Padilla Bay (PDB) NERR Water Quality Metadata
January – December 2005
Latest Update: June 30, 2025

I. Data Set & Research Descriptors

1) Principal investigator & contact persons:

Address: Padilla Bay NERR
10441 Bayview-Edison Road
Mount Vernon, WA 98273-9668

Contact Persons:
Dr. Douglas Bulthuis, Research Coordinator
Phone: (360) 428-1089; email: bulthuis@padillabay.gov
Paula Margerum, Environmental Specialist
Phone: (360) 428-1097; email: margerum@padillabay.gov

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 and on a Macintosh hard drive at Padilla Bay NERR. Paula Margerum completed this process of entry verification for the 2005 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 all sites unless otherwise noted in data anomalies.

4) Research methods:

YSI 6600 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 PVC 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 PVC 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.)

YSI 6600 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 PVC 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 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. All data from 10:00:00 on July 27 to the end of the year were collected at the new pole. Data collected from January 1 to July 27, 2005 were collected at the old pole. Data collected at the old pole during 2005, particularly turbidity, should be interpreted with caution. There was evidence that bottom sediments were accumulating and that the probes were very close to the sediment surface. High currents in the channel may have moved suspended material near the bottom that may not be reflective of the water column as a whole.

Two YSI 6600 sondes were deployed at the Gong site from January 1 through February 2 at two depths suspended from a single buoy: 1.5 m below the surface and 2.0 m above the bottom in 18-20 m water depth (only the surface site data is reported to CDMO). The dataloggers were secured to the line with YSI mooring clamps. The deep datalogger was deployed at about –18 m (depth below MLLW) on a gradual slope that is intertidal on the Padilla Bay side and goes down to about 75 m near the Guemes Island side of the strait. A subsurface buoy was attached to it to keep the sensors above the sediment surface during tidal fluctuations. This apparatus went missing after February 2, possibly hit by a passing boat.
From June 29 through December 31, YSI 6600 sondes were deployed only near the surface at the Gong site 0.5 m below the water surface. During June 29 to December 31, YSI6600 sondes were deployed at the Gong site with a Sombrero Buoy that has a 4-inch ABS pipe about 1.5 m tall clamped to the side of it. The buoy is anchored to the bottom about (– 18 m) using 2 tonning weights (35 lbs. each) and attached with 30 m of marine-grade chain and rope. The sonde is lowered into the pipe using a steel cable.

In all cases, measurements of temperature, specific conductivity, salinity, percent saturation of dissolved oxygen, depth, pH and turbidity are recorded every half hour. 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 32 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 salinity range for this site is 0-20 PSU. 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 at 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. Depth at this site is 18-20 m. 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 2005 at Joe Leary Slough, Bayview Channel and Ploeg Channel sites (except as noted in section 13, Missing data).

Data collection at the Gong site was continuous from January 1 to February 1 and June 29 through December 31. Deployment and retrieval times are listed below. The times indicate the first and last measurements made with each deployment.

BEGAN		ENDED	
Bayview Channel Site			
12/5/2004	11:00:00	1/5/2005	14:30:00
1/5/2005	15:00:00	2/2/2005	14:00:00
2/2/2005	14:30:00	2/16/2005	11:30:00
2/16/2005	12:00:00	3/3/2005	9:30:00
3/3/2005	10:00:00	3/17/2005	10:30:00
3/17/2005	11:00:00	3/30/2005	10:30:00
3/30/2005	11:00:00	4/20/2005	10:30:00
4/20/2005	11:00:00	5/6/2005	9:30:00
5/6/2005	10:00:00	5/20/2005	10:00:00
5/20/2005	10:30:00	6/17/2005	10:00:00
6/17/2005	10:30:00	7/13/2005	9:00:00
7/13/2005	9:30:00	7/27/2005	9:00:00
7/27/2005	9:30:00	8/10/2005	12:30:00
8/10/2005	13:00:00	8/24/2005	9:00:00
8/24/2005	9:30:00	9/7/2005	9:00:00
9/7/2005	9:30:00	9/21/2005	9:30:00
9/21/2005	10:00:00	10/6/2005	12:30:00
10/6/2005	13:00:00	10/20/2005	8:30:00
10/20/2005	9:00:00	11/9/2005	15:00:00
11/9/2005	15:30:00	11/21/2005	14:00:00
11/21/2005	14:30:00	12/6/2005	15:30:00
12/6/2005	16:00:00	1/10/2006	14:30:00

Ploeg Channel Site			
12/15/2004	11:00:00	1/5/2005	15:00:00
1/5/2005	15:30:00	2/2/2005	14:30:00
2/2/2005	15:00:00	2/16/2005	11:00:00
2/16/2005	11:30:00	3/3/2005	10:00:00
3/3/2005	10:30:00	3/24/2005	14:00:00
3/24/2005	14:30:00	3/30/2005	10:00:00
3/30/2005	10:30:00	4/20/2005	9:30:00
4/20/2005	10:00:00	5/6/2005	11:00:00
5/6/2005	11:30:00	5/20/2005	11:30:00
5/20/2005	12:00:00	6/17/2005	12:30:00
6/17/2005	13:00:00	7/13/2005	9:00:00
7/13/2005	9:30:00	7/27/2005	9:30:00
7/27/2005	10:00:00	8/10/2005	13:00:00
8/10/2005	13:30:00	8/24/2005	9:00:00
8/24/2005	9:30:00	9/7/2005	9:30:00
9/7/2005	10:00:00	9/21/2005	9:30:00

9/21/2005	10:00:00	10/6/2005	13:00:00
10/6/2005	13:30:00	10/20/2005	9:00:00
10/20/2005	9:30:00	11/9/2005	15:00:00
11/9/2005	15:30:00	11/21/2005	14:30:00
11/21/2005	15:00:00	12/6/2005	15:00:00
12/6/2005	15:30:00	1/10/2006	14:00:00

Joe Leary Site

12/22/2004	12:30:00	1/11/2005	10:30:00
1/11/2005	11:00:00	1/26/2005	11:30:00
1/26/2005	12:00:00	2/11/2005	11:30:00
2/11/2005	12:00:00	2/25/2005	13:30:00
2/25/2005	14:00:00	3/10/2005	10:00:00*
3/10/2005	11:00:00	3/23/2005	10:00:00
3/23/2005	10:30:00	4/7/2005	10:30:00
4/7/2005	11:00:00	4/26/2005	13:30:00
4/26/2005	14:00:00	5/13/2005	13:30:00
5/13/2005	14:00:00	5/27/2005	08:00:00
5/27/2005	08:30:00	6/24/2005	10:30:00
6/24/2005	11:00:00	7/14/2005	08:00:00
7/14/2005	08:30:00	7/29/2005	12:30:00
7/29/2005	13:00:00	8/12/2005	12:00:00
8/12/2005	12:30:00	8/31/2005	12:30:00
8/31/2005	13:00:00	9/16/2005	10:30:00
9/16/2005	11:00:00	9/30/2005	09:30:00
9/30/2005	10:00:00	10/20/2005	11:30:00
10/20/2005	12:00:00	11/4/2005	11:30:00
11/4/2005	12:00:00	11/18/2005	12:00:00
11/18/2005	12:30:00	12/2/2005	12:30:00
12/2/2005	13:00:00	12/19/2005	14:30:00
12/19/2005	15:00:00	1/6/2006	14:00:00

*Missed 10:30 sample during instrument exchange

Gong Surface Site

12/15/2004	11:00:00	1/5/2005	15:30:00
1/5/2005	16:00:00	2/2/2005	15:00:00*

Instruments and deployment apparatus went missing, probably hit by a boat from February 02 – June 29

6/29/2005	14:00:00**	7/13/2005	10:00:00
7/13/2005	10:30:00	7/27/2005	10:00:00
7/27/2005	10:30:00	8/10/2005	13:30:00
8/10/2005	14:00:00	8/24/2005	9:30:00
8/24/2005	10:00:00	9/7/2005	10:00:00
9/7/2005	10:30:00	9/21/2005	10:00:00
9/21/2005	10:30:00	10/6/2005	13:30:00
10/6/2005	14:00:00	10/20/2005	9:00:00
10/20/2005	9:30:00	11/9/2005	14:30:00
11/9/2005	15:00:00	11/21/2005	14:30:00

11/21/2005	15:00:00	12/6/2005	14:30:00
12/6/2005	15:00:00	1/10/2006	14:00:00

* Last deployment before sondes went missing
** First deployment with new buoy system

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:
None

II. Physical Structure Descriptors

9) Sensor Specifications:

YSI 6600/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

Dissolved Oxygen qualifier: The reliability of the dissolved oxygen (DO) data after 96 hours post-deployment for non-EDS (Extended Deployment System) data sondes may be problematic due to fouling which forms on the DO probe membrane during some deployments (Wenner et al. 2001). Many reserves have upgraded to the YSI 6600 EDS data sondes, which increases DO accuracy and longevity by reducing the environmental effects of fouling. (After June 2004 all of the sondes used at PBNERR were YSI 6600 EDS instruments.) The user is therefore advised to consult the metadata and to exercise caution when utilizing the DO data beyond the initial 96-hour time period. However, this potential drift is not always problematic for some uses of the data, i.e. periodicity analysis. It should also be noted that the amount of fouling is very site specific and that not all data are affected. The Research Coordinator at the specific

NERR site should be contacted concerning the reliability of the DO data because of the site and seasonal variation in the fouling of the DO sensor.

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. Standard calibration protocols for the non-vented sensor use the atmospheric pressure at the time of calibration. Therefore, changes in atmospheric pressure between calibrations appear as changes in water depth. The error is equal to approximately 1.03cm for every 1millibar change in atmospheric pressure. This error is eliminated for level sensors because they are vented to the atmosphere throughout the deployment time interval. If proper atmospheric pressure data are available, non-vented sensor depth measurements can be corrected for deployments between calibrations. Readings for both vented and non-vented are automatically compensated for water density changes due to variations in temperature and salinity. The Research Coordinator at the specific NERR site should be contacted in order to obtain information regarding atmospheric pressure data availability. All YSI 6600 sondes at PBNERR are non-vented.

10) Coded variable definitions:

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, 2005

Bayview channel
The following turbidity data are suspect due to high and erratic values, cause unknown.
01/14/05 06:00:00, 08:30:00
01/18/05 21:00:00

Ploeg Channel
From 01/05/05 15:30:00 – 02/02/05 14:30:00, very high turbidity readings coincided with very low tides. Values seem unreasonably high but could be caused by close proximity of the probes to the bottom.

The pole and ABS deployment pipe at Ploeg Channel were replaced in July 2005. All data from 10:00:00 on July 27 to the end of the year were collected at the new pole. Data collected from January 1 to July 27, 2005 were collected at the old pole. Data collected at the old pole during 01/01/05 00:00:00 to 07/27/05 23:30:00 2005, particularly turbidity, should be interpreted with caution. There was evidence that bottom sediments were accumulating and that the probes were very close to the sediment surface. High currents in the channel may have moved suspended material near the bottom that may not be reflective of the water column as a whole.

Joe Leary
Turbidity data for the period of 01/01/05 00:00:00 to 01/11/05 10:30:00 should be interpreted with caution because the wiper fell off, probably early in deployment judging from the fouling on the probe.

Gong Surface
None

February 1 – 28, 2005

Bayview Channel
None

Ploeg Channel
From 02/02/05 15:00:00 – 02/16/05 11:00:00, very high turbidity readings coincided with very low tides. Values seem unreasonably high but could be caused by close proximity of probes to bottom.

Joe Leary
Turbidity data for the following periods of 02/16/05 05:00:00 to 02/17/05 11:00:00 and 02/21/05 03:00:00 – 14:30:00 have high and erratic values associated with salinity intrusions, cause unknown.

Gong Surface
None

March 1 – 31, 2005

Bayview Channel
Turbidity data for the following periods should be interpreted with caution because the wiper fell of the turbidity probe and the post-calibration readings were low.
03/17/05 11:00:00 - 03/30/05 10:30:00

Ploeg Channel
Turbidity data for the following periods should be interpreted with caution because the wiper fell off during deployment.
03/03/05 10:30:00 - 03/24/05 14:00:00

Low salinity observed on 03/10/05 from 07:00:00 to 10:30:00 and 15:30:00 did not coincide with heavy rainfall in the watershed, cause unknown.

High turbidity values on 03/27/05 08:30:00 and 03/29/05 22:30:00 seem suspiciously high but they coincided with the arrival of a weather front with wind and rain.

Joe Leary
None

Gong Surface
None

April 1 – 30, 2005

Bayview Channel
The following turbidity data are suspect due to high and erratic values, cause unknown.
04/01/2005 19:00:00
04/11/2006 12:00:00, 16:00:00
04/18/2006 23:00:00

Ploeg Channel
Causes for low salinity for the following periods are unknown.
04/07/05 07:30:00, 08:00:00 08:30:00, 09:00:00
04/11/05 18:00:00, 18:30:00

Turbidity data from 04/20/05 10:00:00 to 05/06/05 11:00:00 should be interpreted with caution because from 04/25/05 16:00:00 to 04/29/05 23:00:00 the data were continuously high and therefore deleted. The remaining data for this deployment seem reasonable.

Joe Leary
None
Gong Surface
None

May 1 – 31, 2005

Bayview Channel
The following turbidity datum is suspect due to a high and erratic reading, cause unknown.
05/02/2005 06:00:00

Ploeg Channel
None

Joe Leary
None

Gong Surface
None

June 1 – 30, 2005

Bayview Channel
The following salinity data should be interpreted with caution due to possible organisms inside the conductivity probe.
06/26/2005 04:00:00 – 06/27/2005 10:00:00

Ploeg Channel
Turbidity data for the period of 06/04/05 23:00:00 to 06/17/05 12:30:00 appears anamolous and high and may be due to some fouling the last part of deployment although fouling on the guard was light when retrieved.

Joe Leary
Turbidity data for the period of 06/24/05 11:00:00 to 07/14/05 08:00:00 should be interpreted with caution because the wiper fell off sometime during the deployment possibly causing high values.

Gong Surface
None

July 1 – 31, 2005

Bayview Channel
None

Ploeg Channel
All parameters from 07/13/05 09:30:00 to 07/27/05 09:30:00 should be interpreted with caution. Black sediment was present on all probes though probe tips were clean. Sonde guard may have been touching the bottom.

Low salinity on 07/30/05 08:30:00 coincided with low tides.

Joe Leary
None

Gong Surface
None

August 1 – 31, 2005

Bayview Channel
None

Ploeg Channel
Low salinities on 8/12/05 06:30, 11:30 and 8/26/05 12:00 coincided with low tides.

Joe Leary
None

Gong Surface
None

September 1 – 30, 2005

Bayview Channel
None

Ploeg Channel
The wiper fell off the turbidity probe sometime during the deployment from 09/21/05 10:00:00 to 10/06/05 13:00:00 so probes may not have been wiped clean and turbidity data during this period of time should be interpreted with caution.

Joe Leary
None

Gong Surface
None

October 1 – 31, 2005

Bayview Channel
None

Ploeg Channel
The wiper fell off the turbidity probe sometime during the deployment from 09/21/05 10:00:00 to 10/06/05 13:00:00 so probes may not have been wiped clean and turbidity data during this period of time should be interpreted with caution.

Joe Leary
None

Gong Surface
For the deployment from 10/06/05 14:00:00 to 10/20/05 09:00:00, caprellids inside the guard were the probable cause of numerous high and erratic turbidities so values over 100 NTU were deleted. Numerous remaining values are high and erratic and should be interpreted with caution as these may also have been caused by caprellids.

For the deployment from 10/20/05 09:30:00 to 11/09/05 14:30:00 caprellids inside the guard were the probable cause of occasional high and erratic turbidities so values over 100 NTU were deleted. Occasional remaining values are high and erratic and should be interpreted with caution as these may also have been caused by caprellids.

November 1 – 30, 2005

Bayview Channel
The salinity data between 11/16/05 01:30:00 – 11/21/05 14:00:00 should be interpreted with caution because the post-calibration reading was low indicating possible drift of the probe.

Ploeg Channel
None

Joe Leary
None

Gong Surface

For the deployment from 11/09/05 15:00:00 to 12/06/05 14:30, caprellids inside the guard were the probable cause of occasional high and erratic turbidities so values over 100 NTU were deleted. Occasional remaining values are high and erratic and should be interpreted with caution as these may also have been caused by caprellids.

December 1 – 31, 2005

Bayview Channel
None

Ploeg Channel
None

Joe Leary
None

Gong Surface
None

12) Deleted Data:

January 1-31, 2005

Bayview Channel
During the following periods turbidity data were deleted because they were high and erratic, cause unknown.
01/07/05 20:00:00
01/08/05 03:00:00
01/20/05 11:30:00

Ploeg Channel
During the following period turbidity reading was deleted because it was high and erratic, cause unknown:

01/02/05 06:00:00

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.
01/09/05 03:30:00
01/10/05 05:00:00
01/15/05 03:30:00

Joe Leary
During the following periods turbidity data were deleted because they were high and erratic, cause unknown.
01/01/05 09:30:00, 10:30:00, 13:00:00
01/17/05 23:00:00
01/27/05 17:00:00
01/30/05 07:00:00

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.
01/27/05 07:00:00

Gong Surface
During the following period pH reading was deleted because the value was low and erratic, cause unknown.
01/08/05 23:30:00

February 1 – 28, 2005

Bayview Channel
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.
02/09/05 21:00:00

During the following periods turbidity data were deleted because they were high and erratic, cause unknown.
02/07/05 07:00:00
2/10/05 10:30:00
02/12/05 15:00:00
02/16/05 06:30:00, 11:00:00
02/22/05 09:30:00
02/24/05 16:00:00
02/25/05 21:30:00
02/27/05 23:00:00

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.
02/03/05 18:00:00
02/04/05 06:30:00
02/05/05 19:30:00
02/07/05 19:00:00
02/08/05 01:30:00, 20:00:00, 21:00:00, 21:30:00,
02/10/05 23:00:00

Joe Leary

During the following periods turbidity data were deleted because they were high and erratic, cause unknown.
02/01/05 22:30:00
02/04/05 16:30:00
02/07/05 06:00:00
02/13/05 19:00:00
02/16/05 09:00:00
02/25/05 18:30:00
02/28/05 05:30:00

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.
02/01/05 20:30:00
02/03/05 22:00:00
02/07/05 05:00:00, 05:30:00, 06:30:00
02/13/05 08:00:00

Gong Surface
None

March 1 – 31, 2005

Bayview Channel
During the following periods turbidity data were deleted because they were high and erratic, cause unknown:
03/16/05 06:30:00
03/30/05 02:00:00

Ploeg Channel
During the following periods turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy of the probe.
03/03/05 20:00:00
03/26/05 07:30:00, 08:00:00
03/28/05 12:00:00

Joe Leary
During the following periods the turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy range of the probe.
03/14/05 10:30:00, 11:30:00, 12:00:00, 14:30:00, 15:00:00

During the following periods turbidity data were deleted because they were high and erratic, possibly caused by the sculpin found in the sonde guard on retrieval.
03/13/05 11:00:00 – 03/14/05 00:30:00
03/14/05 15:30:00
03/16/05 21:30:00
03/17/05 11:30:00
03/19/05 19:30:00
03/20/05 21:00:00
03/21/05 22:30:00

During the following periods turbidity data were deleted because they were high and erratic, cause unknown.
03/30/05 23:30:00
03/31/05 01:30:00

Gong Surface
None

April 1 – 30, 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.
04/03/05 02:30:00, 03:00:00, 03:30:00, 06:30:00
04/05/05 10:00:00
04/11/05 16:30:00

Ploeg Channel
The following turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy range of the probe.
04/21/05 07:30:00

The following turbidity data were deleted because of high values, cause unknown.
04/25/05 16:00:00 – 04/29/05 23:00:00

Joe Leary
During the following periods turbidity data were deleted because they were high and erratic, cause unknown.
04/13/05 10:30:00, 11:00:00
04/19/05 03:00:00
04/23/05 15:00:00
04/24/05 09:30:00

Gong Surface
None

May 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.
05/01/05 15:00:00
05/27/05 22:00:00

Ploeg Channel
The following turbidity datum was deleted because the boat arrived at the sampling station right before the scheduled reading causing a high value.
05/20/05 11:30:00

Joe Leary

During the following periods turbidity data were deleted because the values were high and erratic probably caused by an animal in the sonde guard during salinity intrusion.
05/01/05 00:00:00 – 05/01/05 08:30:00

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.
05/15/05 12:00:00
5/16/05 15:00:00
5/17/05 15:30:00, 16:00:00, 16:30:00, 17:30:00, 18:00:00
5/18/05 18:00:00
5/19/05 07:30:00

05/21/05 07:30:00
5/22/05 08:00:00, 18:00:00

During the following periods turbidity data were high and erratic so they were deleted, possibly caused by sludge on sonde guard.
05/17/05 15:00:00, 17:00:00
05/19/05 08:30:00
05/21/05 08:30:00
05/22/05 07:30:00

Gong Surface
None

June 1 – 30, 2005

Bayview Channel
During the following periods turbidity data were high and erratic so they were deleted, cause unknown.
06/26/05 20:00:00, 20:30:00

Ploeg Channel
All data for the following period were deleted because the sonde was removed from the water to replace the deployment pole.
06/16/05 10:30:00 - 11:30:00

Turbidity data for the following period were deleted because the wiper fell off and the data appeared erratic.
06/17/05 13:00:00 - 07/13/05 09:00:00

Dissolved oxygen data for the following periods were deleted because the probe electrodes were completely black upon retrieval, the values were erratic and the probe was reading over 300% during post-calibration.
06/17/05 13:00:00 - 07/13/05 09:00

Joe Leary
During the following period turbidity data were deleted because it was high and erratic, cause unknown.
06/14/05 02:00:00
06/25/05 09:30:00

The following turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy range of the probe.
06/04/05 20:30:00
06/25/05 10:00:00

Gong Surface
None

July 1 – 31, 2005

Bayview Channel
The following turbidity datum was deleted because the value was greater than 1000 NTU, which is outside the accuracy range of the probe.
07/04/05 07:00:00

Ploeg Channel

The following dissolved oxygen data were deleted because the values were erratic. This was caused by the wrinkle in the probe membrane found upon retrieval but probably happened in the lab before deployment.
07/13/05 09:30:00 – 07/27/05 09:30:00

Joe Leary
The following turbidity data were deleted because the values were greater than 1000 NTU, which is outside the accuracy range of the probe.
07/15/05 06:00:00
07/16/05 08:00:00
07/18/05 05:00:00, 11:00:00, 22:00:00
07/19/05 05:30:00, 10:00:00
07/20/05 13:30:00
07/23/05 12:30:00, 13:30:00, 14:30:00
07/24/05 13:30:00
07/25/05 15:30:00, 16:30:00
07/26/05 15:30:00
07/27/05 05:00:00
07/28/05 19:30:00
07/29/05 06:30:00
07/30/05 11:00:00

During the following period turbidity data were deleted because it was high and erratic, cause unknown.
07/18/05 09:00:00, 22:30:00, 23:00:00
07/23/05 09:30:00, 12:00:00
07/25/05 16:00:00
07/26/05 13:00:00
07/27/05 05:30:00
07/28/05 05:00:00, 06:30:00, 07:30:00

Gong Surface
During the following period turbidity data were deleted because it was high and erratic, cause unknown.
07/10/05 07:30:00, 11:00:00
07/20/05 06:00:00
07/25/05 09:00:00
07/28/05 19:00:00, 20:00:00, 20:30:00, 21:00:00, 21:30:00, 22:00:00

Turbidity data for the following periods were deleted because the values were greater than 1000 NTU, which is outside the accuracy of the probe.
07/12/05 10:00:00, 10:30:00
07/12/05 15:00:00
07/19/05 01:30:00, 02:00:00
07/21/05 10:00:00
07/24/05 23:30:00
07/28/05 18:00:00, 18:30:00 19:30:00

August 1 – 31, 2005

Bayview Channel
During the following period, the dissolved oxygen data were deleted because during calibration the DO charge value was high and upon retrieval there was a hole in the membrane.
08/10/05 13:00:00 - 08/24/05 09:00:00

Ploeg Channel
During the following periods turbidity data were high and erratic so they were deleted, probably caused by the crab found in the sonde guard.
08/24/05 00:00:00, 01:00:00, 01:30:00, 02:00:00

Joe Leary
During the following periods turbidity data were high and erratic so they were deleted, cause unknown:
08/07/05 13:00:00
08/11/05 19:30:00

Turbidity data for the following periods were deleted because the values were greater than 1000 NTU, which is outside the accuracy range of the probe.
08/08/05 12:00:00, 13:00:00
08/09/05 14:00:00

Gong Surface
Turbidity data for the following periods were deleted because the values were greater than 1000 NTU, which is outside the accuracy range of the probe.
08/06/05 02:00:00
08/20/05 01:00:00
08/31/05 03:00:00

During the following period turbidity data were deleted because it was high and erratic, cause unknown.
08/06/05 08:30:00, 09:00:00, 09:30:00,14:30:00, 16:00:00
08/07/05 02:30:00
08/09/05 07:00:00
08/10/05 04:00:00
08/15/05 20:00:00
08/16/05 05:00:00
08/20/05 01:30:00
08/28/05 15:00:00
08/31/05 02:30:00

September 1 – 30, 2005

Bayview Channel
During the following period data a high and erratic turbidity value was deleted, cause unknown.
09/18/05 07:00:00

During the following period a turbidity datum was deleted because the value was greater than 1000 NTU, which is outside the accuracy range of the probe.
09/27/05 05:00:00

Ploeg Channel
During the following period turbidity datum was high and erratic so it was deleted, cause unknown.
09/05/05 21:00:00

During the following periods turbidity data values were greater than 1000 NTU, which is outside the accuracy range of the probe.
09/21/05 14:30:00, 15:30:00, 16:00:00

Joe Leary
During the following periods turbidity data values were greater than 1000 NTU, which is outside the accuracy range of the probe.
09/04/05 10:30:00
09/05/05 10:30:00
09/08/05 15:00:00
09/12/05 05:00:00

09/13/05 09:00:00

Gong Surface
During the following periods turbidity data were high and erratic so they were deleted, cause unknown.
09/01/05 18:30:00
09/06/05 15:00:00

During the following periods turbidity data were deleted because there were caprellids inside the sonde guard upon retrieval. These were probably the cause for the high and erratic values.
09/14/05 09:00:00 – 09/21/05 10:00:00
09/26/05 03:00:00 – 10/06/05 13:30:00

During the following periods turbidity data values were greater than 1000 NTU, which is outside the accuracy range of the probe.
09/07/05 13:00:00
09/21/05 16:00:00
09/22/05 23:30:00

October 1 – 31, 2005

Bayview Channel
During the following period a turbidity datum was deleted because it was greater than 1000 NTU, outside the accuracy range of the probe.
10/14/05 18:00:00

During the following periods turbidity data were deleted because they were high and erratic, probably because of the fish found in the guard on retrieval.
10/11/05 03:30:00
10/15/05 02:30:00

Ploeg Channel
None

Joe Leary
None

Gong Surface
During the following period turbidity data were deleted because the values were over 1000 NTU, outside the accuracy range of the probe.
10/09/05 17:00:00
10/10/05 03:30:00
10/11/05 03:00:00, 17:00:00, 19:00:00
10/13/05 04:30:00, 17:00:00, 18:30:00 19:30:00, 20:30:00
10/14/05 06:30:00
10/15/05 08:30:00
10/16/05 08:30:00
10/17/05 12:00:00, 13:00:00, 21:00:00
10/19/05 03:30:00, 07:00:00, 08:00:00, 08:30:00, 10:00:00, 11:00:00, 20:00:00, 21:30:00, 23:00:00, 23:30:00
10/25/05 17:00:00

During the deployment from 10/06/05 14:00:00 to 10/20/05 09:00:00 caprellids inside the guard were the probable cause of numerous high and erratic turbidities so values over 100 NTU were deleted. Numerous remaining values are high and erratic and should be interpreted with caution as these may also have been caused by caprellids.
10/07/05 15:30:00

10/09/05 17:30:00
10/11/05 01:00:00, 02:30:00, 03:30:00, 16:30:00
10/13/05 19:00:00
10/15/05 08:00:00, 09:00:00
10/17/05 11:30:00, 12:30:00, 19:00:00
10/19/05 07:30:00, 09:30:00, 11:30:00, 22:30:00
10/25/05 21:00:00

November 1 – 30, 2005

Bayview Channel
During the following period a turbidity datum was deleted because the value was greater than 1000 NTU, which is outside the accuracy range of the probe.
11/06/05 16:30:00

Ploeg Channel
None

Joe Leary
During the following period turbidity data were deleted because the value was greater than 1000 NTU, which is outside the accuracy range of the probe.
11/19/05 20:30:00

Gong Surface
During the deployment from 10/20/05 09:30:00 to 11/09/05 14:30:00 caprellids inside the guard were the probable cause of occasional high and erratic turbidities so values over 100 were deleted. Occasional remaining values are high and erratic and should be interpreted with caution as these may also have been caused by caprellids.
11/02/05 07:30:00
11/06/05 09:30:00

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.
11/02/05 08:00:00
11/03/05 10:00:00
11/08/05 16:30:00
11/28/05 10:00:00

December 1 – 31, 2005

Bayview Channel
During the following periods turbidity data were deleted because they were high and erratic probably because 1 crab and 2 shrimp were found in the sonde guard upon retrieval.
12/02/05 04:00:00, 05:30:00, 07:00:00, 09:00:00

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.
12/20/05 14:30:00

During the following periods turbidity data were deleted because they were high and erratic, cause unknown.
12/21/05 02:30:00

Ploeg Channel
The turbidity data for the following periods were deleted due to high values probably caused by the shrimp found in the sonde guard upon retrieval.

12/24/05 05:30:00
12/27/05 23:30:00
12/30/05 18:30:00

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.
12/17/05 11:30:00

Gong Surface
During the following periods turbidity data were deleted because the values were greater than 1000 NTU, outside the accuracy range of the probe.
12/02/05 01:30:00, 02:30:00
12/05/05 00:00:00, 00:30:00, 02:30:00
12/19/05 10:00:00, 21:30:00, 22:00:00
12/20/05 00:00:00
12/22/05 19:00:00, 20:00:00

During the deployment from 11/09/05 15:00:00 to 12/06/05 14:30 caprellids inside the guard were the probable cause of occasional high and erratic turbidities so values over 100 NTUwere deleted. Occasional remaining values are high and erratic and should be interpreted with caution as these may also have been caused by caprellids.
12/04/05 22:30:00
12/05/05 01:30:00

During the following periods turbidity data were deleted because the values were high and erratic, cause unknown.
12/13/05 11:30:00
12/18/05 01:30:00

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.

Ploeg Channel

The pH data are missing from 06/17/05 13:00:00 to 07/13/05 09:00:00 because the probe was faulty and no replacement probes were available at start of deployment.

Gong Surface
All data are missing from 02/02/05 15:00:00 to 06/29/05 13:30:00 because the apparatus anchoring the two sondes went missing, probably hit by a passing boat.

Bayview Channel
The pH Data are missing from 06/17/05 10:30:00 to 07/13/05 09:00:00 because the probe was faulty and no replacement probes were available at start of deployment.

Joe Leary
All data is missing on 03/10/05 10:30:00 because the sonde was exchanged on the ½ hour at the time the reading was being taken.

14) Post deployment information

End of deployment post-calibration readings in standard solutions.

Site BY

Date	pH(7)	Sp. Cond. (50mS/cm)	Turbidity(100 NTU)	DO%(Air)
01/05/05	7.03	49.65	98.5	103.3
02/25/05	7.03	50.04	99.5	105.2
02/16/05	7.15	49.71	97.5	108.6
3/03/05	7.11	50.14	99.6	104.5
03/17/05	7.05	48.95	99.3	104.0
03/30/05	7.09	50.04	88.7*wiper missing	104.1
04/20/05	7.03	50.17	98.4	105.8
05/06/05	7.03	50.21	100.0	106.8
05/20/05	7.10	49.86	101.0	103.6
06/17/05	7.08	49.85	97.9	104.4
07/13/05	*removed probe	49.43	97.2	103.9
07/27/05	6.99	49.69	99.0	102.7
08/10/05	7.02	49.30	99.9	102.3
08/24/05	7.08	49.93	98.7	92.1**
09/07/05	7.03	49.92	100.0	101.1
09/21/05	7.03	50.22	98.4	105.8
10/06/05	7.00	50.42	99.00	102.5
10/20/05	7.07	50.00	100.3	103.1
11/09/05	6.95	50.51	100.4	104.0
11/21/05	7.09	46.32	98.8	104.3
12/06/05	7.07	49.95	98.5	102.6
01/06/06	7.00	51.63	99.3	104.4

*pH probed failed so removed. YSI replaced under warranty ** had trouble calibrating DO probe…may be failing, also came back with hole

Site BP

Date	pH(7)	Sp. Cond. (50mS/cm)	Turbidity(100 NTU)	DO%(Air)
1/05/05	6.99	50.02	98.9	105.5
02/02/05	7.02	50.62	97.2	109.8
02/16/05	7.05	50.64	96.8	105.3
03/03/05	7.0	50.29	100.8	101.2
03/24/05	7.09	49.84	92.4*wiper fell off	103.4
03/30/05	7.09	49.85	97.7	105.6
04/20/05	7.19	50.03	100.5	101.8
05/06/05	7.07	50.35	98.2	104.2
05/20/05	7.17	49.89	103.6	105.5
06/17/05	7.08	49.55	99.5	102.5
07/13/05	*removed probe	50.70	98.4**wiper fell off	304.8***

*pH probe was malfunctioning. YSI replaced under warranty ***Electrodes were completely tarnished

07/27/05	6.97	50.85	99.5	94.0*wrinkle in membrane
08/10/05	7.06	49.62	100.7	100.3
08/24/05	6.96	49.71	99.0	100.2
09/07/05	7.04	49.91	99.9	100.5
09/21/05	7.02	50.27	99.3	104.2
10/06/05	7.06	50.21	99.1*wiper fell off	100.8
10/20/05	7.00	50.95	98.1	104.1
11/09/05	7.00	49.71	100.7	106.3
11/21/05	7.08	50.40	92.4	103.5

12/06/05	7.14	50.58	100.7	102.7
01/10/06	7.06	50.35	99.7	105.5

Site JL

Date	pH(7)	Sp. Cond. (50mS/cm)	Turbidity(100 NTU)	DO%(Air)
01/11/05	7.06	50.42	42.6*wiper fell off	102.2
01/26/05	7.12	51.79	99.2	92.6
02/11/05	7.09	49.74	93.2	99.6
02/25/05	7.12	50.94	100.3	97.6
03/10/05	7.13	50.04	96.1	97.1
03/23/05	7.05	49.77	95.9	99.1
04/07/05	7.17	49.69	102.2	104.3
04/26/05	7.18	49.65	103.9	104.1
05/13/05	6.90	49.25	100.5	99.3
05/27/05	7.10	50.21	101.5	107.0
06/24/05	7.07	49.13	97.3	101.5
07/14/05	7.00	50.46	97.1	109.9
07/29/05	7.04	49.22	99.8	105.7
08/12/05	7.03	49.42	97.1	101.6
08/31/05	6.91	50.32	99.3	103.8
09/16/05	7.12	50.75	98.2	101.3
09/30/05	7.09	50.51	98.4	100.4
10/20/05	7.09	50.74	97.9	102.1
11/04/05	7.12	50.03	101.5	106.2
11/18/05	7.11	50.23	98.6	102.3
12/02/05	7.22	50.44	96.8	107.3
12/19/05	7.05	50.28	95.3	105.6
01/06/06	7.15	50.68	98.6	102.4

Site GS

Date	pH(7)	Sp. Cond. (50mS/cm)	Turbidity(100 NTU)	DO%(Air)
01/05/05	7.09	49.74	93.2	99.6
02/02/05	7.04	49.91	97.2	106.9
	Instruments and deployment apparatus went missing from 02/02 – 06/29			
07/13/05	7.04	50.51	100.3	101.7
07/27/05	7.04	49.88	98.8	98.6
08/10/05	7.01	49.42	92.4	103.8
08/24/05	7.11	50.38	99.6	102.5
09/07/05	7.09	50.06	98.9	100.7
09/21/05	7.13	50.30	100.8	107.0
10/06/05	7.04	49.77	97.7	101.6
10/20/05	7.08	50.07	99.2	103.2
11/09/05	7.01	51.08	99.7	102.1
11/21/05	7.08	50.21	99.2	110.7
12/06/05	7.05	50.27	99.6	106.2
01/10/06	7.05	51.50	99.1	104.7

15) Other Remarks/notes

On 08/13/2020 this dataset was updated to include embedded QAQC flags for anomalous/suspect data. System-wide monitoring data beginning in 2007 were processed to allow for QAQC flags and codes to be embedded in the data files rather than detailed in the metadata alone (as in the anomalous/suspect, deleted, and missing data sections above). Prior to 2006, rejected data were deleted from the dataset so they are unavailable to be used at all, but suspect data were only noted in the metadata document. Suspect data flags <1> were embedded retroactively in order to allow suspect data to be easily identified and filtered from the dataset if desired for analysis and reporting purposes. No other flags or codes were embedded in the dataset and users should still refer to the detailed explanations above for more information.

Ploeg Channel

a) Drop in salinity on 03/28/05 09:00:00 to 17:00:00 coincided with the arrival of a weather front with wind and rain.

b) The pole and ABS deployment pipe at Ploeg Channel were replaced in July 2005. All data from 10:00:00 on July 27 to the end of the year were collected at the new pole. Data collected from January 1 to July 27, 2005 were collected at the old pole. Data collected at the old pole during 2005, particularly turbidity, should be interpreted with caution. There was evidence that bottom sediments were accumulating and that the probes were very close to the sediment surface. High currents in the channel may have moved suspended material near the bottom that may not be reflective of the water column as a whole.

Gong Surface

a) 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.

b) Low salinities coincided with high rainfall from 01/20/05 20:30:00 – 02/02/05 15:00:00.