CENPS-EN-PL-ER

12 July 1990
Smith/3654

MEMORANDUM FOR: DAVID KENDALL, PSDDA DATA MANAGER

SUBJECT: SWINOMISH CHANNEL NAVIGATION PROJECT
OPERATIONS AND MAINTENANCE DREDGING FY 1990

1. **Description.** The Corps of Engineers plans to clamshell dredge 100,000 cubic yards (cy) of material in the Swinomish Channel 1 September - 30 December 1990 (Public Notice CENPS-OP-NP-70). Disposal is slated for the PSDDA-designated Rosario Strait disposal site. Dredging was last conducted 1 July - 30 September 1988, with dredging normally performed on a two year cycle.

2. **Characterization.** The material to be discharged is derived primarily from the Skagit River system and runoff from agricultural uplands adjacent to Swinomish Channel. Sand waves move south to north through the channel into Padilla Bay. The material is over 90% fine sand to coarse sand (125-1000 microns) with a small fraction of gravel, and a very small fraction of silt.

In March 1986 a total of 13 stations were sampled and composited by reach to form four composite analyses. These samples contained live sand lance when sampled, which is indicative of high quality sandy sediment. While not all PSDDA chemicals of concern were analyzed, Battelle tested for 45 chemicals (including metals), and all were below PSDDA SL's.

In 1988, sediment samples were taken directly from the clamshell bucket during maintenance dredging. For the purposes of sampling, the channel was divided into four reaches, with nine samples from each reach composited into one composite analysis per reach (4 total analyses). All PSDDA contaminants of concern were analyzed. The purpose of the sampling was to provide a PSDDA characterization of the shoaled materials in the Swinomish Channel for future years and to confirm a "no reason to believe" scenario. As expected, all analyses showed chemistry levels below PSDDA SL's. Samples were stored until dredging was completed and all samples were in hand, resulting in exceedance of the mercury and volatile organics holding times.

Analyses for organics began 22 November 1988. Analyses for metals began 15 January 1989. Samples were collected in the Padilla Bay reach from 11 July 1988 to 22 August 1988. Samples were collected in the reach north of La Conner from 31 August 1988 to 19 September 1988. Samples were collected in La Conner from 20 September 1989 to 4 October 1988. Samples were collected in the Skagit Bay reach from 6 October 1988 to 26 October 1988.

The worst case holding exceedance occurred in the first reach sampled. The mercury holding time is 28 days and volatile organics holding time is 14 days. The analyses were performed by the NOAA lab at Montlake which routinely holds mercury samples longer than the 28 day stated PSDDA holding time. With proper storage the lab did not feel that mercury results were impacted by the holding time exceedance. In addition, 1988 mercury values below the PSDDA SL are consistent with the Battelle 1986 work, and 1984 testing (in the channel at La Conner) by Laucks, which showed mercury levels well below PSDDA SL. There are no sources of volatile

organics in the vicinity of the Swinomish Channel, and no reason to believe that this group of contaminants would be present in Swinomish sands.

3. **Testing for FY 1990**. The Corps proposes that based on reason to believe and based on past testing information, no additional PSDDA testing is required for Swinomish Channel maintenance dredging in FY 90. This is consistent with recency guidelines for areas with no active sources of contamination and no known changed condition. In this situation, recency guidelines require reconfirmation testing every five to seven years. Thus, PSDDA reconfirmation will be required during the next dredging cycle, approximately two years hence.

Justine Smith
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Environmental Coordinator

cc. Malek/EPA
Vining/Ecology
Striplin/DNR
Martin/Corps
Arden/Corps

Table 2.
Sample station locations for the Swinomish Channel Project, Summer/Fall 1988. - a

Station		Latitude			Longitude		
		Deg.	Min.	Sec.	Deg.	Min.	Sec.
1	PAD 1,2,3	48.	29.	5.27797	122.	32.	3.73321
2	PAD 4,5,6	48.	28.	27.78164	122.	31.	33.85758
3	PAD 7,8,9	48.	27.	41.69296	122.	30.	57.15501
4	SWI 1,2,3	48.	26.	3.96732	122.	29.	53.99230
5	SWI 4,5,6	48.	25.	34.29196	122.	29.	58.75225
6	SWI 7,8,9	48.	24.	17.38179	122.	29.	43.76945
7	LC 1,2,3	48.	24.	1.59795	122.	29.	44.38895
8	LC 4,5,6	48.	23.	36.94082	122.	29.	45.65294
9	LC 7,8,9	48.	23.	19.09098	122.	29.	55.73749
10	SKA 1,2,3	48.	23.	6.78022	122.	30	16.06423
11	SKA 4,5,6	48.	22.	19.30900	122.	30	31.74607
12	SKA 7,8,9	48.	21.	44.29422	122.	33.	1.41353

Table 1.
Compositing scheme for the Swinomish Channel Project, Summer/Fall 1988.

lab sample	alias 1	Sample	Date collected	alias 2	volume
C1	Composite PAD	PAD 1	7/11/88	47-750	23,250
		PAD 2	7/11/88		
		PAD 3	7/11/88		
		PAD 4	8/11/88		
		PAD 5	8/11/88		
		PAD 6	8/11/88		
		PAD 8 - a	8/22/88		
C2	Composite SWI	SWI 1	8/31/88	47-751	23,250
		SWI 2	8/31/88		
		SWI 3	8/31/88		
		SWI 4	9/8/88		
		SWI 5	9/8/88		
		SWI 6	9/8/88		
		SWI 7	9/19/88		
		SWI 8	9/19/88		
		SWI 9	9/19/88		
C3	Composite LC	LC 1	9/20/88	47-776	23,250
		LC 2	9/20/88		
		LC 3	9/20/88		
		LC 4	9/22/88		
		LC 5	9/22/88		
		LC 6	9/22/88		
		LC 7	10/4/88		
		LC 8	10/4/88		
		LC 9	10/4/88		
C4	Composite SKA	SKA 1	10/6/88	47-777	23,250
		SKA 2	10/6/88		
		SKA 3	10/6/88		
		SKA 4	10/19/88		
		SKA 5	10/19/88		
		SKA 6	10/19/88		
		SKA 7	10/26/88		
		SKA 8	10/26/88		
		SKA 9	10/26/88		

a Samples PAD 7 and PAD 9 were collected in plastic jars, which could cause a contamination problem with some analytes. Therefore the samples were not included in the sample composite.

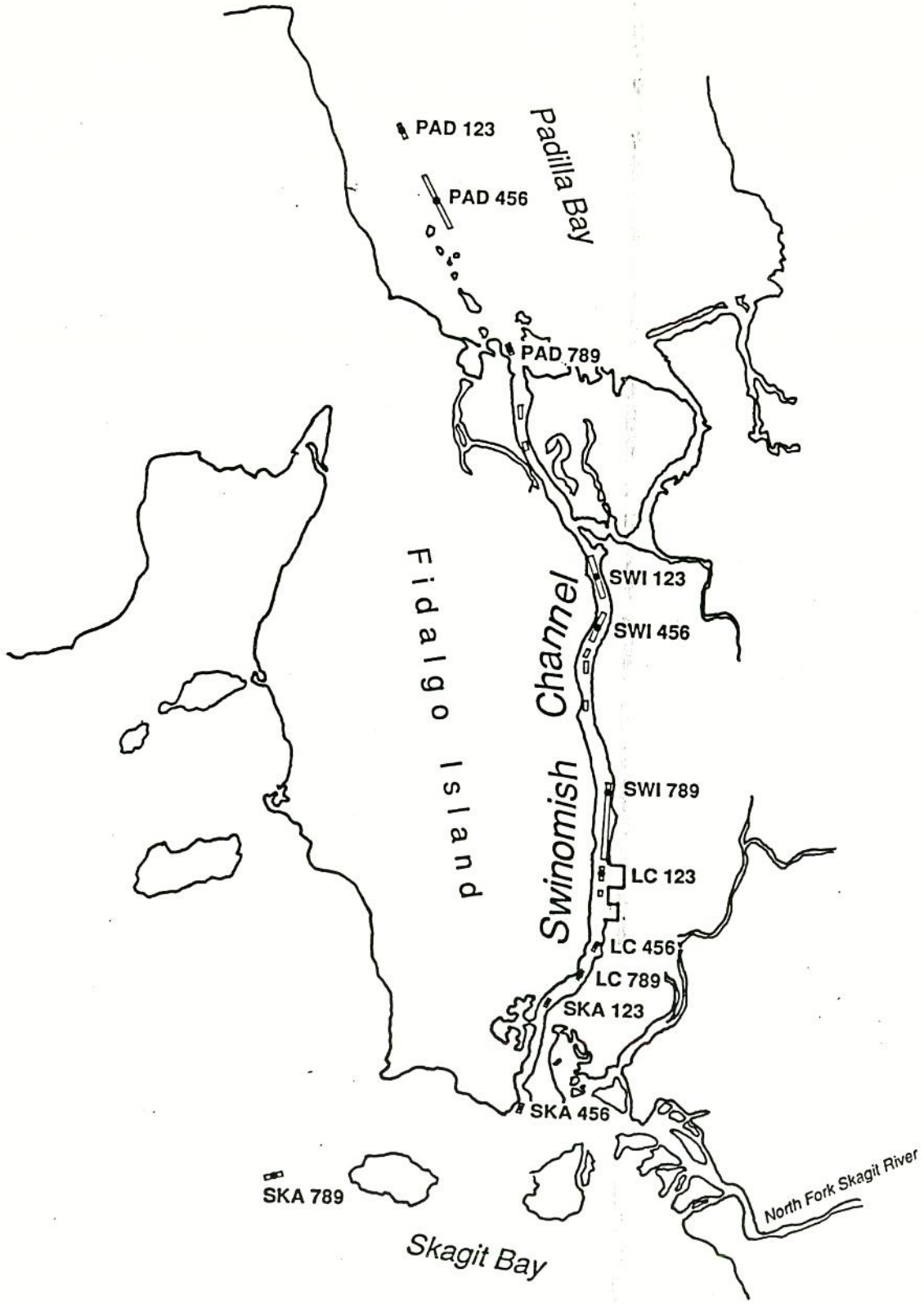

Figure 1.
Sampling stations for the Swinomish Channel Project, Summer/Fall 1988.