Padilla Bay (PDB) NERR Water Quality Metadata
January – December 2006
Latest Update: June 30, 2025

I. Data Set & Research Descriptors

1) Principal investigator & contact persons:

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2) Entry verification:

The data are downloaded from the YSI 6600 sondes to a Windows based PC. Graphs of all data are printed using EcoWatch software and are examined for suspect, anomalous, or outlying data and notes are made of any unusual data during the deployment. Files are exported from EcoWatch in a comma-delimited format (.CSV) and opened in Microsoft Excel for pre-processing with the EQWin format macro that was developed by the CDMO to reformat the header columns, insert station codes, insert a corrected time column and allow the technician to remove any pre- and post-deployment data from the file. Where deployment overlap occurs between files, the data produced by the newly calibrated sonde is accepted as being the most accurate. The pre-processed file is then copied into the EQWin water.eqi file where the data are QA/QC checked and archived in a database. EQWin queries, reports and graphs are used to discover data set outliers (values which fall outside the range that the instrument is designed to measure) and large changes in the data. EQWin is also used to generate statistics, view graphs, create customized queries and reports of the data, cross query the water, weather and nutrient data and finally export the data to the CDMO. Edited and raw files are archived on a PC hard drive at Padilla Bay NERR. Paula Margerum completed this process of entry verification for the 2006 data. Paula Margerum and Douglas Bulthuis completed final verification and this metadata documentation.

3) Research objectives:

The Bay View Channel site has been set out to detect and monitor short-term variability and long-term changes in the southern part of Padilla Bay. The Ploeg Channel site has been set out to detect and monitor short-term variability and long-term change in the northern part of Padilla Bay for comparison and contrast with water quality in the southern part of the bay. The Joe Leary Slough site has been set at the mouth of the slough to measure the effects of tidal "closure" of the tide gates on water in the slough and to detect long-term changes in water quality in the slough associated with implementation of a non point source pollution watershed action plan. The Gong site has been set in the deep water strait west of the northern part of Padilla Bay to monitor short-term variability and long-term change in the waters that are a source for the tidal waters flowing into Padilla Bay. The four sites are set up to provide an indication of the salinity gradient from Joe Leary Slough (freshwater) through Bayview Channel (downstream of freshwater sources from Indian and No Name Sloughs) to Ploeg Channel (remote from freshwater sources but in a tidal channel) to Gong on the marine end of the gradient. Measurements are taken every 30 minutes at the Bayview, Ploeg, Gong and Joe Leary sites (15 minute data collection began in June 2006 for Joe Leary), unless otherwise noted in data anomalies.

4) Research methods:

YSI 6600 EDS sondes were deployed in Joe Leary Slough in a vertical position, 1.7 m from the bottom of the slough in a 4 in. diameter ABS pipe with a metal bar secured at the bottom as a stop. That portion of pipe around the sensors is cut out so that only two one-inch wide strips of deployment pipe remain around the sensor guard to allow water circulation around the probes. The ABS pipe is attached to a steel pipe that was driven into the sediment. (This slough was dredged in the fall of 2000 so the area of deployment is much deeper than it had been from 1995 to 2000. To keep the data comparable the YSI is deployed at the same height relative to Mean Sea Level.) This slough was dredged again in the summer of 2006.

YSI 6600 EDS sondes were deployed in Padilla Bay in a tributary of Bayview Channel. They were deployed using the same design as that in Joe Leary Slough, except that the ABS pipe was attached to two steel pipes. To keep marine fauna from interfering with operation of the sensors "Gutter Guard" (a sheet of plastic ¼ " mesh) is formed into a cylinder to fit inside the sensor guard. The depth of the YSI was –1.1 m (depth below MLLW) and about 0.75 m above the bottom along the sloping edge of a small channel draining the surrounding intertidal flats.

YSI 6600 EDS sondes were deployed in Ploeg Channel using the same design as that in Bayview Channel including the use of mesh to protect the sensors. The depth of the datalogger was –1.54 m (depth below MLLW) and 0.5 m above the bottom along the sloping edge of a channel draining the surrounding intertidal flats. The pole and ABS deployment pipe at Ploeg Channel were replaced in July 2005.

YSI6600 EDS sondes were deployed at the Gong site with a Sombrero Buoy that has a 4-inch ABS pipe 1.5 m tall clamped to the side of it. The buoy is anchored to the bottom (– 18 m) using 2 pyramid weights (35 lbs. each) that are attached with 30 m of marine-grade chain and rope. The sonde is lowered into the pipe using a steel cable to a depth of .5 m.

In all cases, measurements of temperature, specific conductivity, salinity, percent saturation of dissolved oxygen, depth, pH and turbidity are recorded every half hour. Measurements were recorded every 15 minutes at Joe Leary beginning June 27, 2006. At the end of each deployment, the YSI 6600 is brought back into the laboratory for downloading, cleaning, and recalibration. Before final cleaning and recalibration a post-deployment check is done that consists of recording sensor readings in the standard solutions. The results of these checks are used to help evaluate the validity of the logged data.

All calibrations are conducted according to the protocols in the YSI Environmental Operations Manual for the 6-Series Environmental Monitoring Systems. For the conductivity calibration a conductivity standard of 50 mS/cm was used. The pH calibration is a 2-point calibration using standard buffer solutions with a pH of 7 and 10. The KCl solution and Teflon membrane on the dissolved oxygen probe are changed prior to each YSI 6600 deployment and the new oxygen membrane is allowed to stabilize overnight in water-saturated air before calibration. A 2-point calibration is used for the turbidity probe and the wiper pad is changed prior to each deployment. The standards used are distilled/deionized water for zero and 4000 NTU Formazin solution diluted to 100 NTU.

5) Site location and character:

General: Padilla Bay (48º 30' N; 122º 30' W) is a shallow embayment in northern Puget Sound. The tide flats are dominated by the eelgrass *Zostera marina*, which covers approximately 3,000 ha. *Zostera japonica*, a recent introduction to the region, now covers about 350 ha of the bay. Tides are mixed semi-diurnal with a mean range of 1.55 m. Salinity varies from about 15 to 30 PSU.
Padilla Bay is an "orphaned" estuary in that the Skagit River no longer empties directly into it. Most of the land in the 9300 ha Padilla Bay watershed is agricultural, and is drained by four sloughs which empty into the bay. The salinity in Padilla Bay reflects both the sloughs that flow into the bay and the greater Puget Sound-Georgia Basin estuary in which Padilla Bay is located. Major freshwater flows into this area of the Puget Sound-Georgia Basin estuary come from the Fraser and Nooksack Rivers to the north and from the Skagit River to the south. The small Samish River discharges directly north of Padilla Bay.

Joe Leary Slough Site: (48º 31' 05.3" N; 122º 28' 22.8" W) Joe Leary Slough drains land that is predominantly annual crop agriculture and pasture land with some low-density housing. The slough is

characterized by high fecal and nutrient inputs, high turbidity, and low dissolved oxygen concentrations. During the summer, there is low flow and the depth ranges from 0.5-1.5 m. During winter flooding, the slough can reach a depth of 4 m. There is a dam at the mouth of the slough with twelve 4 ft. diameter outfall pipes that have one-way hinged tide gates. Upstream water flows out of Joe Leary Slough when water height in Padilla Bay is lower than water height in Joe Leary Slough (i.e. ebbing tide and low water). Some saline water from Padilla Bay seeps through the tide gates during high water. The bottom of the slough is composed of very soft sediment, which is periodically dredged, most recently October 2000. The deployment site is on the freshwater side of the tide gates. The latitude/longitude were measured with a Trimble GeoExplorer II and differentially corrected with post processing providing a manufacturer's stated accuracy of ± 5 m.

Bayview Channel Site: (48º 29' 46.6" N; 122º 30' 01.8" W) Bayview Channel, a major Padilla Bay tributary/distributary, floods and drains intertidal flats including eelgrass beds, mats of macroalgae, and flats without macro-vegetation. The datalogger is located in a tributary channel to Bayview Channel. The tributary drains predominately eelgrass (*Zostera marina* and *Z. japonica*) covered intertidal flats. Bottom sediments beneath the deployment site are fine silt and clay overlying sand. Depth at this site is –1.53 m (depth below MLLW). Pollutants entering the bay include general non-point source, agricultural non-point source, and fecal coliform bacteria from agriculture, failing septic tanks and wildlife. The latitude/longitude were measured with a Trimble GeoExplorer II and differentially corrected with post processing providing a manufacturer's stated accuracy of ± 5 m.

Ploeg Channel Site: (48º 33' 23.5" N; 122º 31' 46.7" W) Ploeg Channel floods and drains intertidal flats at the north end of Padilla Bay that are comprised of mud flats and eelgrass beds (*Zostera marina* and *Z. japonica*) in approximately equal amounts. Bottom sediments beneath the deployment site are fine silt. Depth at this site is –1.54 m (depth below MLLW). Pollutants entering the bay include general non-point source, agricultural non-point source, and fecal coliform bacteria from agriculture, failing septic tanks and wildlife. The latitude/longitude were measured with a Trimble GeoExplorer II and differentially corrected with post processing providing a manufacturer's stated accuracy of ± 5 m.

Gong Site: (48º 33' 30" N; 122º 34' 21" W) The Gong site is located at –18 m water depth on a gradually sloping bottom (from –1 m to –75 m over 2 km) in the strait between Samish and Guemes Islands. Water in the strait flows north and south with tidal currents, the net water movement is apparently south toward the inlet to Guemes Channel. Water from the strait flows onto the intertidal flats in the northern part of Padilla Bay with each tidal cycle. Bottom sediments are mud. YSI 6600 sondes are deployed near the surface at this site 0.5 m below the water surface. The only apparent pollution sources are the general sources of pollution to the Strait of Georgia and Northwest Straits. The latitude/longitude were measured with a Trimble GeoExplorer II and differentially corrected with post processing providing a manufacturer's stated accuracy of ± 5 m.

6) Data collection period: Data collection was continuous from January 1 to December 31 2006 at Joe Leary Slough, Bayview Channel, Ploeg Channel and the Gong site (except as noted in section 13, Missing data).
Deployment and retrieval times are listed below. The times indicate the first and last measurements made with each deployment.

Bayview Channel Site

BEGAN		ENDED	
12/06/2005	16:00:00	01/10/2006	14:30:00
01/10/2006	15:00:00	02/02/2006	15:00:00
02/02/2006	15:30:00	02/15/2006	11:00:00
02/15/2006	11:30:00	03/21/2006	13:30:00
03/21/2006	14:00:00	04/06/2006	13:30:00
04/06/2006	14:00:00	04/26/2006	11:00:00
04/26/2006	11:30:00	05/16/2006	11:00:00
05/16/2006	11:30:00	05/31/2006	10:00:00

05/31/2006	10:30:00	06/16/2006	09:00:00
06/16/2006	09:30:00	06/27/2006	10:00:00
06/27/2006	10:30:00	07/19/2006	09:00:00
07/19/2006	09:30:00	08/02/2006	09:00:00
08/02/2006	09:30:00	08/30/2006	10:30:00
08/30/2006	11:00:00	09/15/2006	10:00:00
09/15/2006	10:30:00	09/27/2006	13:00:00
09/27/2006	13:30:00	10/12/2006	12:30:00
10/12/2006	13:00:00	10/27/2006	09:30:00
10/27/2006	10:00:00	11/16/2006	10:00:00
11/16/2006	10:30:00	12/06/2006	11:00:00
12/06/2006	11:30:00	12/19/2006	15:00:00
12/19/2006	15:30:00	01/10/2007	10:00:00

Ploeg Channel Site

BEGIN		ENDED	
12/06/2005	15:30:00	01/10/2006	14:00:00
01/10/2006	14:30:00	02/02/2006	14:00:00
02/02/2006	14:30:00	02/15/2006	10:30:00
02/15/2006	11:00:00	03/23/2006	10:00:00
03/23/2006	10:30:00	04/06/2006	13:00:00
04/06/2006	13:30:00	04/26/2006	10:30:00
04/26/2006	11:00:00	05/16/2006	10:30:00
05/16/2006	11:00:00	05/31/2006	09:00:00
05/31/2006	09:30:00	06/16/2006	09:00:00
06/16/2006	09:30:00	06/27/2006	09:30:00
06/27/2006	10:00:00	07/19/2006	09:30:00
07/19/2006	10:00:00	08/02/2006	10:00:00
08/02/2006	10:30:00	08/30/2006	10:00:00
08/30/2006	10:30:00	09/15/2006	09:30:00
09/15/2006	10:00:00	09/27/2006	13:30:00
09/27/2006	14:00:00	10/13/2006	10:00:00
10/13/2006	10:30:00	10/27/2006	09:00:00
10/27/2006	9:30:00	11/30/2006	11:30:00
11/30/2006	12:00:00	12/06/2006	10:30:00
12/06/2006	11:00:00	12/19/2006	14:30:00
12/16/2006	15:00:00	01/12/2006	10:30:00

Joe Leary Site

BEGAN		ENDED	
12/19/2005	15:00:00	01/06/2006	14:00:00
01/06/2006	14:30:00	01/18/2006	14:30:00
01/18/2006	15:00:00	02/01/2006	14:00:00
02/01/2006	14:30:00	02/21/2006	11:00:00
02/21/2006	11:30:00	03/22/2006	13:30:00
03/22/2006	14:00:00	04/07/2006	10:30:00
04/07/2006	11:00:00	04/19/2006	14:00:00
04/19/2006	14:30:00	05/12/2006	10:00:00
05/12/2006	10:30:00	05/25/2006	10:00:00
05/25/2006	10:30:00	06/09/2006	12:30:00

06/09/2006	13:00:00	06/27/2006	12:30:00
06/27/2006	13:00:00	07/19/2006	12:45:00
07/19/2006	13:00:00	08/02/2006	8:15:00
08/02/2006	8:30:00	08/04/2006	10:15:00
09/01/2006	8:30:00	09/19/2006	12:45:00
09/19/2006	13:00:00	10/04/2006	14:45:00
10/04/2006	15:00:00	10/18/2006	9:45:00
10/18/2006	10:00:00	11/15/2006	13:45:00
11/15/2006	14:00:00	12/05/2006	13:15:00
12/05/2006	13:30:00	12/21/2006	9:30:00
12/21/2006	9:45:00	01/10/2007	13:30:00

Gong Surface Site

BEGAN		ENDED	
12/06/2005	15:00:00	01/10/2006	14:00:00
01/10/2006	14:30:00	02/02/2006	14:00:00
02/02/2006	14:30:00	02/15/2006	10:00:00
02/15/2006	11:00:00	03/23/2006	09:30:00
03/23/2006	10:00:00	04/06/2006	13:30:00
04/06/2006	14:00:00	04/26/2006	09:30:00
04/26/2006	10:30:00	05/16/2006	10:00:00
05/16/2006	10:30:00	05/31/2006	09:00:00
05/31/2006	09:30:00	06/16/2006	09:30:00
06/16/2006	10:00:00	06/27/2006	09:00:00
06/27/2006	09:30:00	07/19/2006	09:30:00
07/19/2006	10:00:00	08/02/2006	10:00:00
08/02/2006	10:30:00	08/30/2006	09:30:00
08/30/2006	10:00:00	09/15/2006	09:00:00
09/15/2006	09:30:00	09/27/2006	13:30:00
09/27/2006	14:00:00	10/31/2006	16:00:00

7) Distribution

According to the Ocean and Coastal Resource Management Data Dissemination Policy for the NERRS System-wide Monitoring Program, NOAA/ERD retains the right to analyze, synthesize and publish summaries of the NERRS System-wide Monitoring Program data. The PI retains the right to be fully credited for having collected and processed the data. Following academic courtesy standards, the PI and NERR site where the data were collected will be contacted and fully acknowledged in any subsequent publications in which any part of the data are used. Manuscripts resulting from the NOAA/OCRM supported research that are produced for publication in open literature, including refereed scientific journals, will acknowledge that the research was conducted under an award from the Estuarine Reserves Division, Office of Ocean and Coastal Resource Management, National Ocean Service, National Oceanic and Atmospheric Administration. The data set enclosed within this package/transmission is only as good as the quality assurance and quality control procedures outlined by the enclosed metadata reporting statement. The user bears all responsibility for its subsequent use/misuse in any further analyses or comparisons. The Federal government does not assume liability to the Recipient or third persons, nor will the Federal government reimburse or indemnify the Recipient for its liability due to any losses resulting in any way from the use of this data.

NERR water quality data and metadata can be obtained from the Research Coordinator at the individual NERR site (please see section 1. Principal investigators and contact persons), from the Data Manager at the Centralized Data Management Office (please see personnel directory under general information link on

CDMO homepage) and online at the CDMO homepage http://cdmo.baruch.sc.edu/. Data are available in text tab-delimited format.

8) Associated researchers and projects:
As part of SWMP, in addition to this Water Quality monitoring dataset, PDB NERR also monitors Meteorological and Nutrient data. These data are available from the Research Coordinator or online at http://cdmo.baruch.sc.edu/.

II. Physical Structure Descriptors

9) Sensor Specifications:

YSI 6600EDS datalogger

Parameter: Temperature
Units: Celsius (C)
Sensor Type: Thermistor
Model #: 6560
Range: -5 to 45 °C
Accuracy: +/-0.15 °C
Resolution: 0.01 °C

Parameter: Conductivity
Units: milli-Siemens per cm (mS/cm)
Sensor Type: 4-electrode cell with autoranging
Model #: 6560
Range: 0 to 100 mS/cm
Accuracy: +/-0.5% of reading + 0.001 mS/cm
Resolution: 0.001 mS/cm to 0.1 mS/cm (range dependent)

Parameter: Salinity
Units: parts per thousand (ppt)
Sensor Type: Calculated from conductivity and temperature
Range: 0 to 70 ppt
Accuracy: +/- 1.0% of reading or 0.1 ppt, whichever is greater
Resolution: 0.01 ppt

Parameter: Dissolved Oxygen % saturation
Units: percent air saturation (%)
Sensor Type: Rapid Pulse – Clark type, polarographic
Model #: 6562
Range: 0 to 500 % air saturation
Accuracy: 0-200 % air saturation, +/- 2 % of the reading or 2 % air saturation, whichever is greater; 200-500 % air saturation, +/- 6 % of the reading
Resolution: 0.1 % air saturation

Parameter: Dissolved Oxygen mg/L (Calculated from % air saturation, temperature and salinity)
Units: milligrams per Liter (mg/L)
Sensor Type: Rapid Pulse – Clark type, polarographic
Model #: 6562
Range: 0 to 50 mg/L
Accuracy: 0 to 20 mg/L, +/- 2 % of the reading or 0.2 mg/L, whichever is greater; 20 to 50 mg/L, +/- 6 % of the reading
Resolution: 0.01 mg/L

Parameter: Non-Vented Level – Shallow (Depth)

Units: feet or meters (ft or m)
Sensor Type: Stainless steel strain gauge
Range: 0 to 30 ft (9.1 m)
Accuracy: +/- 0.06 ft (0.018 m)
Resolution: 0.001 ft (0.001 m)

Parameter: pH (EDS probe)
Units: units
Sensor Type: Glass combination electrode
Model #: 6561
Range: 0 to 14 units
Accuracy: +/- 0.2 units
Resolution: 0.01 units

Parameter: Turbidity
Units: nephelometric turbidity units (NTU)
Sensor Type: Optical, 90 ° scatter, with mechanical cleaning
Model #: 6136
Range: 0 to 1000 NTU
Accuracy: +/- 5 % reading or 2 NTU (whichever is greater)
Resolution: 0.1 NTU

Depth qualifier:
The NERR System-Wide Monitoring Program utilizes YSI data sondes that can be equipped with either depth or water level sensors. Both sensors measure water depth, but by convention, level sensors refer to atmospherically vented measurements and depth refers to non-vented measurements. Readings for both vented and non-vented sensors are automatically compensated for water density change due to variations in temperature and salinity; but for all non-vented depth measurements, changes in atmospheric pressure between calibrations appear as changes in water depth. The error is equal to approximately 1.03 cm for every 1 millibar change in atmospheric pressure, and is eliminated for level sensors because they are vented to the atmosphere throughout the deployment time interval.

Beginning in 2006, NERR SWMP standard calibration protocol calls for all non-vented depth sensors to read 0 meters at a (local) barometric pressure of 1013.25 mb (760 mm/hg). To achieve this, each site calibrates their depth sensor with a depth offset number, which is calculated using the actual atmospheric pressure at the time of calibration and the equation provided in the SWMP calibration sheet or Digital Calibration Log. This offset procedure standardizes each depth calibration for the entire NERR System. If accurate atmospheric pressure data are available, non-vented sensor depth measurements at any NERR site can be corrected. The Research Coordinator at the specific NERR site should be contacted in order to obtain information regarding atmospheric pressure data availability. All sondes used at the Padilla Bay NERR are non-vented.

10) Coded variable indicator and variable code definitions:

File definitions: YSI deployment site/file definition/month/year (e.g. bywq0906=Bayview Channel water quality data from September 2006)

Sampling station:	Sampling site code:	Station code:
Bayview Channel	BY	pdbbywq
Ploeg Channel	BP	pdbbpwq
Joe Leary	JL	pdbjlwq
Gong Surface	GS	pdbgswq

11) Anomalous/Suspect Data:

January 1-31, 2006

Bayview channel
A low salinity value on 1/14/06 @ 23:30 coincided with low tides and a rain event.
During the following period the turbidity value was high and erratic, probably because of the crab found in guard;
01/02/06 10:00:00
01/20/06 23:00:000
During the following period the dissolved oxygen data are suspect. The dissolved oxygen baseline increased steadily during this period and a kelp crab was found in the sonde guard on retrieval: 1/10/06 @ 15:00 through 2/2/06 @ 15:00."

Ploeg Channel
High turbidity values during low tides are common at this site as indicated in the deployment from 01/10/06 @ 14:30:00 until 02/02/06 @ 14:00:00.

Joe Leary
Turbidity readings are suspect for the following dates/times. Readings immediately following this period were deleted due to grass that was wrapped around the probe, however these readings may have been effected as well.
1/1/2006 00:00 through 1/6/2006 14:00

Gong Surface
Small negative depth readings at 1/1 20:30 and 21:00 are likely due to changes in atmospheric pressure, an acceptable small calibration error, or the sonde momentarily rising out of the water due to save action. Specific conductivity and salinity readings confirm that the sonde was not out of the water.
The following turbidity data were high and erratic;
01/06/06 23:30:00
01/07/06 02:30:00, 12:30:00

February 1 – 28, 2006

Bayview Channel
During the following periods turbidity data were high and erratic. Crabs, shrimp and sea stars were found in guard upon retrieval;
02/27/06 08:30
02/28/06 10:30

Ploeg Channel
High turbidity values during low tides are common at this site as indicated in the deployment from 01/10/06 @ 14:30:00 until 02/02/06 @ 14:00:00.
During the following periods turbidity data were high and erratic, cause unknown;
02/06/06 15:30:00, 20:00:00
02/07/06 13:30:00
02/08/06 01:30:00
02/22/06 08:30:00

Joe Leary
During the following period turbidity datum was high and erratic, cause unknown;
02/01/06 11:00:00, 12:30:00, 13:00:00
During the following period turbidity data are suspect. Data immediately following this period were deleted due to sludge on the sonde and in the sonde guard, however these earlier readings may have been effected as well.
2/11/2006 00:00 through 2/14/2006 07:00

Gong Surface

Periodic spikes in turbidity during the following periods were probably caused by mussels in the guard;
02/15/06 11:00:00 to 03/23/06 09:30:00

March 1 – 31, 2006

Bayview Channel
During the following period turbidity data were high and erratic. Crabs, shrimp and sea stars were found in guard upon retrieval;
03/20/06 09:30
03/26/06 17:00

Ploeg Channel
During the following period turbidity data were high an erratic. Crabs, shrimp and a small sponge were found in guard upon retrieval;
03/01/06 08:00:00
03/04/06 09:30:00
03/06/06 18:00:00, 21:30:00

Joe Leary
During the following period turbidity datum was high and erratic;
03/28/06 21:00:00

Gong Surface
Periodic spikes in turbidity during the following periods were probably caused by mussels and caprellids in the guard;
02/15/06 11:00:00 to 03/23/06 09:30:00

April 1 – 30, 2006

Bayview Channel
During the following period turbidity data were high and erratic;
04/02/06 12:30:00
04/11/06 12:30:00

Ploeg Channel
A low salinity value on 04/02/06 @ 11:30:00 coincided with an ebbing tide.
During the following period turbidity datum was high and erratic, cause unknown;
04/22/06 09:00:00

Joe Leary
None

Gong Surface
Turbidity data for the following periods were high and erratic;
04/12/06 09:30:00
04/12/06 19:30:00
04/16/06 20:00:00
Erratic salinity values for the following period were probably due to the caprellids stuck in the conductivity probe;
04/17/06 07:30:00 to 04/26/06 09:30:00
Caprellids and mussels were found on the salinity/conductivity probes after each deployment from 4/26/06 @ 10:30 through 10/7/06 @ 23:30. Salinity, conductivity, and dissolved oxygen mg/L data are suspect during this period.

May 1 – 31, 2006

Bayview Channel
The following turbidity data were high and erratic, probably caused by the crab found in the guard upon retrieval;
05/18/06 12:30:00, 14:30:00, 16:00:00, 17:00:00
05/20/06 12:00:00, 15:30:00, 17:30:00, 18:30:00, 23:30:00
05/21/06 00:30:00, 04:00:00, 05:30:00, 07:30:00, 08:00:00, 12:30:00, 13:00:00, 14:00:00, 15:30:00, 18:00:00, 23:30:00
05/24/06 07:00:00, 09:00:00
05/25/06 07:30:00, 12:00:00, 20:00:00
05/26/06 00:00:00, 07:30:00, 08:30:00
05/27/06 00:30:00
05/28/06 08:00:00, 08:30:00, 12:30:00, 13:00:00, 18:30:00,
05/29/06 08:30:00, 09:30:00, 10:00:00, 10:30:00, 11:00:00, 12:30:00, 13:30:00, 14:00:00
05/30/06 08:00:00, 13:00:00, 14:00:00, 18:00:00

Ploeg Channel
During the following period turbidity data was high and erratic, cause unknown;
05/16/06 06:30:00
Turbidity data for the following period should be interpreted with caution because the wiper fell off sometime during deployment. Because the values don't seem unreasonable they were not deleted;
04/26/06 11:00:00 to 05/16/06 10:30:00

Joe Leary
Turbidity data for the following periods should be interpreted with caution because although these values seem reasonable for this site, there were large amounts of hay starting to accumulate around this site;
05/12/06 10:30:00 to 05/25/06 10:00:00
05/25/06 10:30:00 to 06/09/06 12:30:00
Turbidity datum for the following period was high and erratic;
05/23/06 11:00:00

Gong Surface
Periodic spikes in turbidity during the following period were probably caused by caprellids in the guard and mussels on the PVC pipe;
05/04/06 21:00:00 to 05/16/06 09:30:00
05/19/06 13:30:00 to 05/26/06 18:00:00
Caprellids and mussels were found on the salinity/conductivity probes after each deployment from 4/26/06 @ 10:30 through 10/7/06 @ 23:30. Salinity, conductivity, and dissolved oxygen mg/L data are suspect during this period.
Low and erratic salinity values for the following period were probably caused by caprellids stuck inside the conductivity probe;
05/12/06 14:00:00 to 05/16/06 10:00:00
Salinity data for the following period should be interpreted with caution because the post calibration reading was very low at 45.31 mS/cm. in a 50.00 mS/cm standard. Caprellids stuck inside the conductivity probe may explain this drift;
05/22/06 09:30:00 to 05/31/06 09:00:00

June 1 – 30, 2005

Bayview Channel
Although the values seem reasonable, the turbidity data from 06/16/06 @ 09:30:00 to 06/27/06 @ 10:00 should be interpreted with caution because the wiper fell off sometime during the deployment.
The following turbidity datum was high and erratic, cause unknown;
06/05/06 21:00:00

Ploeg Channel
The following turbidity data were high and erratic, cause unknown;

06/14/06 09:00:00
06/15/06 10:00:00, 10:30:00
06/23/06 11:30:00

Joe Leary
The following turbidity data were high and erratic, cause unknown;
06/12/06 07:30:00
06/19/06 15:00:00

Gong Surface
The following turbidity data were high and erratic, probably caused by caprellids in the guard;
06/06/06 03:00:00
Periodic spikes in turbidity for the following periods were probably caused by caprellids in the guard and on the turbidity brush;
06/06/06 23:00:00 to 06/12/06 07:30:00
06/18/06 06:00:00 to 06/27/06 09:00:00
Caprellids and mussels were found on the salinity/conductivity probes after each deployment from 4/26/06 @ 10:30 through 10/7/06 @ 23:30. Salinity, conductivity, and dissolved oxygen mg/L data are suspect during this period.
Low and erratic salinity data for the following periods were probably caused by caprellids in the conductivity probe;
06/11/06 14:00:00 to 06/16/06 09:30:00
06/27/06 09:30:00 to 07/19/06 09:30:00
The high and erratic turbidity data during following deployment were caused by caprellids in the guard and on the turbidity brush;
06/27/06 09:30:00 to 07/19/06 09:30:00

July 1 – 31, 2006

Bayview Channel
None

Ploeg Channel
The following turbidity data were high and erratic, probably caused by the shrimp found in the guard upon retrieval;
07/14/06 02:00:00
07/19/06 05:00:00
07/27/06 04:00:00
The dissolved oxygen data during the following period should be interpreted with caution because the post-calibration reading was 87.5%. There was no evidence of a hole in the membrane but the barometric pressure was significantly lower than it was during pre-calibration;
07/19/06 10:00:00 to 08/02/06 10:00:00

Joe Leary
Turbidity datum for the following period seems high for this deployment;
07/22/06 13:15:00

Gong Surface
Caprellids and mussels were found on the salinity/conductivity probes after each deployment from 4/26/06 @ 10:30 through 10/7/06 @ 23:30. Salinity, conductivity, and dissolved oxygen mg/L data are suspect during this period.
The high and erratic turbidity data during following period were caused by caprellids in the guard and on the turbidity brush;
06/27/06 09:30:00 to 07/19/06 09:30:00
07/29/06 01:00:00

August 1 – 31, 2006

Bayview Channel
Depth values from 08/26/06 at 18:30 to 08/30/06 at 10:30 should be interpreted with caution because 2 feet of deployment chain was outside the YSI tube, thus raising the depth of the datalogger approximately .5 meter.
The following turbidity data were high and erratic, cause unknown;
08/08/06 11:00:00, 13:00:00
08/09/06 12:30:00, 20:30:00, 21:00:00
08/10/06 22:30:00, 23:00:00
08/18/06 09:00:00
08/21/06 12:30:00

Ploeg Channel
The dissolved oxygen data during the following period should be interpreted with caution because the post-calibration reading was 87.5%. There was no evidence of a hole in the membrane but the barometric pressure was significantly lower than it was during pre-calibration;
07/19/06 10:00:00 to 08/02/06 10:00:00
The following turbidity data were high and erratic;
08/11/06 21:30:00
08/14/06 16:00:00
08/17/06 04:30:00, 11:30:00
08/18/06 13:00:00, 17:00:00
08/29/06 18:00:00

Joe Leary
The following turbidity datum was high and erratic;
08/02/06 08:45:00

Gong Surface
Caprellids and mussels were found on the salinity/conductivity probes after each deployment from 4/26/06 @ 10:30 through 10/7/06 @ 23:30. Salinity, conductivity, and dissolved oxygen mg/L data are suspect during this period.

September 1 – 30, 2006

Bayview Channel
The following turbidity datum was high and erratic, cause unknown;
09/25/06 08:00:00

Ploeg Channel
The following turbidity datum was high and erratic;
09/08/06 11:00:00

Joe Leary
The small negative depths from 9/14/06 @ 06:45 until 9/14/06 @ 07:15 may have been due to the depth sensor being at the water surface or to small changes in atmospheric pressure. The probes did not appear to be out of the water.
The following turbidity datum was high and erratic;
09/26/06 22:15:00

Gong Surface
The following turbidity data were high and erratic;
09/05/06 17:30:00
09/13/06 22:00:00

Higher turbidity values for the following period should be interpreted with caution because there were several caprellids in the guard and stuck on the turbidity brush;
09/04/06 06:00:00 to 09/15/06 09:00:00
09/18/06 22:30:00 to 09/27/06 13:30:00
The following low salinity values were associated with a rain event;
09/09/06 22:00:00 to 09/10/06 00:00:00
Caprellids and mussels were found on the salinity/conductivity probes after each deployment from 4/26/06 @ 10:30 through 10/7/06 @ 23:30. Salinity, conductivity, and dissolved oxygen mg/L data are suspect during this period.

October 1 – 31, 2006

Bayview Channel
The following turbidity data were high and erratic probably because of the sea stars, crab and shrimp found in guard upon retrieval;
10/10/06 13:30:00, 14:00:00, 15:30:00, 17:00:00

Ploeg Channel
The following turbidity data were high and erratic;
10/04/06 15:30:00, 19:00:00, 22:00:00
10/05/06 03:00:00
10/06/06 04:30:00

Joe Leary
Turbidity data for the following period are high and erratic and they occurred during major flooding on the Skagit and Samish Rivers along with heavy rains;
10/18/06 10:00:00 to 11/15/06 13:45:00

Gong Surface
Higher turbidity values for the following period should be interpreted with caution because there were probably caprellids in the guard and on the turbidity brush;
10/03/06 08:30:00 to 10/07/06 11:00:00
Caprellids and mussels were found on the salinity/conductivity probes after each deployment from 4/26/06 @ 10:30 through 10/7/06 @ 23:30. Salinity, conductivity, and dissolved oxygen mg/L data are suspect during this period.

November 1 – 30, 2006

Bayview Channel
The following turbidity datum was high and erratic, cause unknown;
11/16/06 07:00:00
Salinity data for the following period should be interpreted with caution because the post-calibration reading was very low indicating possible drift of the probe;
11/16/06 @ 08:30:00 to 12/06/06 @09:00:00

Ploeg Channel
The following turbidity data were high and erratic; high winds, floods and rain may have contributed to these values;
11/15/06 06:00:00, 11:30:00
11/20/06 12:00:00 to 11/21/06 10:00:00
11/25/06 10:00:00
11/27/06 15:30:00
Very low dissolved oxygen values are associated with floods, rain and snow during the following periods;
11/07/06 10:30:00 to 11/15/06 02:00:00
The following turbidity datum was high and erratic;
11/30/06 14:00:00

Joe Leary
Salinity, DO%, pH and depth values from 11/07/06 at 04:30:00 to 11/07/06 at 22:00:00 coincided with flood water that occurred Nov. 5th through 7th.

Gong Surface
None

December 1 – 31, 2006

Bayview Channel
The following turbidity data were high and erratic, probably caused by the crab in the guard;
12/05/06 12:00:00, 14:30:00, 15:00:00, 15:30:00, 16:30:00, 17:00:00,17:30:00

Ploeg Channel
The following turbidity data were high and erratic;
12/02/06 14:00:00
12/08/06 06:00:00
12/12/06 03:30:00
12/13/06 17:30:00
12/19/06 15:00:00
12/27/06 23:30:00
12/31/06 19:30:00
High turbidity values for the following periods were associated with the very high winds;
12/11/06 00:00:00 to 12/19/06 14:30:00

Joe Leary
The following turbidity datum was high and erratic;
12/04/06 07:30:00

Gong Surface
None

12) Deleted Data:

January 1-31, 2006

Bayview Channel
During the following periods turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy range of the probe;
01/04/06 09:00
01/16/06 10:30, 11:00

Ploeg Channel
During the following periods turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy range of the probe;
01/11/06 22:30:00
01/13/06 02:00:00
01/30/06 17:00:00
1/31/06 22:00:00

Joe Leary
Turbidity values for the following period were deleted because there was a large piece of grass wrapped around the probe;
01/06/06 14:30:00 to 01/18/06 14:30:00

During the following period turbidity datum was deleted because the value was greater than 1000 NTU, which is outside the accuracy range of the probe;
01/29/06 10:00:00

Gong Surface
During the following period turbidity datum was deleted because the value was greater than 1000 NTU, which is outside the accuracy range of the probe;
01/06/06 18:00:00

February 1 – 28, 2006

Bayview Channel
None

Ploeg Channel
During the following periods turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy range of the probe;
02/01/06 01:00:00
02/01/06 03:30:00

Joe Leary
During the following period turbidity datum was deleted because the value was greater than 1000 NTU, which is outside the accuracy range of the probe;
02/11/06 08:30:00
All parameters for the following period were deleted because the sonde and inside the guard were covered with a sludge-like substance;
02/14/06 07:30:00 to 02/21/06 11:00:00
Turbidity datum for the following period was deleted because there was a root wad being held at the bottom of the YSI pole with plastic debris;
02/21/06 11:30:00 to 03/22/06 14:00:00

Gong Surface
During the following period turbidity datum was deleted because the value was greater than 1000 NTU, which is outside the accuracy range of the probe;
02/22/06 01:00:00

March 1 – 31, 2005

Bayview Channel
During the following periods turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy range of the probe;
03/02/06 16:00:00
03/07/06 07:00:00

Ploeg Channel
During the following periods turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy range of the probe;
03/03/06 10:00:00
03/16/06 13:00:00

Joe Leary
Turbidity data for the following period were deleted because there was a root wad being held at the bottom of the YSI pole with plastic debris;
02/21/06 11:30:00 to 03/22/06 14:00:00

Gong Surface

During the following periods turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy range of the probe;
03/05/06 19:30:00
03/14/06 22:00:00
03/18/06 23:30:00
03/19/06 05:30:00
03/20/06 12:00:00

April 1 – 30, 2006

Bayview Channel
During the following period turbidity datum was deleted because the value was greater than 1000 NTU, which is outside the accuracy of the probe;
04/01/06 20:30:00
The following dissolved oxygen data were deleted because there was a hole in the membrane upon retrieval, exact time could not be determined;
04/26/06 @ 11:30 to 04/30/06 @ 23:30

Ploeg Channel
During the following periods turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy of the probe;
04/22/06 08:30:00
04/26/06 09:30:00

Joe Leary
Turbidity data for the following period were deleted because there were very large amounts of debris accumulating around the YSI pole;
04/01/06 14:30:00 to 04/07/06 10:30:00

Gong Surface
During the following periods turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy of the probe;
04/05/06 16:00:00
04/12/06 18:30:00
The following turbidity data were deleted because there were hundreds of caprellids and mussels in the guard and on the turbidity brush;
04/17/06 07:30:00 to 04/26/06 09:30:00

May 1 – 31, 2006

Bayview Channel
The following turbidity data were deleted the values were greater than 1000 NTU, which is outside the accuracy of the probe;
05/18/06 02:30:00, 03:00:00, 03:30:00, 05:00:00, 05:30:00, 06:00:00, 06:30:00, 13:00:00, 13:30:00, 15:00:00, 15:30:00
05/20/06 16:00:00, 16:30:00, 17:00:00
05/21/06 01:00:00, 01:30:00, 02:00:00, 02:30:00, 03:00:00, 03:30:00, 06:00:00, 06:30:00, 07:00:00, 10:00:00, 11:00:00, 11:30:00, 12:00:00, 14:30:00, 15:00:00, 18:30:00
05/22/06 00:00:00, 00:30:00, 21:30:00
05/23/06 10:00:00
05/24/06 07:30:00, 08:00:00, 08:30:00
05/25/06 14:00:00
05/26/06 00:30:00, 23:00:00
05/27/06 02:30:00, 03:30:00, 04:30:00, 08:00:00, 08:30:00
05/28/06 19:30:00
05/29/06 11:30:00, 12:00:00, 17:00:00

05/30/06 08:30:00, 09:00:00, 09:30:00, 13:30:00, 14:30:00, 15:00:00, 15:30:00
The following dissolved oxygen data were deleted because there was a hole in the membrane upon retrieval, exact time could not be determined;
05/01/06 @ 00:00 to 05/16/06 @ 11:00

Ploeg Channel
The following dissolved oxygen data were deleted because it was determined that a hole in the membrane occurred between 05/05/06 @ 00:00:00 and 05/16/06 @10:30:00

Joe Leary
None

Gong Surface
The following turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy of the probe;
05/08/06 11:30:00
05/10/06 04:30:00, 22:30:00
05/11/06 19:00:00, 20:30:00
05/12/06 23:30:00
05/15/06 20:30:00
05/16/06 09:00:00, 10:00:00
05/20/06 00:00:00
05/21/06 06:00:00
05/22/06 18:30:00, 19:00:00, 19:30:00, 20:00:00
05/24/06 06:00:00, 21:30:00
The following turbidity data were deleted because there were hundreds of caprellids in guard and stuck on the turbidity brush and the wiper was not parked at 180 degrees upon retrieval;
05/26/06 18:30:00 to 05/31/06 09:00:00

June 1 – 30, 2006

Bayview Channel
The following dissolved oxygen data were deleted because there was a hole in the membrane upon retrieval;
06/04/06 01:00:00 to 06/16/06 09:00:00

Ploeg Channel
The following turbidity datum was deleted because the value was greater than 1000 NTU, which is outside the accuracy of the probe;
06/11/06 06:30:00

Joe Leary
None

Gong Surface
The following turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy of the probe;
06/05/06 15:30:00
06/08/06 07:30:00
06/09/06 04:30:00, 06:30:00
06/10/06 08:00:00, 20:30:00
06/20/06 18:30:00
06/22/06 16:30:00, 22:30:00
06/23/06 01:30:00, 05:30:00, 12:00:00
06/24/06 02:30:00, 04:30:00, 12:00:00
06/25/06 19:00:00

06/26/06 23:00:00
06/27/06 01:00:00, 01:30:00
06/29/06 00:30:00
The following dissolved oxygen data were deleted because there was a hole in the membrane upon retrieval;
05/31/06 09:30:00 to 06/16/06 09:30:00
Turbidity data for the following period were deleted because there were lots of caprellids in the guard and stuck in the turbidity brush;
06/12/06 08:00:00 to 06/16/06 09:30:00

July 1 – 31, 2006

Bayview Channel
The following turbidity data were deleted because the wiper was very loose upon retrieval and the pad was not coming in contact with the optics which would explain the high and erratic values;
07/12/06 10:00 to 07/19/06 09:00:00

Ploeg Channel
The following turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy of the probe;
07/15/06 14:30:00
07/24/06 09:30:00

Joe Leary
None

Gong Surface
The following turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy of the probe;
07/02/06 04:30:00
07/03/06 15:30:00
07/05/06 10:30:00, 14:00:00, 18:00:00, 18:30:00, 19:00:00, 23:00:00
07/06/06 12:00:00
07/08/06 03:30:00, 05:00:00
07/09/06 02:30:00, 10:30:00, 11:00:00, 14:30:00, 20:30:00, 22:30:00
07/10/06 18:00:00, 21:00:00
07/11/06 04:00:00, 05:00:00, 22:30:00
07/12/06 07:00:00, 08:00:00, 09:30:00, 11:30:00, 14:00:00, 16:30:00
07/13/06 14:30:00
07/14/06 22:30:00
07/15/06 10:30:00, 12:00:00, 21:30:00
07/17/06 23:30:00
07/18/06 16:30:00, 22:30:00
07/19/06 01:30:00, 04:00:00, 05:30:00
The following turbidity data were deleted because the values were high and erratic caused by caprellids in the guard and on the turbidity brush;
07/31/06 03:00:00 to 07/31/06 23:30:00

August 1 – 31, 2006

Bayview Channel
The following turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy of the probe;
08/08/06 14:00:00, 14:30:00
The following dissolved oxygen data were deleted because there was a hole in the membrane upon retrieval;

08/31/06 14:00:00 to 23:30:00

Ploeg Channel
The following dissolved oxygen data were deleted because there was a hole in the membrane upon retrieval;
08/02/06 10:30:00 to 08/30/06 10:00:00
08/30/06 10:30:00 to 08/31/06 23:30:00
The following turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy of the probe;
08/17/06 17:00:00
08/18/06 17:30:00
08/18/06 18:00:00
08/19/06 01:30:00

Joe Leary
None

Gong Surface
The following turbidity data were deleted because the values were high and erratic caused by caprellids in the guard and on the turbidity brush;
08/01/06 00:00:00 to 08/02/06 10:00:00
08/02/06 10:30:00 to 08/30/06 09:30:00
The following specific conductivity, salinity, dissolved oxygen (mgL), and depth data were deleted due to caprellids stuck inside the conductivity probe. This caused erratic and erroneous readings for conductivity and other affected parameters and a very low post calibration reading of 42.81 mS/cm;
08/02/06 10:30:00 to 08/30/06 09:30:00

September 1 – 30, 2006

Bayview Channel
During the following periods turbidity datum was deleted because the value was greater than 1000 NTU, which is outside the accuracy range of the probe;
09/09/06 12:00:00
The following dissolved oxygen data were deleted because there was a hole in the membrane upon retrieval;
09/01/06 00:00:00 to 09/15/06 10:00:00
09/15/06 10:30:00 to 09/27/06 13:00:00

Ploeg Channel
The following dissolved oxygen data were deleted because there was a hole in the membrane upon retrieval;
09/01/06 00:00:00 to 09/15/06 09:30:00
09/15/06 10:00:00 to 09/27/06 13:30:00

Joe Leary
None

Gong Surface
During the following periods turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy range of the probe;
09/11/06 19:00:00
09/13/06 17:00:00
09/14/06 02:30:00
09/18/06 21:30:00, 22:30:00
09/19/06 05:00:00
09/21/06 22:00:00

09/22/06 12:30:00, 13:00:00
09/26/06 00:00:00
The following turbidity data were deleted because the values were high and erratic probably because of caprellids in the guard and on the turbidity brush;
09/15/06 22:30:00 to 09/17/06 23:30:00

October 1 – 31, 2006

Bayview Channel
During the following periods turbidity datum was deleted because the value was greater than 1000 NTU, which is outside the accuracy range of the probe;
10/10/06 14:30:00

Ploeg Channel
The following temperature, salinity, specific conductivity, depth, dissolved oxygen (% and mg/l), pH and turbidity data were deleted because the temperature probe failed and these parameters are all temperature compensated;
10/06/06 23:00:00 to 10/13/06 10:00:00
During the following period turbidity datum was deleted because the value was greater than 1000 NTU, which is outside the accuracy range of the probe;
10/15/06 01:00:00

All parameters for the following period were deleted because the sonde was out of the water, reason unknown;
10/27/06 22:00:00 to 10/28/06 06:00:00

Joe Leary
All parameters for the following periods were deleted because the telemetry caused the sonde to take negative and erratic readings. Once telemetry was disconnected, the sonde resumed normal operation;
10/04/06 15:00:00 to 10/18/06 09:45:00
All Turbidity data for the following deployment were deleted due to debris in the sonde guard. Readings were high and erratic.
10/18/2006 10:00 – 11/15/2006 13:45

Gong Surface
During the following periods turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy range of the probe;
10/06/06 10:30:00, 23:30:00
10/07/06 00:00:00, 01:00:00, 07:30:00
All parameters for the following period were deleted because this is where it was determined the buoy apparatus that housed the Gong YSI went missing. The buoy was later retrieved on 10/31/06 by the USCG;
10/08/06 00:00:00 to 10/31/06 16:00:00

November 1 – 30, 2006

Bayview Channel
None

Ploeg Channel
During the following periods turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy range of the probe;
11/08/06 18:00:00
11/15/06 07:00:00, 07:30:00, 08:30:00, 19:30:00, 22:30:00
11/21/06 10:30:00
11/25/06 09:30:00

Joe Leary
All Turbidity data for the following deployment were deleted due to debris in the sonde guard. Readings were high and erratic.
10/18/2006 10:00 – 11/15/2006 13:45

Gong Surface
None

December 1 – 31, 2006
Bayview Channel
During the following periods turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy range of the probe;
12/10/06 15:30:00
12/16/06 16:30:00
12/17/06 14:30:00
12/18/06 13:00:00

Ploeg Channel
During the following periods turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy range of the probe;
12/19/06 05:00:00
12/31/06 18:00:00

Joe Leary
None

Gong Surface
None

13) Missing data:
Data are missing due to equipment or associated specific probes not being deployed, equipment failure, time of maintenance or calibration of equipment, or repair/replacement of a sampling station platform. For more details on deleted data, see the Deleted Data Section (12.). If additional information on missing data are needed, contact the Research Coordinator at the reserve submitting the data.

Bayview Channel
None

Ploeg Channel
None

Joe Leary
All parameters are missing for the following period because the Skagit County Diking District had us remove all equipment from this site so they could dredge this part of the slough;
08/04/06 10:30:00 to 09/01/06 08:15:00
All parameters are missing for the following period because the internal board of the YSI failed making it impossible to communicate with. The sonde was sent back to YSI but they could not retrieve the data either;
12/05/06 13:30:00 to 12/21/06 09:30:00

Gong Surface
All parameters are missing for 02/15/06 at 10:30:00 because of extremely choppy waters.
All parameters are missing for 04/26/06 at 10:00:00 because mussels were being removed from the PVC pipe that holds the datasonde.

All parameter are missing from 10/31/06 at 16:30:00 to 12/31/06 at 23:30:00 because the buoy apparatus that houses the datasonde broke free from its' mooring when it was probably hit by a large wave or boat. The USCG found it approximately 5 miles south of Vancouver Island.

14) Post deployment information
End of deployment post-calibration readings in standard solutions.

Site Bayview Channel

Date	pH(7)	Sp. Cond. (50mS/cm)	Turbidity(100 NTU)	DO%(Air)
1/10/06	7.00	51.63	99.3	104.4
2/2/06	7.04	50.56	99.6	99.7
2/15/06	7.06	49.97	100.9	105.1
3/21/06	7.24	51.00	100.5	108.1*
*Extreme barometric pressure differences between pre and post calibrations				
4/6/06	7.09	49.63	98.7	102.1
4/26/06	7.07	51.37	100.4	101.7
5/16/06	7.02	49.41	99.8	58.1 *hole in membrane
5/31/06	7.02	50.26	96.9	101.2
6/16/06	7.11	50.02	96.7	erratic *hole in membrane
6/27/06	6.97	49.80	100.7	100.5
7/19/06	7.05	49.80	97.6	99.7
8/02/06	6.94	50.53	98.2	100.4
8/30/06	7.05	50.57	97.5	102.3
9/15/06	7.01	49.95	99.4	79.6 *hole in membrane
9/27/06	6.99	51.12	97.7	89.2 *hole in membrane
10/12/06	7.11	50.59	99.7	103.4
10/27/06	7.14	49.33	97.8	104.0
11/16/06	7.07	52.03	99.3	99.5
12/06/06	7.01	44.80*	99.5	105.8
*Low Sp. Cond is unexplainable				
12/19/06	7.01	50.25	98.2	100.2
01/10/07	6.90	49.18	98.5	102.5

Site Ploeg Channel

Date	pH(7)	Sp. Cond. (50mS/cm)	Turbidity(100 NTU)	DO%(Air)
1/10/06	7.06	50.35	99.7	105.5
2/2/06	7.11	51.23	98.8	100.4
2/15/06	7.03	49.79	100.2	101.8
3/23/06	7.00	52.10	95.8	102.3
4/6/06	7.00	49.47	97.8	99.7
4/26/06	6.98	51.04	99.0	99.4
5/16/06	7.03	49.58	98.5 **	44.8 * hole in membrane
**wiper fell off during deployment				
5/31/06	7.08	50.33	97.7	100.3
6/16/06	6.98	49.54	98.8	92.5 * extreme barometric
pressure differences between pre and post calibrations				
6/27/06	6.96	50.04	100.5	98.1
7/19/06	6.98	49.60	98.3	97.4
8/2/06	6.94	49.85	99.5	87.5 * extreme barometric
pressure differences between pre and post calibrations				
8/30/06	7.02	48.75	97.0	77.0 * hole in membrane
9/15/06	7.12	50.07	99.6	91.5 * hole in membrane
9/27/06	6.94	50.47	98.5	80.5 * hole in membrane

10/13/06	7.02	54.18	97.0	105.0 * temperature probe failed affecting all parameters except DO% saturation
10/27/06	7.18	49.66	99.5	102.6
11/30/06	6.84	51.72	106.8	105.8
12/6/06	7.04	50.43	99.2	99.6
12/19/06	6.98	50.44	98.4	100.2
1/12/07	7.14	49.90	99.6	101.7

Site Joe Leary tide gate

Date	pH(7)	Sp. Cond. (50mS/cm)	Turbidity(100 NTU)	DO%(Air)
1/6/06	7.15	50.68	98.6	102.4
1/18/06	7.07	50.05	99.4	104.2
2/1/06	7.07	50.40	99.1	102.7
2/21/06	7.16	50.26	100.9	107.8 * extreme barometric pressure differences between pre and post calibrations
3/22/06	7.12	50.99	96.8	113.9 * extreme barometric pressure differences between pre and post calibrations
4/7/06	7.13	49.61	100.1	104.4
4/19/06	7.08	50.22	99.3	98.7
5/12/06	6.91	50.41	97.5	101.2
5/25/06	7.09	50.35	100.3	102.2
6/9/06	6.95	49.81	97.0	101.7
6/27/06	7.05	50.00	100.1	102.5
7/19/06	6.99	49.72	98.2	102.0
8/2/06	7.04	50.11	100.7	98.4
8/4/06	7.07	49.81	101.5	99.0
9/19/06	7.01	50.22	98.7	106.5
10/4/06	7.03	50.69	98.9	100.2
10/18/06	6.99	49.75	99.0	103.5
11/15/06	7.05	52.17	99.8	104.8
12/6/06	6.99	50.75	100.8	103.6
12/21/06	no communication between sonde and computer			
1/10/06	7.03	49.92	100.1	101.5

Site Gong Surface

Date	pH(7)	Sp. Cond. (50mS/cm)	Turbidity(100 NTU)	DO%(Air)
1/10/06	7.05	51.50	99.1	104.7
2/2/06	7.05	50.63	96.8	104.0
2/15/06	7.02	50.03	100.8	103.0
3/23/06	7.17	51.12	97.0	106.9 * extreme barometric pressure differences between pre and post calibrations
4/6/06	7.01	49.30	99.0	102.8
04/26/06	6.98	50.90	97.0	101.4
5/16/06	6.97	49.17	102.5	110.6 * extreme barometric pressure differences between pre and post calibrations
5/31/06	7.05	45.31*	98.3	101.6
6/16/06	7.10	49.61	97.9	70.1 * hole in membrane
6/27/06	6.84	50.25	100.6	99.6
7/19/06	7.04	49.35	99.0	98.8
8/2/06	6.95	49.29	98.2	101.9
8/30/06	7.01	42.81*	101.6	101.0 *caprellids inside conductivity probe
9/15/06	7.00	50.02	99.2	101.6

9/27/06	6.96	50.38	97.3	100.7
10/31/06	6.95	50.64	92.5	102.2 * see missing data

15) Other Remarks/notes

"A Sutron Sat-Link2 transmitter was installed at the Joe Leary site on 12/20/05 and transmits data to the NOAA GOES satellite, NESDIS ID #3B004470. The transmissions are scheduled hourly and contain four (4) datasets reflecting fifteen minute data sampling intervals. The telemetry data is "Provisional" data and not the "Authentic" dataset used for long term monitoring and study. This data can be viewed by going to http://cdmo.baruch.sc.edu."

Gong Surface

On 06/30/2025 this dataset was updated to include updated QAQC flags and codes for the Gong Surface surface site at PDB reserve. The GS sonde is a surface sonde that is attached to a floating buoy. The sonde sits in a tube built into the buoy and there is a bolt at the bottom of the tube which sits 1 m below the surface, therefore the sonde's position does not change relative to the buoy. The depth data collected by the sonde reflects the depth the sonde is under the surface of the water. The buoy, and therefore sonde, experiences wave action, unlike the stable platform of the other sites. Any changes in depth are from barometric pressure changes (prior to correction) and wave action. The overall depth at the buoy location changes based on the fluctuation of the tide and ranges from 16 to 21m. The buoy is anchored to the bottom (~ 18 m) with an anchor.

There was a major flood event on the Skagit River from Nov. 5th -7th. The rains and wind continued for the rest of the month with record accumulations. This affected the deployments at Bayview, Ploeg and Joe Leary.

There were record breaking high winds during Dec. 14th and 15th knocking power out to over 2 million people in WA State. High winds continued for the rest of the year and would cause higher turbidity values at Bayview, Ploeg and Joe Leary.

The deployment at Joe Leary from 01/06/06 @ 14:30:00 to 01/17/06 @ 10:00:00 was offset by 30 seconds because of the telemetry. The macro that CDMO created corrected these times.

The deployment at Joe Leary from 02/01/06 @14:30:00 to 02/21/06 @ 11:00:00 was offset by 30 seconds because of the telemetry. The macro that CDMO created corrected these times.

The deployment at Joe Leary from 03/22/06 @ 14:00:00 to 04/07/06 @ 10:30:00 was offset by 30 seconds because of the telemetry. The macro that CDMO created corrected these times.

The 15 minute deployment intervals for Joe Leary started on 06/27/06 @ 13:00:00