
SALMONID SPAWNER SURVEY WORK PLAN FOR STREAM 1

Pacific International Terminals, Inc. Property
Whatcom County, Washington

Prepared for:

Pacific International Terminals, Inc.

Prepared by:

AMEC Earth & Environmental, Inc.

11810 North Creek Parkway North
Bothell, Washington 98011

October 13, 2011

Project No. 0-915-15338-C

Printed on recycled paper

1.0 INTRODUCTION

The purpose of this investigation is to determine whether salmonids spawn in the lower reach (Reach 1) of Stream 1 (Figure 1). The information gathered during this investigation will be incorporated into a baseline inventory of streams and drainages throughout the project site in terms of habitat and fish use.

The spawner surveys conducted on Stream 1 will determine:

- Whether adult coho and/or chum spawn in the lower reach (Reach 1) of Stream 1;
- If spawning coho and chum salmon are identified, the location and timing of spawning coho/chum will be recorded.

2.0 FIELD EFFORTS

To quantify the degree and extent to which adult chum and coho salmon utilize habitat in Stream 1 for spawning, two biologists will conduct bi-weekly visual surveys of the total live and dead spawners and the spatial extent of each species in Stream 1 for the duration of the spawning period (October 15, 2011 – January 15, 2012.). The first survey would occur on October 19, 2011. Each spawner survey is anticipated to require two biologists one day of effort approximately twice a month during the spawning season. The segment of the stream to be investigated will be limited to the segment below the culvert that is a fish passage barrier at Henry Road.

For the purposes of quantifying the spatial extent of the distribution of each salmon species, the stream will be divided into 100 meter sections using a GPS. For each 100 meter section, the total number of live and dead spawners of each species will be enumerated using handheld tally counters. The upper extent of each species within the stream will be defined by the section above which no live or dead fish are observed for at least 200 m. The locations of spawning salmonids, as well as any identified redds will be mapped using the 100 meter sections or GPS.

Each survey would begin at the stream mouth at the Strait of Georgia, and end at the fish passage barrier at Henry Road. To access the stream mouth, vehicles would be parked on Henry Road, and biologists would hike down to the shoreline through open field west of the stream. This will require crossing through the CR exclusion zone on foot.

Prior to initiating each survey, the weather report will be checked and if severe weather is anticipated, a survey may be delayed until it is safe to be in the field. A tailgate safety meeting will be conducted to review the work plan and safety measures prior to each day's work. See Health and Safety plan for this work for more details.

If fish are observed during the spawner surveys, WDFW will be notified to inform them of fish presence in the stream. M. Gray will be responsible for this communication.

3.0 SCHEDULE

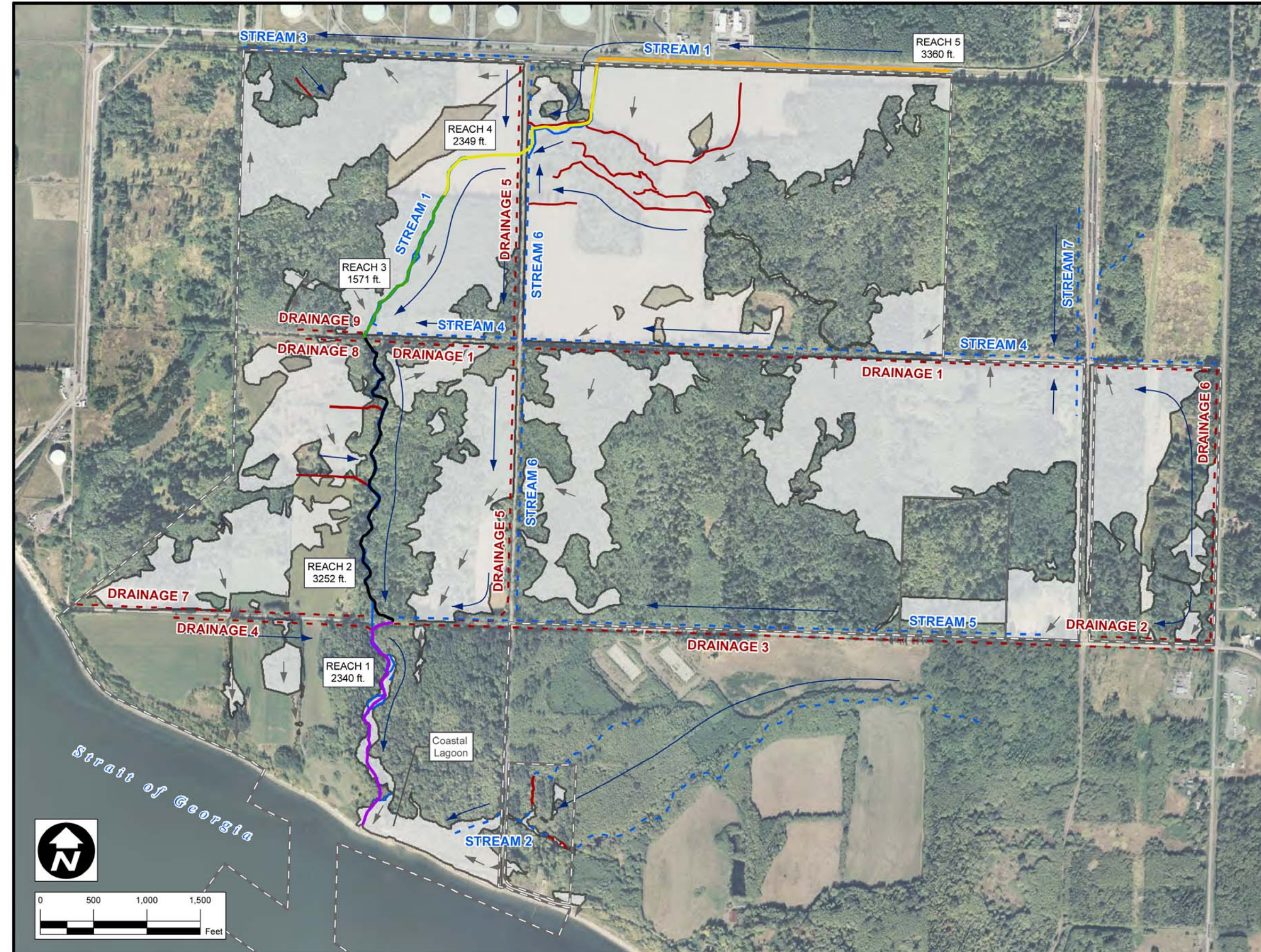
1. Spawner surveys would be conducted bi-weekly from approximately October 15 through January 15. Each spawner survey would require 2 AMEC staff, approximately 10 hours.

Dates as currently planned are: Oct 19, Nov 2, 16, and 30, Dec 14 and 28, 2011, and Jan 11, 2012. These are subject to change due to severe weather or other unsafe site conditions.

2. Data will be incorporated into the existing draft stream inventory report within two weeks of completing the field investigation.

4.0 REPORTING

The results of the spawner surveys will be incorporated into the current Draft *Fish Presence and Habitats Report* for the Pacific International Terminals Site.



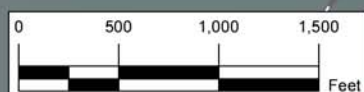
LEGEND


- - - APPROXIMATE DRAINAGE
- SURVEYED DRAINAGE
- - - APPROXIMATE STREAM
- SURVEYED STREAM
- ➔ STREAM AND DRAINAGE FLOW DIRECTION
- ➔ WETLAND FLOW DIRECTION

STREAM 1:

- REACH 1
- REACH 2
- REACH 3
- REACH 4
- REACH 5

- EXISTING WETLAND AREA
- PROPERTY BOUNDARY
- PROJECT AREA BOUNDARY



CLIENT: PACIFIC INTERNATIONAL TERMINALS, INC.		DWN BY: SD	PROJECT: PROPOSED GATEWAY PACIFIC TERMINAL	DATE: JUNE 2011
		CHK'D BY: JG		PROJECT NO.: 091515338C-04-04
		DATUM: NAD83		REV. NO.: 1
AMEC Earth & Environmental 11810 North Creek Parkway N Bothell, WA 98011		PROJECTION: WA SP North, Ft.	TITLE: WETLANDS AND DRAINAGES WITHIN THE GATEWAY PACIFIC TERMINAL PROJECT SITE	FIGURE NO.: FIGURE 1
		SCALE: 1 inch = 1,000 feet		

