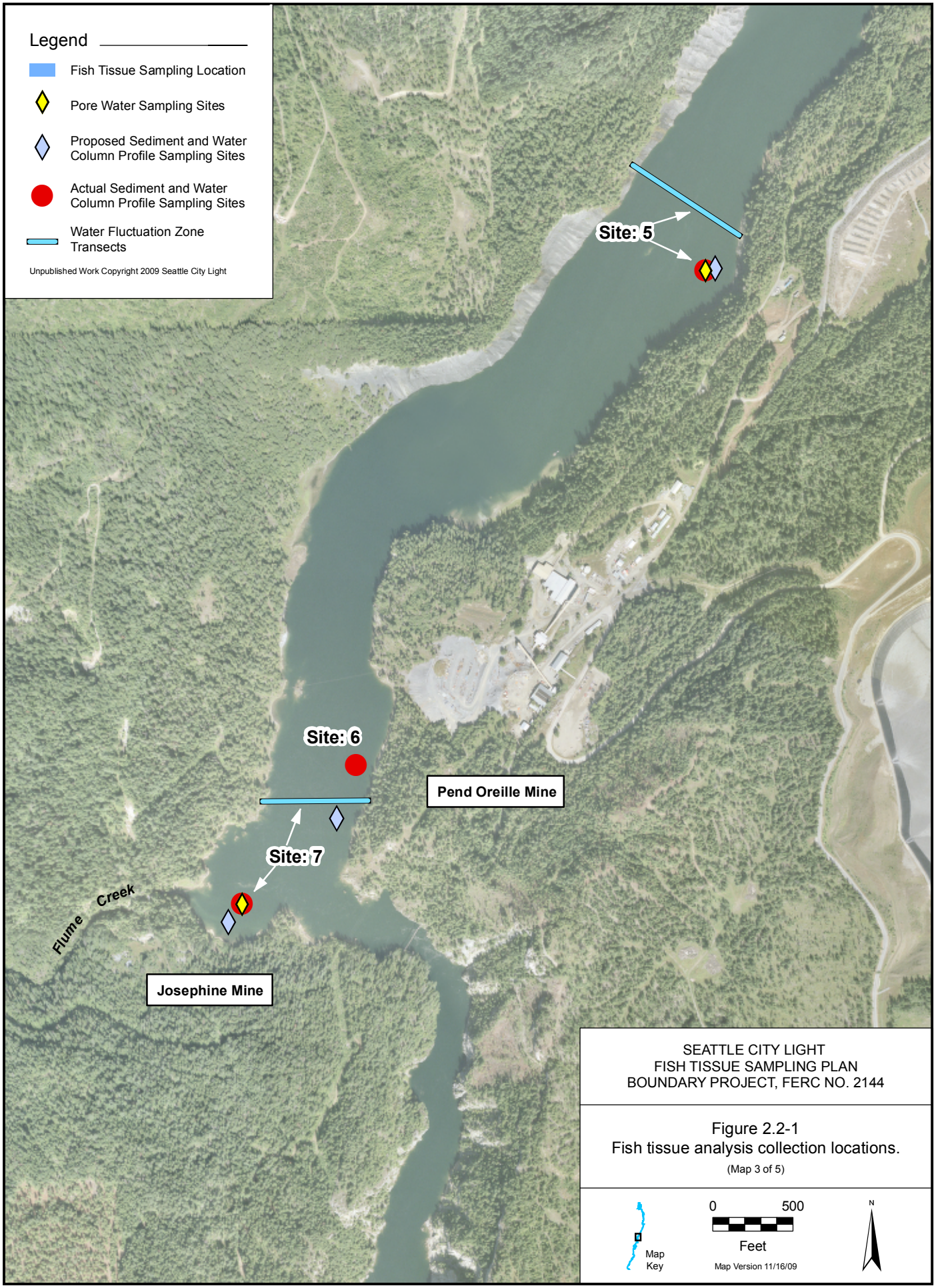
2.2. Fish Collection and Processing

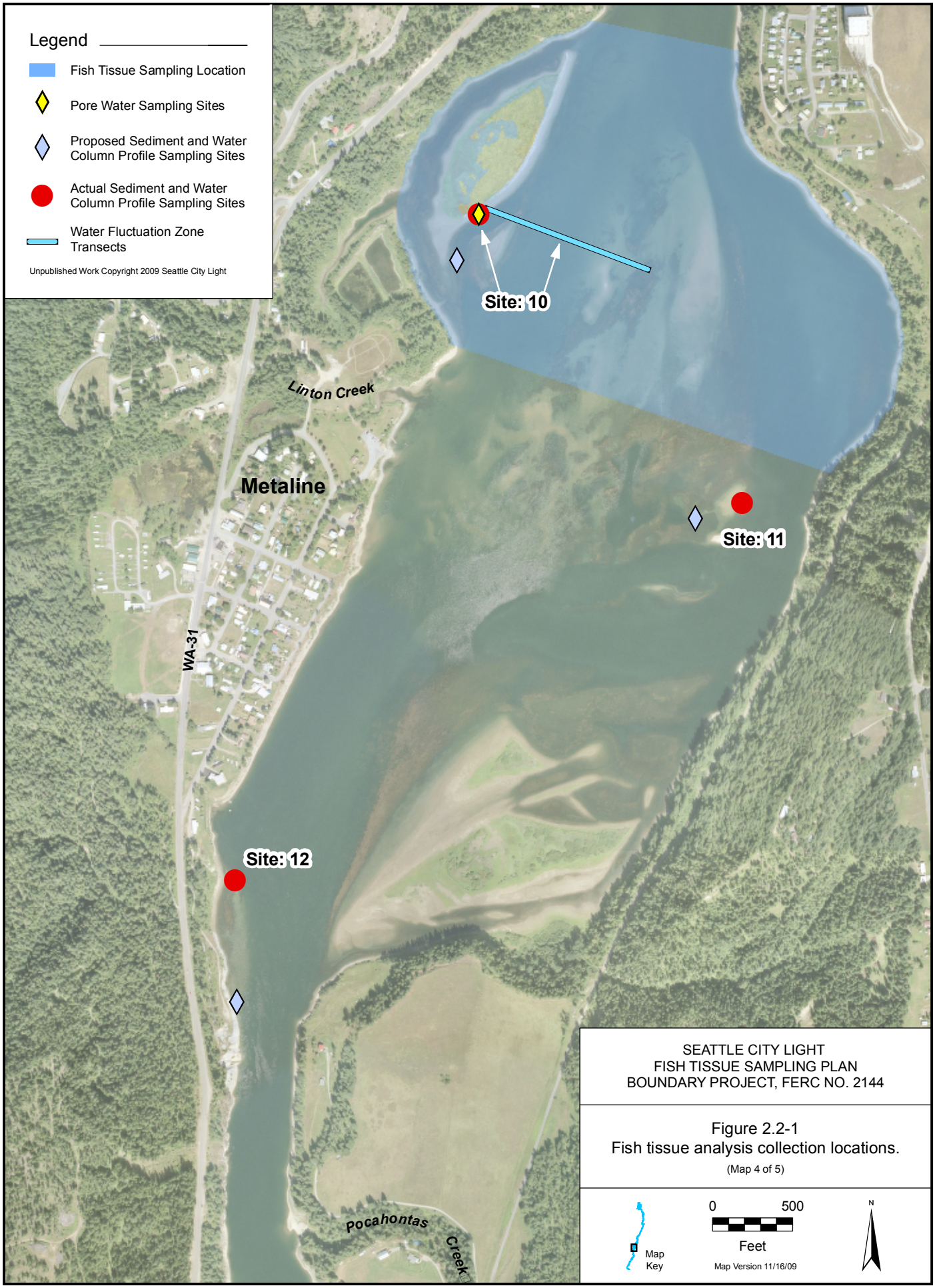
Fish will be collected by electrofishing, angling, or fyke netting within the areas shown in Figure 2.2-1. At each site three centrarchids (smallmouth bass [*Micropterus dolomieui*], largemouth bass [*Micropterus salmoides*], black crappie [*Pomoxis nigromaculatus*], or pumpkinseed [*Lepomis gibbossus*]) and three suckers (*Catostomus* spp.) will be collected for tissue analysis. Field crews will attempt to capture centrarchids greater than 7 inches and largescale suckers greater than 8 inches in total length. If sufficient numbers of each species within the target size ranges cannot be captured within these areas, sampling effort will be expanded by field crews until sufficient numbers of fish are captured as close as possible to the locations shown in Figure 2.2-1. If any naturally reproduced salmonids (other than bull trout [*Salvelinus confluentus*]) greater than 7 inches in length are captured while sampling for centrarchids and suckers at the sites identified above, they will be substituted for the centrarchids, for up to a total of three game fish species (i.e., some combination of centrarchids and salmonids) at each of the sites.

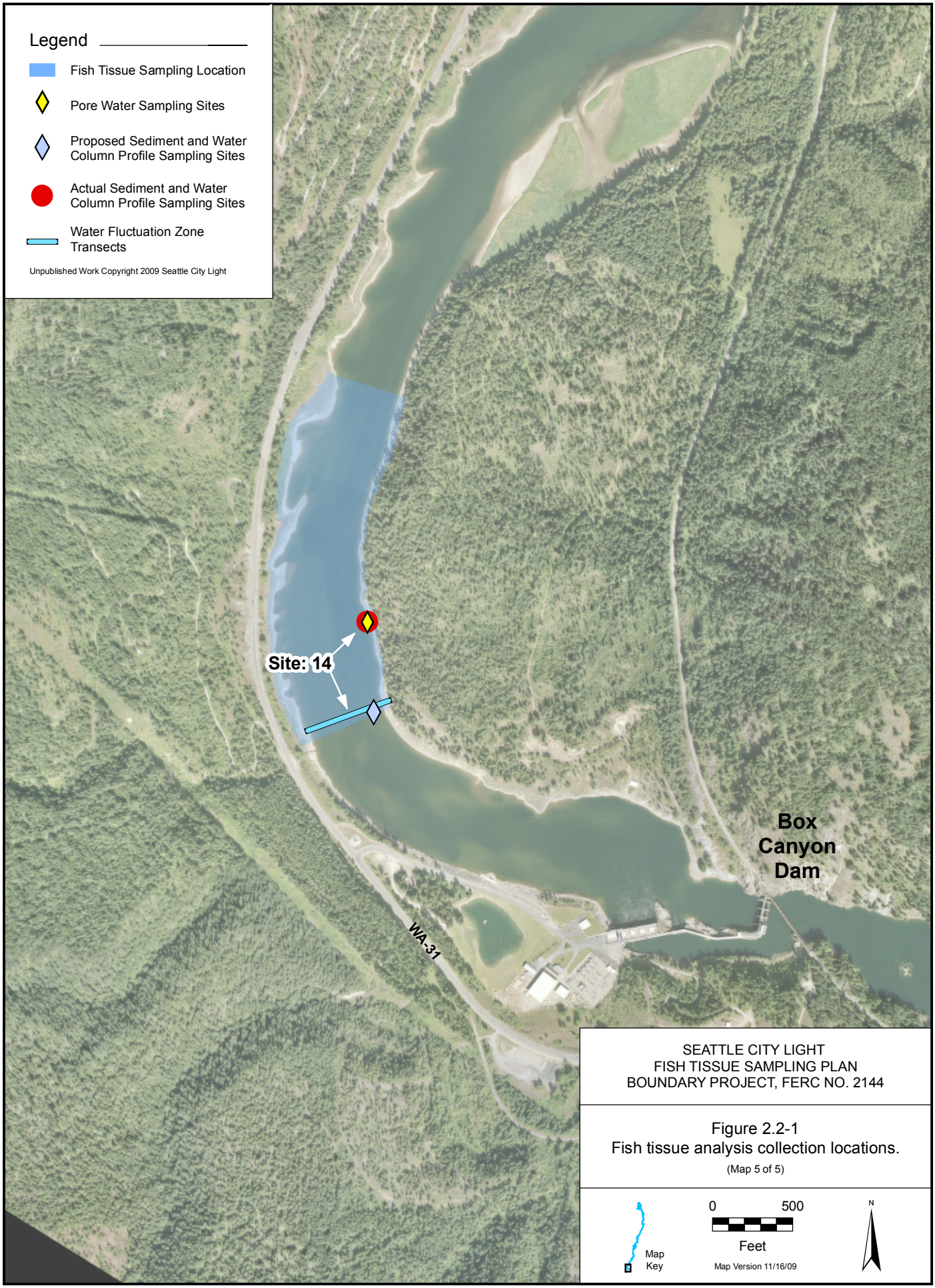
Fish will be measured for total length and weight and prepared for transport and delivery according to methods outlined in EPA (2000) and reflecting Ecology's (2005a) efforts completed in Box Canyon and Boundary reservoirs. Sampling and measuring equipment to be used directly in the handling of fish will be cleaned prior to each sampling event. All potential sources of contamination in the field will be identified, and appropriate steps will be taken to minimize or eliminate them. Fish with skin lacerations or fin deterioration will not be used for tissue analysis. Field crews will carefully document all field sample collection and processing activities and identify personnel conducting the sampling. A chain-of-custody label will be completed for each individual fish specimen. Each fish will be individually wrapped in extra heavy duty aluminum foil, placed in a watertight plastic bag, stored on ice, and sent to the laboratory within 48 hours of initial collection.


Legend
Fish Tissue Sampling Location
Pore Water Sampling Sites
Proposed Sediment and Water Column Profile Sampling Sites
Actual Sediment and Water Column Profile Sampling Sites
Water Fluctuation Zone Transects
Unpublished Work Copyright 2009 Seattle City Light
Boundary Dam
Site: 1
Site: 3
Site: 2
Pewee Creek
SEATTLE CITY LIGHT
FISH TISSUE SAMPLING PLAN
BOUNDARY PROJECT, FERC NO. 2144
Figure 2.2-1
Fish tissue analysis collection locations.
(Map 1 of 5)
Map Key
0
500
Feet
Map Version 11/16/09
N


Legend
Fish Tissue Sampling Location
Pore Water Sampling Sites
Proposed Sediment and Water Column Profile Sampling Sites
Actual Sediment and Water Column Profile Sampling Sites
Water Fluctuation Zone Transects
Unpublished Work Copyright 2009 Seattle City Light
Everett
Creek
Robert E. Lee Mine
Site: 4
Slate
Creek
SEATTLE CITY LIGHT
FISH TISSUE SAMPLING PLAN
BOUNDARY PROJECT, FERC NO. 2144
Figure 2.2-1
Fish tissue analysis collection locations.
(Map 2 of 5)
Map Key
0
500
Feet
Map Version 11/16/09
N


Legend
Fish Tissue Sampling Location
Pore Water Sampling Sites
Proposed Sediment and Water Column Profile Sampling Sites
Actual Sediment and Water Column Profile Sampling Sites
Water Fluctuation Zone Transects
Unpublished Work Copyright 2009 Seattle City Light
Site: 5
Site: 6
Site: 7
Pend Oreille Mine
Josephine Mine
Flume Creek
SEATTLE CITY LIGHT
FISH TISSUE SAMPLING PLAN
BOUNDARY PROJECT, FERC NO. 2144
Figure 2.2-1
Fish tissue analysis collection locations.
(Map 3 of 5)
Map Key
0
500
Feet
Map Version 11/16/09
N


Legend
Fish Tissue Sampling Location
Pore Water Sampling Sites
Proposed Sediment and Water Column Profile Sampling Sites
Actual Sediment and Water Column Profile Sampling Sites
Water Fluctuation Zone Transects
Unpublished Work Copyright 2009 Seattle City Light
Site: 10
Linton Creek
Metaline
Site: 11
WA-31
Site: 12
Pocahontas Creek
SEATTLE CITY LIGHT
FISH TISSUE SAMPLING PLAN
BOUNDARY PROJECT, FERC NO. 2144
Figure 2.2-1
Fish tissue analysis collection locations.
(Map 4 of 5)
Map Key
0
500
Feet
Map Version 11/16/09
N



SEATTLE CITY LIGHT
FISH TISSUE SAMPLING PLAN
BOUNDARY PROJECT, FERC NO. 2144

Figure 2.2-1
Fish tissue analysis collection locations.
(Map 5 of 5)

3 LABORATORY ANALYSIS

Tissue samples will be analyzed in a laboratory accredited by Ecology for analysis of samples originating from natural surface waters. Pre-defined Measurement Quality Objectives (MQO's) will be identified in the Quality Assurance Project Plan (QAPP) to determine performance of the laboratory in analyzing tissue samples for lead and zinc. Appropriate detection limits and laboratory performance required for this project will be based on the EPA (2000) as described by Ecology (2005b).

4 REPORTING OF RESULTS

Within 90 days of receiving final results from the laboratory, SCL will provide Ecology and WDOH with a table showing the results of fish tissue analysis for lead and zinc, reported for each fish at each sampling site.

5 IMPLEMENTATION SCHEDULE

Within six months of FERC's issuance of the new Project license, SCL will submit a QAPP for Ecology's approval. Fish tissue collection will occur once during the first summer (July - August) following the approval of the QAPP by Ecology. A table showing the results of tissue sampling for each fish at each sampling site will be provided to Ecology and WDOH within 90 days of receiving final results from the laboratory. If WDOH determines that health advisories are warranted, Ecology and WDOH will identify next steps for tissue sampling or health advisory issuance.

6 REFERENCES

Ecology (Washington Department of Ecology). 2005a. Verification of 303(d) Listings for Fish Tissue in the Skagit and Pend Oreille Rivers. Ecology Publication No. 05-03-017. Washington Department of Ecology, Environmental Assessment Program. Olympia, WA. 27 pages, plus appendices.

Ecology. 2005b. Manchester Environmental Laboratory: Lab User's Manual (Eighth Edition). Washington Department of Ecology, Manchester Environmental Laboratory, Manchester, WA. 186 pages, plus appendices.

Ecology. 2006. Water Quality Standards for Surface Waters of the State of Washington. Chapter 173-201A WAC. Olympia, Washington.

EPA (U.S. Environmental Protection Agency). 2000. Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories, Volumes 1 and 2. EPA-823-B-00-007. U.S. Environmental Protection Agency, Office of Water, Washington, DC.

SCL (Seattle City Light). 2009. Study 4 – Toxics Assessment: Evaluation of Contaminant Pathways, Final Report. http://www.seattle.gov/light/news/issues/bndryRelic/br_document.asp. March 2009.

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