1.0 Introduction

Fidalgo Bay has been identified by the Washington State Department of Ecology (Ecology) under the Toxics Cleanup Program's Puget Sound Initiative for focused sediment cleanup and source control. On March 31, 2008, a report was submitted to Ecology detailing the nature and extent of sediment contamination in Fidalgo Bay, Anacortes, WA (SAIC 2008). The report included the analysis of sediment profile imaging (SPI) at 126 locations, surface sediment chemistry analysis at 58 locations, and toxicity testing at 24 locations. Washington State Sediment Management Standards (SMS) were exceeded at several of these locations, with eight samples exceeding Sediment Quality Standards (SQS) or Cleanup Screening Levels (CSL) for chemistry and 12 for toxicity testing.

Based on the initial data results, Ecology requested the chemical analysis of archived sediment and tissue samples to further define the nature and extent of contamination in Fidalgo Bay. This addendum summarizes the results of this second round of analyses. All sediment and tissue sample collection was conducted and archived following the methods described in the *Fidalgo Bay Sediment Investigation, Fidalgo Bay, WA, Final Report* (SAIC 2008) and in the *Fidalgo Bay Sediment Investigation, Anacortes, WA, Sediment Sampling and Analysis Plan* (SAP) (SAIC 2007).

1.1 Project Scope and Study Objectives

A full description of the project scope can be found in the *Fidalgo Bay Sediment Investigation, Fidalgo Bay, WA, Final Report* (SAIC 2008). In brief, the Fidalgo Bay Sediment Investigation was divided into four Decision Unit Areas (DUAs) defined by Ecology (Figure 1). Surface sediment grab samples, subsurface sediment cores, radioisotope cores, tissue collection, and and SPI survey were carried out between August 23, 2007, and October 8, 2007. In June 2008, archived sediment and tissue samples were sent for analysis of SMS chemicals and dioxin/furan congeners.

The objectives of this 2008 Sediment Investigation Addendum are to use the results of the archived samples to supplement the data gaps of the final report. Specifically, the objectives of the addendum include the following:

- Compare the sediment chemistry results of the archived samples to Washington State SMS, SQS, and CSL numeric criteria.
- Compare the results of the archived dioxin/furan congener analysis to the samples analyzed in the first round of analysis so that Ecology can better evaluate the nature and extent of dioxin/furan contamination.
- Analyze archived fish and shellfish for metals, polychlorinated biphenyls (PCBs), and dioxin/furan congeners.

1.2 Document Organization

This Data Report Addendum summarizes and evaluates the results of the Fidalgo Bay archived sediment analysis within the context of the project scope and study objectives as outlined in Section 1.0. Section 2.0 provides a summary of sample collection methods and describes the processing of the archived tissue samples and the chain of custody of the archived sediment samples. Deviations from the SAP (SAIC 2007) are noted. Section 3.0 presents the results of the sediment and tissue chemistry analyses. A data validation summary is included in Section 4.0, including a brief discussion of holding times for the archived samples. Section 5.0 presents the conclusions, and Section 6.0 lists the references. Summary tables of analytical results, analytical laboratory reports, and tissue processing documentation are included in the appendices.

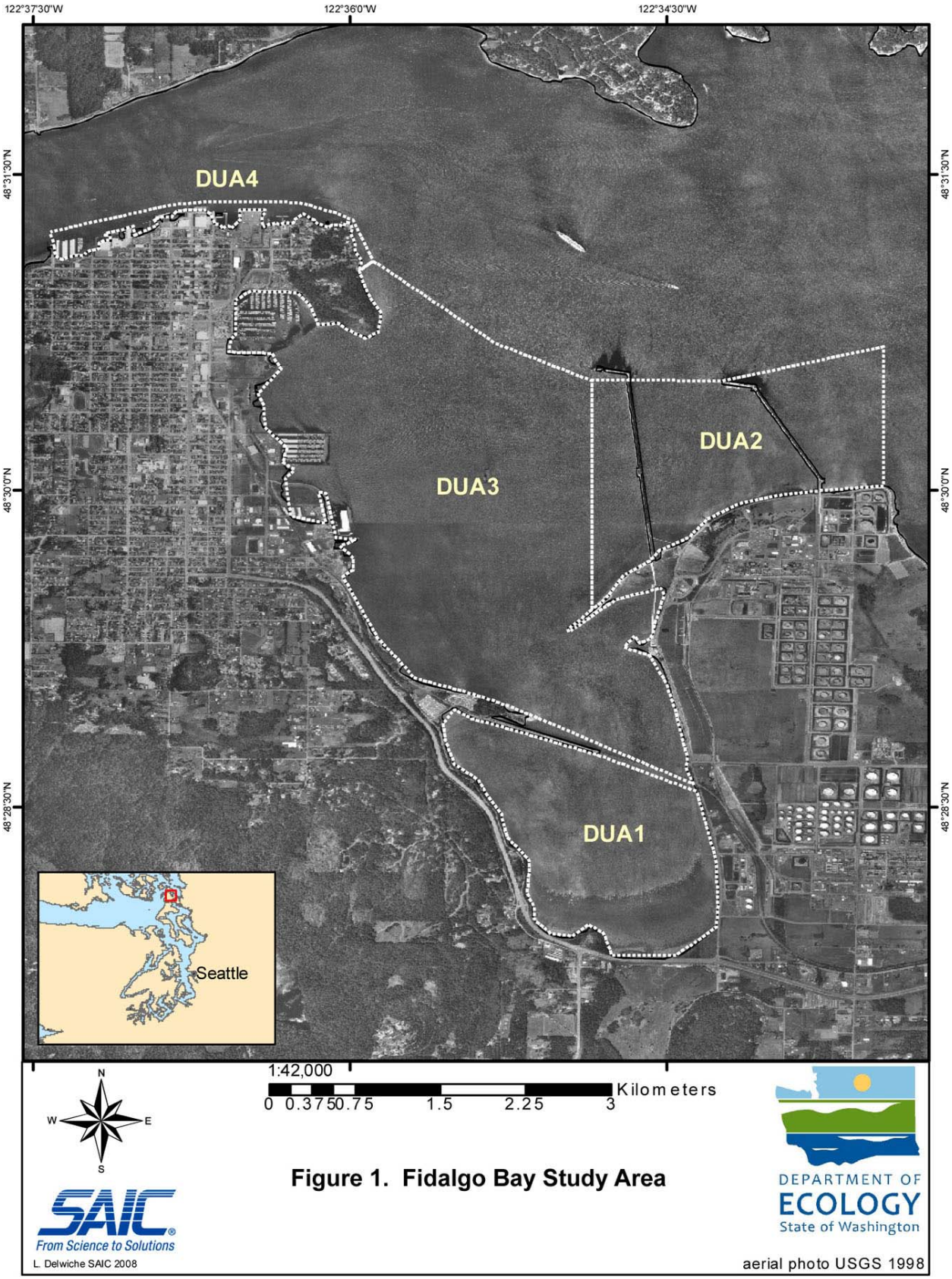

Figure 1. Fidalgo Bay Study Area