Chesapeake Bay Virginia (CBV) NERR Water Quality Metadata
January - December 2002
Latest update: June 30, 2021

I. Data Set and Research Descriptors

1. Principal investigators and contact persons

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Additional monitoring program support in addition to above stated:
Eric Wooden (Stewardship Coordinator), Scott Lerberg (NERRS Graduate Research
Fellow), and Landon Ward (NERRS Graduate Research Fellow)

2. Entry verification
The data were uploaded to a C from either YSI 6000 or 6600 dataloggers and
reviewed using PC6000/6600 software from YSI. Graphs were produced and examined
using the PC6000/6600 software then printed out and filed. Next, files were
uploaded in comma-delimited format, which were opened in Excel 5.0 software and
edited to remove extraneous information (headers, footers, spaces, and pre- and
post-deployment data). Monthly templates were used to form complete sets of
monthly data sets. Macros supplied by NERRS/CDMO were used to help with
editing, formatting and identifying outliers in the database. The CDMO
cdmomac3.xls macro allowed the user to automatically format column widths and to
adjust value decimal places based on YSI sensor specifications. It also allowed
the user to QA/QC each datalogger generated file for missing data points, fill
all cells that do not contain data with periods (.), and find all data points
that fell outside (ie. outliers) the measurement range of the YSI 6000/6600
instrumentation. Outliers were determined according to the instruments'
manufacturers manual. Suspect data (as in data believed to result from a
damaged

or biofouled probe) were evaluated according to Appendix B of the CDMO manual,
edited and documented. Missing data due to YSI maintenance (downtime) was inserted into the spreadsheet and was denoted by periods (.). Edited and raw
data files were copied and archived in the CBNERRVA file server and uploaded to
the CDMO FTP site. Following final editing, the database was uploaded to the
CBNERRVA server and to CDMO. Joy Austin was the individual who was responsible
for the entry verification tasks.

3. Research Objectives

Goodwin Islands (GI) Component:
The Goodwin Islands represent marsh islands surrounded by intertidal flats,
submerged aquatic vegetation (SAV) beds, oyster reefs, and shallow open estuarine waters. Because minimal human activities occur within upland portions, the Goodwin Islands are suitable as a reference or control site for
non-point source water quality issues. Furthermore, due to extensive wetlands,
intertidal, and submerged habitats, the Goodwin Islands are used extensively for
SAV, material flux, fisheries science and trophic interaction research activities.

Claybank (CB) Component:
The Claybank site represents a shallow (<2m) littoral area approximately 300-400
meters in width and located within the mesohaline portion of the York River
estuary. Prior to 1972, this area supported submersed aquatic vegetation (SAV)
but current conditions are not conducive to SAV survival. This site is used
extensively to study sediment dynamics and environmental stress on SAV.

Taskinas Creek (TC) Component:
The Taskinas Creek watershed is representative of an inner coastal plain, rural
watershed within the southern Chesapeake Bay system. This watershed is dominated by forested and agricultural land uses with an increasing urban land
use component. The drainage basin is suited for investigating hydrologic and
non-point source water quality issues associated with changing land use patterns.

Sweethall Landing (SH) Component:

Sweet Hall Marsh is the most downriver extensive tidal freshwater marsh located in the Pamunkey River, one of two major tributaries of the York River. Research activities are currently addressing the impacts of salinity intrusion due to relative sea level rise. In addition, Sweet Hall Marsh has been used extensively to study general ecology and material flux within tidal freshwater marshes.

4. Research methods

Goodwin Islands (GI) Component:
The Chesapeake Bay Virginia NERR maintains a long-term water quality monitoring station at Goodwin Islands. This station is located on the southeastern side of the main island in a shallow embayment, approximately 400 meters from shore. A stable and permanent structure, consisting of a 4-inch PVC pipe housed within a galvanized steel tower, was built in October 1997. The lower portion of the PVC pipe was milled to allow for water circulation within the pipe and around the datalogger sensors. The datalogger is suspended so that the sensors are maintained 0.5 m from the bottom substrate. A YSI 6600 unvented datalogger was used to measure specific conductivity, pH, depth, percent dissolved oxygen saturation, temperature, and turbidity at 15-minute intervals throughout the 2002 deployment year. Salinity and dissolved oxygen concentration are calculated parameters. At approximately one to two-week intervals, the datalogger was returned to the lab for downloading, cleaning, membrane replacement and recalibration. Maintenance intervals vary from year to year and site-to-site depending on the amount of biofouling and expected battery life. In general, YSI dataloggers were deployed for two-week intervals from early October to the end of May and one-week intervals from the beginning of June to late September. A second YSI datalogger was deployed following retrieval of the original YSI datalogger in order to maintain a continuous record. Field verification samples for pH, dissolved oxygen, salinity, and temperature were taken during the deployment/retrieval procedure. PH was measured in the lab with a Orion pH meter model 370. Dissolved oxygen was determined by Winkler

titration. Salinity was determined by using a Rosemount analytical induction salinometer. Temperature was field measured with a long-stem glass thermometer. All YSI procedures are in accordance with the YSI operating manual methods, Sections 3 and 7. Standards for pH were purchased from Fisher. Standards for conductivity were purchased from YSI. Turbidity standards were purchased from Advanced Polymer Systems. Data are reviewed and edited according to the YSI Data Review and Editing Protocol in Appendix B of the CDMO manual.

Clay Bank (CB) Component:
The Chesapeake Bay Virginia NERR maintains a long-term water quality monitoring station at Clay Bank. The station is located within a shallow (<2m) littoral area approximately 300-400 meters wide. A stable structure which consists of a 6-inch PVC pipe attached to a piling, was built in January 2001. The lower portion of the PVC pipe was milled to allow for water circulation within the pipe and around the datalogger sensors. The datalogger is suspended so that sensors are located 0.25 m from the bottom substrate. Both a YSI 6600 vented and YSI 6600 unvented datalogger was used to measure specific conductivity, pH, depth, percent dissolved oxygen saturation, temperature, and turbidity at 15-minute intervals throughout the 2002 deployment year (see Section 6 for instrument deployment intervals). Salinity and dissolved oxygen are calculated parameters. At approximately one to two-week intervals, the datalogger was returned to the lab for downloading, cleaning, membrane replacement and recalibration. Maintenance intervals vary from year to year and site-to-site depending on the amount of biofouling and expected battery life. In general, YSI dataloggers were deployed for two-week intervals from early October to the end of May and one-week intervals from the beginning of June to late September. A second YSI datalogger was deployed following retrieval of the original YSI datalogger in order to maintain a continuous record. Field verification samples for pH, dissolved oxygen, salinity, and temperature were taken during the

deployment/retrieval procedure. PH was measured in the lab with a Orion pH meter model 370. Dissolved oxygen was determined by Winkler titration. Salinity was determined by using a Rosemount analytical induction salinometer. Temperature was field measured with a long-stem glass thermometer. All YSI procedures are in accordance with the YSI operating manual methods, Sections 3 and 7. Standards for pH were purchased from Fisher. Standards for conductivity were purchased from YSI. Turbidity standards were purchased from Advanced Polymer Systems. Data are reviewed and edited according to the YSI Data Review and Editing Protocol in Appendix B of the CDMO manual.

Taskinas Creek (TC) Component:
The Chesapeake Bay Virginia NERR maintains a long-term water quality monitoring station at Taskinas Creek. The station is located near the mouth of Taskinas Creek where the tidal marsh creek converges with the York River estuary. A simple deployment, consisting of a suspended wire attached to an overhanging tree, was established in September 1995. The datalogger was suspended at a fixed depth approximately 0.5 m above the creek-bed. In September 1997, the deployment was modified so that the datalogger remained secure and stable at all times within a 4-inch PVC housing attached to a piling system. The lower portion of the PVC pipe was milled to allow for water circulation within the pipe and around the datalogger sensors. The datalogger was suspended so that the sensors are maintained 0.5 m above the bottom substrate. Both a YSI 6000 unvented and YSI 6600 EDS unvented datalogger were used to measure specific conductivity, pH, depth, percent dissolved oxygen saturation, temperature, and turbidity at 15-minute intervals throughout the 2002 deployment year (see Section 6 for instrument deployment intervals). Salinity and dissolved oxygen are calculated parameters. At approximately one to two-week intervals, the datalogger was returned to the lab for downloading, cleaning, membrane replacement and recalibration. Maintenance intervals vary from year to year and site-to-site depending on the amount of biofouling and expected battery life. In general, YSI dataloggers were deployed for two-week intervals from early October to the end of May and one-week intervals from the

beginning of June to late September. A second YSI datalogger was deployed following retrieval of the original YSI datalogger in order to maintain a continuous record. Field verification samples for pH, dissolved oxygen, salinity, and temperature were taken during the deployment/retrieval procedure.
PH was measured in the lab with a Orion pH meter model 370. Dissolved oxygen
was determined by Winkler titration. Salinity was determined by using a Rosemount analytical induction salinometer. Temperature was field measured with
a long-stem glass thermometer. All YSI procedures are in accordance with the
YSI operating manual methods, Sections 3 and 7. Standards for pH were purchased
from Fisher. Standards for conductivity were purchased from YSI. Turbidity
standards were purchased from Advanced Polymer Systems. Data are reviewed and
edited according to the YSI Data Review and Editing Protocol in Appendix B of
the CDMO manual.

Sweethall Landing (SH) Component:
The Chesapeake Bay Virginia NERR maintains a long-term water quality station at
Sweet Hall Marsh. This station is located adjacent to a low-use boathouse where
a 6-inch PVC pipe is attached to an adjacent pier piling. The datalogger was
suspended so that the sensors remained 0.7 m from the bottom substrate. A YSI
6000 unvented datalogger used to measure specific conductivity, pH, depth,
percent dissolved oxygen saturation, temperature, and turbidity at 15-minute
intervals throughout the 2002 deployment year (see Section 6 for instrument
deployment intervals). Salinity and dissolved oxygen are calculated parameters.
At approximately one to two-week intervals, the datalogger was returned to the
lab for downloading, cleaning, membrane replacement and recalibration.
Maintenance intervals vary from year to year and site-to-site depending on the
amount of biofouling and expected battery life. In general, YSI dataloggers were
deployed for two-week intervals from early October to the end of May and one-
week intervals from the beginning of June to late September. A second YSI datalogger was deployed following retrieval of the original YSI datalogger in

order to maintain a continuous record. Field verification samples for pH,
dissolved oxygen, salinity, and temperature were taken during the deployment/retrieval procedure. PH was measured in the lab with a Orion pH
meter model 370. Dissolved oxygen was determined by Winkler titration. Salinity was determined by using a Rosemount analytical induction salinometer.
Temperature was field measured with a long-stem glass thermometer. All YSI
procedures are in accordance with the YSI operating manual methods, Sections 3
and 7. Standards for pH were purchased from Fisher. Standards for conductivity
were purchased from YSI. Turbidity standards were purchased from Advanced
Polymer Systems. Data are reviewed and edited according to the YSI Data Review
and Editing Protocol in Appendix B of the CDMO manual.

5. Site location and character

(a) Goodwin Islands (37 deg 13' 02.65"; 76 deg 23' 32.76")

The Goodwin Islands component of CBNERRVA is located on the southern side of
the mouth of the York River. The station is located approximately 400 meters
from shore, with and average water depth on the order of 1m. Goodwin Islands are
a 315 ha (777 acre) archipelago of salt-marsh islands surrounded by inter-tidal
flats and extensive beds of submerged aquatic vegetation (121 ha; 300 acres)
dominated by eelgrass (Zostera marina) and Widgeon grass (Ruppia maritime).
Water circulation patterns around the island are influenced by York River discharge and wind patterns of the Chesapeake Bay. Tides at the Goodwin Islands
are semi-diurnal and display an average range of 0.7 m (range: 0.4 - 1.1 m).
Water quality conditions described here are from data recorded between October
1997 and December 1998. During this period mean water temperature at the Goodwin
Islands sampling station ranged from 7 °C in winter to 27 °C in summer. Minimum
and maximum water temperatures recorded were 2.3 °C (January) and 31.6 °C (July). Mean monthly salinity ranged from 9.9 ppt (January) to 27.5 ppt (November). Mean salinity was greatest (23-25 ppt) during the summer and fall
and lowest (13-15 ppt) during the winter and spring. Mean dissolved oxygen

readings were typically near saturation during this time period except between
July-August. Dissolved oxygen readings ranged from 23.6% (October) to 195.7%
saturation (May); hypoxia is rarely observed. The data logger probes are located
0.5 m above the sandy substrate bottom. Potential activities that could impact
the site include light recreational and commercial boating activity.

(b) Claybank (37 deg 20' 51.58"; 76 deg 36' 37.52")

The Claybank station is loaded within a shallow (<2m) littoral area
approximately 300-400 meters wide along the mesohaline portion of the York River
estuary. The site is approximately 26 km upriver from the mouth of the estuary.
The shoreline consists of a narrow fringe of salt marsh with some areas armored
with bulkhead or stone. Tidal range is on the order of 0.85 meters. This
station is located along the north shoreline of the estuary in an area that
historically (prior to 1972) supported submersed aquatic vegetation. The
sampling station is influenced by a secondary turbidity maximum that moves back
and forth in a region of about 20-40 km from the mouth of the York River
estuary. Substrate within the region varies from fine sediments to sand. The
site is exposed to strong winds from the northwest and re-suspension of sediment
during storm events can be high. In 1998 observed surface water temperatures
ranged from 6 °C to 28 °C and salinities from 5 ppt to 20 ppt.

(c) Taskinas Creek (37 deg 24' 53.86"; 76 deg 42' 51.82")

Taskinas Creek Reserve, component of CBNERRVA, encompasses 397 ha (980acres) and
is located within the boundaries of York River State Park near the town of
Croaker, Virginia. The small sub-estuary of the York River is located on the
southern side of the river, approximately 37 km up river from the mouth of the
York River. The Taskinas Creek watershed is representative of an inner coastal
plain, rural watershed within the southern Chesapeake Bay system. The watershed
is dominated by forested and agricultural land uses with an increasing
residential land use component. The non-tidal portion of Taskinas Creek contains
feeder streams that drain oak-hickory forests, maple-gum-ash swamps and

freshwater marshes. Freshwater mixed wetlands are found in the upstream reaches of Taskinas Creek. The creek is roughly 2 meters deep and 20 meters wide towards the lower end of the creek where substrate is dominated by fine sediment. Mean tide range is 0.85 m. Mean water temperature from 1997 to 1998 was 5-7 °C during the winter and 26-28 °C in the summer. The minimum and maximum water temperature recorded between 1996-1998 was - 0.7 °C in January of 1996 and 35.1 °C in July 1998. For 1997-1998, mean salinity in Taskinas Creek was on the order of 14-16 ppt in the summer and 3-5 ppt in the winter. Minimum and maximum salinity recorded in 1996 - 1998 was 0.1 ppt in March 1996 and 20.3 ppt in November 1998. Mean dissolved oxygen values in 1996 and 1997 were lowest in the summer and greatest in the winter. Mean dissolved oxygen values below 50% saturation were only observed during parts of July 1996 and June 1997. Hypoxia was rarely observed and when present, lasted less than 2% of the time. Mean dissolved oxygen readings > 100% saturation (supersaturation) frequently observed. Potential activities that could impact the site include residential development, selective hardwood logging, and light recreational boating activity. Wildlife populations have been shown to influence microbiological water quality within the watershed.

(d) Sweethall Marsh (37 deg 34' 16.94"; 76 deg 53' 02.78")

Sweet Hall Marsh is the most downriver extensive tidal freshwater marsh located in the Pamunkey River, one of two major tributaries of the York River. The marsh is located approximately 77 km upriver from the mouth of the York River estuary. The reserve is 353 ha (871 acres) in area and includes 331 ha (818 acres) of emergent fresh-water marsh, 14 ha (35 acres) of permanently flooded broad-leaved forested wetlands and approximately 4 ha (9 acres) of scrub-shrub. The marsh community is classified as freshwater mixed. Mean tidal range at Sweet Hall Marsh is on the order of 0.9 m. The Pamunkey River, which surrounds Sweet Hall Marsh, can reach depths up to 15 meters. Substrate within the littoral zone and channel is dominated by fine sediment. Based on 2002 data,

mean monthly water temperature ranged from 5-8 °C during the winter and 26-29 °C
in the summer. The minimum and maximum-recorded water temperature was 3.3 °C in
December and 32.6 °C in July. Mean monthly salinity was on the order of 1-4 ppt
in the winter and 6-11 ppt in the summer. Minimum and maximum salinity recorded
in 2002 was 0.0 ppt in January, February, November and December and 15.7 ppt in
October. Potential activities that could impact the site include minor municipal point source discharges above and below river of Sweet Hall Marsh, a
major industrial discharge site (pulp mill) in the town of West Point and significant groundwater withdrawal near the confluence of the Pamunkey and York
Rivers.

6. Data collection period:
Sampling at Goodwin Islands (GI), Sweethall Marsh (SH), and Taskinas Creek (TC)
began January 2002. Sampling was continuous through December 2002. Sampling was
intermittent at Claybank (CB) from January 2002 to May 15,2002. Continuous
sampling began on May 16, 2002 and continued to December 2002. Please note:
Occasional time skips occurred at all sites due to low batteries, water leakage
into the battery compartment, and for no apparent reason.

	Instrument Model	Begin Date	End Date
Claybank	6600 Vented	Jan 02	May 02
	6600 Unvented	May 02	Dec 02
Goodwin	6600 Unvented	Jan 02	Dec 02
Sweethall	6000 Unvented	Jan 02	Dec 02
Taskinas	6000 Unvented	Jan 02	Jun 02
	6600 EDS, Unvented	Jun 02	Dec 02

Claybank (CB)

Deployment Date/Time		Retrieval Date/Time	
(MM/DD/YY)	(HH:MM:SS)	(MM/DD/YY)	(HH:MM:SS)
12/29/01	15:15:00	01/11/02	08:15:00
01/15/02	08:30:00	01/29/02	08:15:00
02/01/02	08:30:00	02/14/02	12:15:00
02/19/02	09:30:00	03/06/02	08:15:00
03/09/02	09:00:00	03/24/02	10:15:00
03/26/02	15:15:00	04/16/02	07:00:00

04/18/02	08:00:00	05/03/02	06:15:00
05/07/02	09:45:00	05/15/02	06:45:00
05/15/02	07:00:00	05/22/02	06:45:00
05/22/02	07:00:00	05/29/02	17:30:00
05/29/02	17:45:00	06/06/02	08:00:00
06/06/02	08:15:00	06/11/02	12:15:00
06/11/02	12:30:00	06/19/02	11:15:00
06/19/02	11:30:00	06/27/02	12:15:00
06/27/02	12:30:00	07/02/02	11:15:00
07/02/02	11:30:00	07/09/02	08:30:00
07/09/02	08:45:00	07/16/02	11:45:00
07/16/02	12:00:00	07/23/02	10:15:00
07/23/02	10:30:00	08/01/02	11:45:00
08/01/02	12:00:00	08/08/02	11:00:00
08/08/02	11:15:00	08/15/02	11:15:00
08/15/02	11:30:00	08/20/02	15:15:00
08/20/02	15:30:00	08/27/02	13:15:00
08/27/02	13:30:00	09/05/02	10:00:00
09/05/02	10:15:00	09/12/02	11:45:00
09/12/02	12:00:00	09/18/02	10:45:00
09/18/02	11:00:00	09/24/02	10:15:00
09/24/02	10:30:00	10/09/02	06:45:00
10/09/02	07:00:00	10/22/02	13:30:00
10/22/02	13:45:00	11/05/02	11:45:00
11/05/02	12:00:00	11/19/02	12:15:00
11/19/02	12:30:00	12/03/02	13:00:00
12/03/02	13:15:00	12/16/02	13:15:00
12/16/02	13:30:00	01/09/03	10:30:00

Goodwin Islands (GI)

Deployment Date/Time		Retrieval Date/Time	
(MM/DD/YY)	(HH:MM:SS)	(MM/DD/YY)	(HH:MM:SS)
12/20/01	12:15:00	01/10/02	10:45:00
01/10/02	11:00:00	01/25/02	13:00:00
01/25/02	13:15:00	01/30/02	08:45:00
01/30/02	09:00:00	02/12/02	16:00:00
02/12/02	16:15:00	03/01/02	09:00:00
03/01/02	09:15:00	03/14/02	11:15:00
03/14/02	11:30:00	03/26/02	12:45:00
03/26/02	13:00:00	04/09/02	13:15:00
04/09/02	13:30:00	04/26/02	14:00:00
04/26/02	14:15:00	05/03/02	13:45:00
05/03/02	14:00:00	05/09/02	10:15:00
05/09/02	10:30:00	05/16/02	08:45:00
05/16/02	09:00:00	05/23/02	13:15:00
05/23/02	13:30:00	05/31/02	13:45:00
05/31/02	14:00:00	06/06/02	10:30:00
06/06/02	10:45:00	06/11/02	08:45:00
06/11/02	09:00:00	06/19/02	10:00:00
06/19/02	10:15:00	06/25/02	10:45:00
06/25/02	11:00:00	07/02/02	10:15:00
07/02/02	10:30:00	07/10/02	10:30:00
07/10/02	10:45:00	07/18/02	10:30:00
07/18/02	10:45:00	07/23/02	08:45:00

07/23/02	09:00:00	08/01/02	11:00:00
08/01/02	11:15:00	08/08/02	09:15:00
08/08/02	09:30:00	08/15/02	10:15:00
08/15/02	10:30:00	08/20/02	14:00:00
08/20/02	14:15:00	08/27/02	12:30:00
08/27/02	12:45:00	09/05/02	08:45:00
09/05/02	09:00:00	09/12/02	10:45:00
09/12/02	11:00:00	09/18/02	09:00:00
09/18/02	09:15:00	09/24/02	09:00:00
09/24/02	09:15:00	10/08/02	13:45:00
10/08/02	14:00:00	10/22/02	12:00:00
10/22/02	12:15:00	11/05/02	10:45:00
11/05/02	11:00:00	11/19/02	11:00:00
11/19/02	11:15:00	12/03/02	10:30:00
12/03/02	10:45:00	12/16/03	11:45:00
12/16/02	12:00:00	01/09/03	10:15:00

Sweethall Marsh (SH)

Deployment Date/Time		Retrieval Date/Time	
(MM/DD/YY)	(HH:MM:SS)	(MM/DD/YY)	(HH:MM:SS)
12/10/01	16:30:00	01/09/02	16:15:00
01/09/02	16:30:00	01/25/02	08:45:00
01/25/02	09:00:00	02/08/02	11:00:00
02/08/02	11:15:00	02/22/02	14:00:00
02/22/02	14:15:00	03/08/02	12:45:00
03/08/02	13:00:00	03/22/02	09:45:00
03/22/02	10:00:00	04/05/02	10:00:00
04/05/02	10:15:00	04/17/02	12:00:00
04/17/02	12:15:00	05/01/02	09:00:00
05/01/02	09:15:00	05/15/02	08:45:00
05/15/02	09:00:00	05/29/02	09:45:00
05/29/02	10:00:00	06/04/02	12:30:00
06/04/02	12:45:00	06/12/02	14:45:00
06/12/02	15:00:00	06/19/02	13:30:00
06/19/02	13:45:00	06/27/02	12:45:00
06/27/02	13:00:00	07/03/02	12:45:00
07/03/02	13:15:00	07/09/02	13:30:00
07/09/02	13:45:00	07/18/02	13:30:00
07/18/02	13:45:00	07/25/02	10:00:00
07/25/02	10:15:00	08/01/02	10:15:00
08/01/02	10:30:00	08/07/02	13:15:00
08/07/02	13:30:00	08/13/02	13:00:00
08/13/02	13:15:00	08/23/02	07:45:00
08/23/02	08:00:00	09/02/02	12:45:00
09/02/02	13:00:00	09/10/02	13:45:00
09/10/02	14:00:00	09/19/02	17:45:00
09/19/02	18:00:00	09/25/02	12:00:00
09/25/02	12:15:00	10/10/02	10:30:00
10/10/02	10:45:00	10/24/02	13:45:00
10/24/02	14:00:00	11/06/02	15:30:00
11/06/02	15:45:00	11/25/02	11:15:00
11/25/02	11:30:00	12/09/02	12:30:00
12/09/02	12:45:00	12/18/02	17:15:00
12/18/02	17:30:00	01/06/03	17:45:00

Taskinas Creek (TC)

Deployment Date/Time		Retrieval Date/Time	
(MM/DD/YY)	(HH:MM:SS)	(MM/DD/YY)	(HH:MM:SS)
12/21/01	14:30:00	01/05/02	15:00:00
01/05/02	15:15:00	01/17/02	09:00:00
01/17/02	09:15:00	01/30/02	16:00:00
01/30/02	16:15:00	02/15/02	09:15:00
02/15/02	09:30:00	02/28/02	14:45:00
02/28/02	15:00:00	03/13/02	12:30:00
03/13/02	12:45:00	03/29/02	17:00:00
03/29/02	17:15:00	04/11/02	15:00:00
04/11/02	15:15:00	04/25/02	18:45:00
04/25/02	19:00:00	05/03/02	17:45:00
05/03/02	18:00:00	05/10/02	14:00:00
05/10/02	14:15:00	05/16/02	17:30:00
05/16/02	17:45:00	05/24/02	14:30:00
05/24/02	14:45:00	06/01/02	18:15:00
06/01/02	18:30:00	06/07/02	10:00:00
06/07/02	10:15:00	06/11/02	15:00:00
06/14/02	15:15:00	06/26/02	10:00:00
06/26/02	10:15:00	07/03/02	11:00:00
07/03/02	11:15:00	07/11/02	12:00:00
07/11/02	12:15:00	07/17/02	11:30:00
07/17/02	11:45:00	07/23/02	13:45:00
07/23/02	14:00:00	08/01/02	13:00:00
08/01/02	13:15:00	08/09/02	12:45:00
08/09/02	13:00:00	08/15/02	12:30:00
08/15/02	12:45:00	08/20/02	14:45:00
08/20/02	15:00:00	08/30/02	14:15:00
08/30/02	14:30:00	09/05/02	13:45:00
09/05/02	14:00:00	09/11/02	10:45:00
09/11/02	11:00:00	09/17/02	12:45:00
09/17/02	13:00:00	09/25/02	10:00:00
09/25/02	10:15:00	10/02/02	11:00:00
10/02/02	11:15:00	10/07/02	11:00:00
10/07/02	11:15:00	10/14/02	16:15:00
10/14/02	16:30:00	10/31/02	12:00:00
10/31/02	12:15:00	11/14/02	13:30:00
11/14/02	13:45:00	11/21/02	11:30:00
11/21/02	11:45:00	12/04/03	12:15:00
12/04/02	12:30:00	12/19/02	13:30:00
12/19/02	13:45:00	01/08/03	14:30:00

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 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 with 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 for 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 the text tab-delimited format,
Microsoft Excel spreadsheet format and comma-delimited format.

8. Associated researchers and projects:

Additional water quality monitoring programs within the York River system include:

a) USEPA Chesapeake Bay Mainstem and Tributary Monitoring Program. Since 1984,
biweekly to monthly water quality sampling at a series of sites located along
the mid-river channel has been conducted as part of the Chesapeake Bay Program
(www.chesapeakebay.net). Station ID's: York River proper (WE4.2, LE4.3, LE4.2,
LE4.1, RET4.3), the Pamunkey River (RET4.1, TF4.2) and Mattaponi River (RET4.2
and TF4.4).

b) VIMS Shoal Survey. Since 1984, biweekly to monthly water quality sampling at a series of sites located along the shoal areas of the lower York River estuary has been conducted by the Biological Sciences Department at the Virginia Institute of Marine Science. Station ID's include: Guinea Marsh, Goodwin Island, VIMS, Yorktown, Mumfort Islands, Catlett Islands and Clay Bank.

c. Alliance for the Chesapeake Bay Volunteer Monitoring Program. Physical and chemical (limited nutrients) data are collected by a volunteer network along the York River system (www. Acb-online.org). Station ID's include: Thorofare Creek, Wormley Creek, Blackwell Landing, Pamunkey Trail, Timberneck Creek, Yorktown Naval Weapons Station, Gloucester Point, West Point and Croaker Landing. Note: Some stations may be inactive.

d. VIMS Juvenile Abundance Monitoring Survey. As part of their Juvenile Abundance Monitoring Surveys, water quality and hydrographic data has been collected since 1968 along a series of sites in the York River estuary (includes the Mattaponi and Pamunkey River systems) by the Fisheries Science Department (www.fisheries.vims.edu/research.html) at the Virginia Institute of Marine Science. Surveys include the VIMS Trawl Survey, the Striped Bass Seine Survey and the Juvenile Shad/River Herring Pushnet Survey.

e. Virginia Department of Health. The Virginia Department of Health, Division of Shellfish Sanitation's (www.vdh.state.va.us/shellfish) Seawater Sampling Program collects microbial and general water quality and hydrographic data along a series of sites in the York River estuary (includes lower portions of the Mattaponi and Pamunkey River systems).

II. Physical Structure Descriptors

9. Sensor specifications, range of measurements, units, resolution, and accuracy:

YSI 6000/6600 datalogger

Variable	Range of Measurements	Resolution	Accuracy

Date	1-12, 1-31, 00-99 (Mo,Day,Yr)	1 mo, 1 day, 1 yr	NA
Time	0-24, 0-60, 0-60 (Hr,Min,Sec)	1 hr, 1 min, 1 s	NA
Temp	-5 to 45 (c)	0.01 C	+/- 0.15C
Sp COND	0-100(mS/cm)	0.01mS/cm	+/-0.5% Of reading + 0.001mS/Cm
Salinity	0-70 Parts per thousand (ppt)	0.01 ppt	+/- 1% of Reading or 0.1 ppt, (whichever is greater)
DO	0-200 (% air saturation)	0.1% @air sat	+/-2% @air Saturation
DO	200-500 (% air saturation	0.1% @ air sat	+/- 6% @ Saturation
DO	0-20 (mg/l)	0.01 mg/l	+/- 0.2mg/l
DO	20-50 (mg/l)	0.01 mg/l	+/- 0.6mg/l
Depth (shallow)	0-9.1 (m)	0.001m	+/- 0.018m
PH	2-14 units	0.01 units	+/- 0.2units
Turb	0-1000 NTU	0.1 NTU	+/- 5% of Reading or 2 NTU (whichever is greater)

Data columns are separated by tabs. Each file contains a two line column header at the top of the page which identifies measurements and units for each column.

10. Coded variable indicator and variable code definitions

Site Codes: CB = Claybank, GI= Goodwin Islands,
SH = Sweethall Marsh, TC = Taskinas Creek

File definitions: Site code/file definition/month/year
(example: tcwq0102 = Taskinas Creek water quality data from January 2002).

11. Data anomalies (suspect data):
Frequent data anomalies were recorded in depth levels for several months potentially due to low-pressure weather fronts. This data remained in the database. Standard calibration protocols for the non-vented sensor use the atmospheric pressure at the time of calibration. Therefore, changes in atmospheric pressure between calibrations appears as changes in water depth.
The error is equal to approximately 1.03cm for every 1 millibar change in

atmospheric pressure. Specific dates and time ranges of potentially influenced
data are listed with each respective month. Starting with January, data were
extracted in accordance with Version 3.0 of the CDMO Manual.

JANUARY

CLAYBANK:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

01/01/02 04:00:00 - 01/01/02 04:15:00
01/01/02 16:45:00 - 01/01/02 18:30:00
01/02/02 05:00:00 - 01/02/02 05:45:00
01/02/02 17:15:00 - 01/02/02 19:30:00
01/05/02 21:00:00
01/06/02 21:15:00 - 01/06/02 23:15:00
01/08/02 23:15:00 - 01/09/02 01:15:00
01/09/02 12:00:00 - 01/09/02 13:00:00
01/09/02 23:15:00 - 01/10/02 02:30:00
01/10/02 12:15:00 - 01/10/02 15:15:00
01/11/02 00:15:00 - 01/11/02 03:00:00
01/15/02 16:00:00 - 01/15/02 18:30:00
01/17/02 05:30:00 - 01/17/02 06:30:00
01/22/02 20:45:00 - 01/22/02 23:15:00
01/23/02 09:30:00 - 01/23/02 11:45:00
01/23/02 12:15:00
01/23/02 21:45:00 - 01/24/02 00:45:00
01/27/02 00:45:00 - 01/27/02 02:45:00
01/27/02 13:30:00 - 01/27/02 16:00:00
01/28/02 01:00:00 - 01/28/02 04:00:00
01/28/02 15:15:00 - 01/28/02 15:45:00

b) For the month of January, turbidity values occasionally reported negative
and/or zero due to sensor precision. Data retained.

c) For the month of January, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

d) For the following dates and times, turbidity values high due to sensor
interference. Data deleted.

01/01/02 02:00:00 094 NTU
01/23/02 12:45:00 229 NTU
01/23/02 14:15:00 057 NTU
01/25/02 14:00:00 265 NTU
01/25/02 14:30:00 085 NTU
01/25/02 14:45:00 386 NTU

GOODWIN ISLANDS:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

01/01/02 03:00:00 - 01/01/02 03:15:00
01/01/02 16:00:00 - 01/01/02 17:30:00
01/02/02 16:15:00 - 01/02/02 18:45:00
01/05/02 20:00:00 - 01/05/02 20:30:00
01/05/02 21:00:00
01/06/02 20:15:00
01/06/02 20:45:00 - 01/06/02 21:45:00
01/06/02 22:15:00 - 01/06/02 22:30:00
01/08/02 22:15:00 - 01/09/02 00:00:00
01/09/02 11:30:00 - 01/09/02 12:45:00
01/09/02 22:00:00 - 01/10/02 02:00:00
01/10/02 11:30:00 - 01/10/02 14:30:00
01/10/02 23:15:00 - 01/11/02 02:15:00
01/14/02 02:00:00 - 01/14/02 04:15:00
01/14/02 14:30:00 - 01/14/02 17:45:00
01/15/02 01:30:00 - 01/15/02 05:30:00
01/15/02 15:15:00 - 01/15/02 17:45:00
01/17/02 05:00:00 - 01/17/02 05:15:00
01/22/02 20:00:00 - 01/22/02 22:45:00
01/23/02 08:15:00 - 01/23/02 11:30:00
01/23/02 20:30:00 - 01/24/02 00:00:00
01/27/02 00:15:00 - 01/27/02 01:30:00
01/27/02 12:45:00 - 01/27/02 15:15:00
01/28/02 00:00:00 - 01/28/02 03:00:00

b) For the month of January, turbidity values occasionally reported negative
and/or zero due to sensor precision. Data retained.

c) For the month of January, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

d) For the following dates and times, turbidity readings may be suspect. Data
retained.

01/03/02 10:45:00 117 NTU
01/03/02 11:45:00 148 NTU
01/12/02 12:45:00 031 NTU
01/26/02 14:45:00 053 NTU
01/26/02 16:15:00 021 NTU
01/27/02 18:00:00 025 NTU

e) For the following dates and times, turbidity values high due to sensor
interference. Data deleted.

01/24/02 15:30:00 114 NTU
01/25/02 09:15:00 122 NTU
01/28/02 16:30:00 144 NTU

f) 01/01/02 00:00 - 01/10/02 10:45. Dissolved oxygen data suspect. Probe
DO charge was elevated as compared to typical laboratory observed values, however,
observed DO charge was within instrument specifications. Deployment period for
this probe was from 12/20/01 12:00 - 01/10/02 10:45. Data retained.

SWEETHALL MARSH:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

01/01/02 19:45:00 - 01/01/02 21:15:00
01/02/02 07:30:00 - 01/02/02 09:00:00
01/02/02 20:30:00 - 01/02/02 22:15:00
01/05/02 23:45:00 - 01/06/02 00:45:00
01/07/02 01:15:00 - 01/07/02 01:45:00
01/08/02 01:00:00 - 01/08/02 02:30:00
01/09/02 02:00:00 - 01/09/02 03:30:00
01/10/02 02:15:00 - 01/10/02 05:15:00
01/10/02 15:30:00 - 01/10/02 18:00:00
01/11/02 03:30:00 - 01/11/02 05:15:00
01/11/02 17:00:00 - 01/11/02 18:45:00
01/14/02 06:00:00 - 01/14/02 07:45:00
01/14/02 18:45:00 - 01/14/02 21:00:00
01/15/02 05:30:00 - 01/15/02 08:45:00
01/15/02 19:00:00 - 01/15/02 21:15:00
01/17/02 08:30:00 - 01/17/02 09:00:00
01/22/02 23:30:00 - 01/23/02 02:45:00
01/23/02 12:00:00 - 01/23/02 15:15:00
01/24/02 00:15:00 - 01/24/02 03:15:00
01/25/02 02:45:00 - 01/25/02 03:00:00
01/27/02 04:00:00 - 01/27/02 05:30:00
01/27/02 17:00:00 - 01/27/02 18:45:00
01/28/02 04:30:00 - 01/28/02 06:30:00

b) For the following dates and times, turbidity readings may be suspect. Data
retained.

01/24/02 15:45:00 573 NTU
01/31/02 19:15:00 929 NTU
01/31/02 19:30:00 318 NTU
01/31/02 19:45:00 208 NTU
01/31/02 22:15:00 834 NTU
01/31/02 22:45:00 610 NTU

c) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

01/18/02 15:45:00 269 NTU
01/18/02 15:30:00 326 NTU
01/30/02 06:15:00 231 NTU

d) For the following dates and times, turbidity values greater than 1000 were
deleted.

01/16/02 11:30:00

e) For the following dates and times data was missing due to an internal error
within the sonde.

01/09/02 12:00:00 - 01/09/02 16:15:00

f) For the month of January, depth values occasionally reported negative and/or zero due to sensor precision. Data retained.

g) For the following dates and times depth, specific conductance, salinity, and
DO concentration are suspect due to potential depth and specific conductivity
sensors out of water. Data retained.

01/10/02 15:15:00
01/11/02 03:15:00
01/11/02 05:30:00
01/11/02 16:30:00 - 01/11/02 16:45:00
01/12/02 05:15:00 - 01/12/02 05:45:00
01/13/02 05:45:00 - 01/13/02 06:15:00
01/13/02 18:00:00 - 01/13/02 19:15:00
01/14/02 05:45:00
01/14/02 18:30:00

01/15/02 05:15:00
01/15/02 09:00:00
01/15/02 18:45:00
01/16/02 08:15:00
01/16/02 20:15:00 - 01/16/02 21:15:00
01/17/02 08:00:00 - 01/17/02 08:15:00
01/17/02 09:15:00
01/22/02 23:15:00
01/23/02 11:45:00
01/23/02 15:30:00
01/24/02 00:00:00
01/24/02 14:30:00 - 01/24/02 15:30
01/25/02 02:30:00
01/25/02 03:15:00
01/26/02 03:45:00
01/27/02 03:45:00

01/27/02 16:45:00
01/28/02 04:15:00
01/28/02 18:30:00 - 01/28/02 18:45:00

h) Absolute depth measurements were in error due to probe interference, data
deleted. Relative depth measurements that depict tidal patterns are available
upon request.

01/01/02 00:00:00 - 01/09/02 11:45:00
01/25/02 09:00:00 - 01/31/02 23:45:00

Taskinas Creek:

a) For the following dates and times data was missing due to an internal error
within the sonde.

01/08/02 10:00:00 - 01/08/02 10:45:00
01/14/02 21:45:00 - 01/14/02 23:00:00

b) For the following intervals, the internal clock was incorrectly calibrated
resulting time stamps 31 minutes ahead of actual time. Time stamp adjusted to
the acutal time.

01/05/02 00:00:00 - 01/05/02 15:00:00
01/17/02 09:15:00 - 01/30/02 16:00:00

c) For the following intervals, the internal clock was incorrectly calibrated
resulting time stamps 6 minutes ahead of actual time. Time stamp adjusted to the
acutal time.

01/05/02 15:15:00 - 01/17/02 09:00:00
01/30/02 16:15:00 - 01/30/02 23:45:00

FEBRUARY

CLAYBANK:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

02/05/02 23:45:00
02/12/02 16:45:00
02/28/02 03:00:00 - 02/28/02 06:00:00
02/28/02 15:45:00 - 02/28/02 18:30:00

b) For the month of February, turbidity values occasionally reported negative
and/or zero due to sensor precision. Data retained.

c) For the month of February, depth values occasionally reported negative and/or zero due to sensor precision. Data retained.

d) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

02/12/02 14:30:00 216 NTU

e) For the following dates and times, turbidity values greater than 1000 were
deleted.

02/04/02 19:30:00

GOODWIN ISLANDS:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

02/05/02 21:45:00 - 02/05/02 22:45:00
02/12/02 15:00:00 - 02/12/02 16:00:00
02/28/02 02:15:00 - 02/28/02 05:15:00
02/28/02 14:30:00 - 02/28/02 17:30:00

b) For the month of February, turbidity values occasionally reported negative
and/or zero due to sensor precision. Data retained.

c) For the month of February, depth values occasionally reported negative and/or zero due to sensor precision. Data retained.

d) For the following dates and times, turbidity readings may be suspect. Data
retained.

02/18/02 02:00:00 040 NTU
02/20/02 20:45:00 048 NTU
02/23/02 04:15:00 044 NTU
02/27/02 10:00:00 035 NTU

e) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

02/04/02 20:15:00 165 NTU
02/12/02 12:45:00 093 NTU
02/13/02 01:00:00 194 NTU
02/16/02 21:00:00 148 NTU
02/17/02 13:15:00 187 NTU

02/18/02 01:30:00 262 NTU
02/18/02 01:45:00 629 NTU
02/18/02 02:45:00 365 NTU
02/22/02 23:00:00 332 NTU
02/23/02 02:15:00 425 NTU
02/23/02 15:00:00 359 NTU
02/23/02 20:00:00 163 NTU
02/24/02 08:45:00 179 NTU
02/24/02 09:00:00 237 NTU
02/25/02 19:00:00 182 NTU
02/26/02 07:30:00 969 NTU
02/26/02 13:15:00 151 NTU
02/27/02 09:00:00 214 NTU

f) For the following dates and times, turbidity values greater than 1000 were
deleted

02/03/02 01:30:00
02/21/02 11:15:00
02/23/02 21:30:00
02/24/02 05:30:00
02/24/02 08:15:00
02/24/02 09:30:00
02/26/02 20:45:00
02/27/02 10:15:00

SWEETHALL MARSH:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

02/04/02 22:45:00 - 02/05/02 03:00:00
02/06/02 00:45:00 - 02/06/02 03:00:00
02/11/02 17:30:00 - 02/11/02 19:30:00
02/12/02 06:15:00 - 02/12/02 07:15:00
02/12/02 18:30:00 - 02/12/02 19:45:00
02/28/02 06:00:00 - 02/28/02 08:45:00
02/28/02 18:45:00 - 02/28/02 21:00:00

b) For the month of February, depth values occasionally reported negative and/or zero due to sensor precision. Data retained.

c) For the following dates and times data was missing due to an internal error
within the sonde.

02/22/02 14:15:00

d) For the following period, internal sonde electronic malfunction resulted in
sampling 1 minute ahead the quarter hour. Data time stamp rounded to the quarter hour. (Example: 12:04 = 12:00, 12:19 = 12:15, etc.)

02/08/02 11:15:00 - 02/22/02 14:00:00

e) For the following dates and times depth, specific conductance, salinity, and DO concentration are suspect due to potential depth and specific conductivity sensors out of water. Data retained.

02/17/02 21:15:00 - 02/17/02 21:30:00

f) Absolute depth measurements were in error due to probe interference, data deleted. Relative depth measurements that depict tidal patterns are available upon request.

02/01/02 00:00:00 - 02/08/02 11:00:00
02/22/02 14:30:00 - 02/28/02 23:45:00

TASKINAS CREEK:

a) For the following dates and times, data was missing due to an internal error within the sonde.

02/03/02 06:30:00
02/09/02 18:15:00
02/12/02 12:45:00 - 02/12/02 13:00:00
02/28/02 15:00:00

b) For the following dates and times, depth data deleted due to exchange of datalogger.

02/15/02 09:30:00

c) For the following intervals, the internal clock was incorrectly calibrated resulting time stamps 31 minutes ahead of actual time. Time stamp adjusted to the acutal time.

02/15/02 09:30:00 - 02/28/02 14:45:00

d) For the following intervals, the internal clock was incorrectly calibrated resulting time stamps 6 minutes ahead of actual time. Time stamp adjusted to the acutal time.
02/01/02 00:00:00 - 02/15/02 09:15:00
02/28/02 15:00:00 - 02/28/02 23:45:00

MARCH

CLAYBANK:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

03/01/02 03:30:00 - 03/01/02 06:45:00
03/01/02 16:00:00 - 03/01/02 19:30:00
03/02/02 04:45:00 - 03/02/02 07:30:00
03/04/02 20:00:00
03/04/02 20:30:00
03/05/02 08:30:00 - 03/05/02 10:15:00
03/05/02 19:30:00 - 03/05/02 22:30:00
03/05/02 23:00:00
03/11/02 13:15:00 - 03/11/02 16:15:00
03/12/02 01:00:00 - 03/12/02 04:30:00
03/12/02 14:00:00 - 03/12/02 16:15:00
03/16/02 16:30:00 - 03/16/02 17:15:00
03/23/02 22:30:00 - 03/24/02 00:15:00
03/29/02 04:00:00
03/30/02 05:15:00

b) For the month of March, turbidity values occasionally reported negative
and/or zero due to sensor precision. Data retained.

c) For the month of March, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

d) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

03/04/02 02:30:00 280 NTU

e) For the following dates and times, turbidity values greater than 1000 were
deleted.

03/05/02 03:45:00

GOODWIN ISLANDS:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

03/01/02 02:15:00 - 03/01/02 06:00:00
03/01/02 14:45:00 - 03/01/02 18:45:00
03/02/02 03:30:00 - 03/02/02 06:45:00
03/05/02 07:30:00 - 03/05/02 09:45:00
03/05/02 18:15:00 - 03/05/02 22:30:00

03/06/02 07:00:00 - 03/06/02 11:45:00
03/06/02 18:45:00 - 03/07/02 00:00:00
03/07/02 08:00:00 - 03/07/02 12:45:00
03/07/02 20:15:00 - 03/08/02 00:15:00
03/11/02 12:00:00 - 03/11/02 15:30:00
03/11/02 23:30:00 - 03/12/02 04:00:00
03/12/02 13:00:00 - 03/12/02 15:30:00
03/16/02 15:45:00 - 03/16/02 16:00:00
03/23/02 21:00:00 - 03/23/02 23:45:00
03/24/02 09:45:00 - 03/24/02 12:30:00
03/24/02 21:15:00 - 03/25/02 01:00:00
03/29/02 03:15:00
03/30/02 04:00:00 - 03/30/02 04:45:00

b) For the month of March, turbidity values occasionally reported negative
and/or zero due to sensor precision. Data retained.

c) For the month of March, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

d) For the following dates and times, turbidity readings may be suspect. Data
retained.

03/16/02 13:15:00 046 NTU
03/16/02 16:15:00 051 NTU
03/25/02 03:15:00 052 NTU
03/25/02 15:15:00 059 NTU
03/28/02 15:45:00 088 NTU
03/31/02 21:15:00 084 NTU

e) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

03/01/02 08:45:00 096 NTU
03/10/02 04:15:00 278 NTU
03/14/02 19:00:00 897 NTU
03/20/02 08:00:00 562 NTU
03/21/02 21:15:00 523 NTU
03/24/02 14:15:00 576 NTU
03/29/02 15:00:00 391 NTU

f) For the following dates and times, turbidity values greater than 1000 were
deleted.

03/16/02 08:15:00

SWEETHALL MARSH:

a) For the following dates and times, all data was deleted due to datalogger out

of the water.

03/01/02 06:30:00 - 03/01/02 09:15:00
03/01/02 19:15:00 - 03/01/02 21:45:00
03/02/02 07:45:00 - 03/02/02 10:00:00
03/04/02 21:30:00 - 03/05/02 00:15:00
03/05/02 11:00:00 - 03/05/02 13:30:00
03/05/02 22:00:00 - 03/06/02 02:00:00
03/06/02 11:00:00 - 03/06/02 15:15:00
03/06/02 22:45:00 - 03/07/02 03:30:00
03/07/02 11:45:00 - 03/07/02 16:15:00
03/08/02 00:00:00 - 03/08/02 03:45:00
03/08/02 14:30:00 - 03/08/02 15:00:00
03/10/02 16:00:00 - 03/10/02 17:15:00
03/11/02 16:00:00 - 03/11/02 18:45:00
03/12/02 03:30:00 - 03/12/02 07:15:00
03/12/02 16:45:00 - 03/12/02 18:45:00
03/13/02 05:45:00 - 03/13/02 06:30:00
03/16/02 19:30:00 - 03/16/02 20:15:00
03/22/02 10:00:00
03/23/02 00:15:00 - 03/23/02 02:45:00
03/23/02 13:00:00 - 03/23/02 16:15:00
03/24/02 00:30:00 - 03/24/02 05:00:00
03/24/02 13:15:00 - 03/24/02 16:30:00
03/25/02 01:15:00 - 03/25/02 05:00:00
03/25/02 15:00:00 - 03/25/02 16:30:00

b) For the month of March, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

c) For the following dates and times, turbidity values greater than 1000 were
deleted.

03/02/02 20:30:00 - 03/02/02 22:00:00
03/02/02 22:45:00

d) Absolute depth measurements were in error due to probe interference, data
deleted. Relative depth measurements that depict tidal patterns are available
upon request.

03/01/02 00:00:00 - 03/08/02 12:45:00

TASKINAS CREEK:

a) For the following dates and times, turbidity readings may be suspect. Data
retained.

03/01/02 19:45:00 182 NTU

b) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

03/20/02 03:45:00 214 NTU

c) For the following intervals, the internal clock was incorrectly calibrated
resulting time stamps 31 minutes ahead of actual time. Time stamp adjusted to
the acutal time.

03/13/02 12:45:00 - 03/29/02 17:00:00

d) For the following intervals, the internal clock was incorrectly calibrated
resulting time stamps 6 minutes ahead of actual time. Time stamp adjusted to the
acutal time.

03/01/02 00:00:00 - 03/13/02 12:30:00

APRIL

CLAYBANK:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

04/10/02 02:00:00 - 04/10/02 02:45:00
04/15/02 05:00:00 - 04/15/02 05:15:00
04/15/02 05:45:00 - 04/15/02 06:00:00

b) For the month of April, turbidity values occasionally reported negative
and/or zero due to sensor precision. Data retained.

c) For the month of April, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

d) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

04/11/02 22:00:00 451 NTU

e) For the following dates and times, DO % sat and DO mg/L were deleted due to
negative numbers.

04/29/02 22:00:00 - 04/29/02 22:30:00

GOODDWIN ISLANDS:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

04/10/02 01:30:00

b) For the month of April, turbidity values occasionally reported negative
and/or zero due to sensor precision. Data retained.

c) For the month of April, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

d) For the following dates and times, turbidity readings may be suspect. Data
retained.

04/03/02 17:30:00 035 NTU
04/08/02 13:30:00 072 NTU
04/09/02 15:15:00 037 NTU
04/13/02 17:30:00 051 NTU
04/27/02 15:15:00 050 NTU
04/28/02 15:30:00 056 NTU

e) For the following dates and times, turbidity values high due to sensor
interference. Data deleted.

04/09/02 21:45:00 209 NTU
04/26/02 15:45:00 147 NTU
04/27/02 13:00:00 144 NTU
04/27/02 15:45:00 338 NTU
04/28/02 14:00:00 479 NTU
04/30/02 15:00:00 179 NTU
04/30/02 16:30:00 162 NTU

f) For the following dates and times, turbidity values greater than 1000 were
deleted.

04/30/02 18:15:00

g) For the following dates and times data was missing due to an internal error
within the sonde. (battery compartment flooded)

04/14/02 02:00:00 - 04/14/02 04:15:00
04/14/02 04:45:00
04/14/02 06:30:00 - 04/14/02 06:45:00
04/14/02 08:00:00
04/14/02 08:45:00 - 04/14/02 13:15:00
04/14/02 14:30:00
04/14/02 18:30:00 - 04/26/02 14:00:00

SWEETHALL MARSH:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

04/09/02 16:45:00 - 04/09/02 17:30:00
04/10/02 04:45:00 - 04/10/02 06:00:00
04/11/02 05:30:00 - 04/11/02 06:45:00
04/15/02 08:00:00 - 04/15/02 08:45:00
04/15/02 20:00:00 - 04/15/02 20:15:00

b) For the month of April, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

TASKINAS CREEK:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

04/11/02 15:15:00

b) For the following dates and times, turbidity readings may be suspect. Data
retained.

04/09/02 02:00:00 153 NTU
04/18/02 05:15:00 327 NTU
04/18/02 05:30:00 958 NTU
04/18/02 06:15:00 644 NTU
04/18/02 06:45:00 235 NTU

c) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

04/16/02 17:45:00 720 NTU

d) For the following dates and times, turbidity values greater than 1000 were
deleted.

04/18/02 05:45:00
04/18/02 06:00:00
04/18/02 06:30:00

MAY

CLAYBANK:

a) For the following dates and times, all data was deleted due to datalogger out

of the water.

05/03/02 06:30:00 - 05/03/02 09:30:00
05/15/02 16:45:00 - 05/15/02 18:30:00
05/16/02 05:15:00 - 05/16/02 08:15:00
05/16/02 17:30:00 - 05/16/02 19:00:00
05/17/02 06:30:00 - 05/17/02 08:45:00
05/17/02 09:15:00
05/18/02 08:30:00 - 05/18/02 10:30:00

b) For the month of May, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

c) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

05/01/02 00:30:00 263 NTU
05/01/02 03:00:00 478 NTU

d) For the following dates and times, turbidity values greater than 1000 were
deleted.

05/01/02 21:30:00

e) For the following dates and times data was missing due to an internal error
within the sonde.

05/09/02 09:45:00 - 05/15/02 06:45:00

f) For the following dates and times, turbidity values were deleted due to probe
malfunction.

05/02/02 02:00:00 - 05/03/02 06:15:00
05/15/02 07:00:00 - 05/31/02 23:45:00

GOODWIN ISLANDS:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

05/12/02 14:45:00 - 05/12/02 15:15:00
05/13/02 15:00:00 - 05/13/02 15:45:00
05/15/02 05:15:00
05/15/02 15:45:00 - 05/15/02 17:30:00
05/16/02 04:15:00 - 05/16/02 07:30:00
05/16/02 16:00:00 - 05/16/02 18:30:00
05/17/02 05:00:00 - 05/17/02 08:15:00
05/18/02 06:45:00 - 05/18/02 09:30:00

b) For the month of May, turbidity values occasionally reported negative and/or
zero due to sensor precision. Data retained.

c) For the month of May, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

d) For the following dates and times, turbidity readings may be suspect. Data
retained.

05/02/02 12:45:00 053 NTU
05/02/02 13:45:00 048 NTU
05/02/02 16:30:00 044 NTU
05/07/02 13:45:00 065 NTU
05/07/02 14:45:00 045 NTU
05/11/02 20:00:00 146 NTU
05/11/02 20:15:00 058 NTU
05/11/02 20:30:00 335 NTU
05/11/02 20:45:00 242 NTU
05/18/02 14:30:00 065 NTU
05/20/02 13:00:00 061 NTU
05/20/02 16:15:00 095 NTU

e) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

05/07/02 12:45:00 130 NTU
05/08/02 14:30:00 174 NTU
05/14/02 16:30:00 455 NTU
05/17/02 18:15:00 243 NTU
05/17/02 18:30:00 665 NTU
05/17/02 19:15:00 193 NTU
05/20/02 14:45:00 259 NTU
05/20/02 15:00:00 471 NTU
05/20/02 18:00:00 391 NTU
05/27/02 19:30:00 191 NTU
05/27/02 20:00:00 642 NTU

f) For the following dates and times, turbidity values greater than 1000 were
deleted.

05/02/02 16:15:00
05/18/02 13:00:00
05/28/02 16:45:00

SWEETHALL MARSH:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

05/12/02 06:30:00 - 05/12/02 07:15:00
05/12/02 18:00:00 - 05/12/02 19:15:00
05/13/02 07:15:00 - 05/13/02 07:45:00
05/13/02 19:00:00
05/14/02 18:45:00 - 05/14/02 21:15:00
05/15/02 07:15:00 - 05/15/02 11:00:00
05/15/02 19:00:00 - 05/15/02 21:45:00
05/16/02 08:00:00 - 05/16/02 11:15:00
05/16/02 20:00:00 - 05/16/02 22:15:00
05/17/02 09:00:00 - 05/17/02 12:15:00
05/17/02 21:15:00 - 05/17/02 22:30:00
05/18/02 10:15:00 - 05/18/02 13:30:00

b) For the month of May, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

c) For the following dates and times depth, specific conductance, salinity, and
DO concentration are suspect due to potential depth and specific conductivity
sensors out of water. Data retained.

05/12/02 07:30:00

TASKINAS CREEK:

a) For the following dates and times, turbidity readings may be suspect. Data
retained.

05/12/02 13:45:00 142 NTU
05/18/02 12:30:00 427 NTU

b) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

05/22/02 00:15:00 387 NTU
05/30/02 17:00:00 353 NTU

c) For the following dates and times, turbidity values greater than 1000 were
deleted.

05/18/02 12:15:00

d) For the following dates and times, DO % sat and DO mg/L were deleted due to
membrane puncture.

05/16/02 08:00:00 - 05/16/02 17:30:00
05/26/02 18:15:00 - 06/01/02 18:15:00

e) For the following dates and times, DO % sat and DO mg/l readings may be
suspect. Data retained.

05/18/02 11:45:00 - 05/18/02 12:30:00

JUNE

CLAYBANK:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

06/24/02 03:15:00 - 06/24/02 03:45:00
06/25/02 03:45:00 - 06/25/02 04:45:00
06/27/02 17:45:00
06/28/02 05:30:00 - 06/28/02 06:45:00

b) For the month of June, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

c) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

06/18/02 19:00:00 188 NTU

d) For the following dates and times data was missing due to internal error
within the sonde.

06/17/02 07:15:00 - 06/17/02 08:15:00
06/17/02 09:30:00 - 06/17/02 18:00:00
06/17/02 18:30:00 - 06/17/02 19:30:00
06/17/02 20:00:00 - 06/17/02 20:15:00
06/17/02 20:45:00
06/17/02 21:15:00 - 06/17/02 22:45:00
06/17/02 23:15:00
06/17/02 23:45:00 - 06/18/02 03:15:00
06/18/02 03:45:00 - 06/18/02 04:00:00
06/18/02 04:30:00 - 06/18/02 04:45:00
06/18/02 05:15:00
06/18/02 06:00:00
06/18/02 06:30:00
06/18/02 07:00:00
06/18/02 07:30:00
06/18/02 08:00:00
06/18/02 08:45:00
06/18/02 09:15:00
06/18/02 14:30:00

e) For the following dates and times, turbidity values were deleted due to probe

malfunction.

06/01/02 00:00:00 - 06/06/02 08:00:00

GOODWIN ISLANDS:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

06/28/02 05:00:00 - 06/28/02 05:30:00

b) For the month of June, turbidity values occasionally reported negative and/or zero due to sensor precision. Data retained.

c) For the month of June, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

d) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

06/07/02 15:00:00 228 NTU
06/24/02 14:45:00 123 NTU
06/25/02 15:45:00 641 NTU

e) For the following dates and times, turbidity values greater than 1000 were
deleted.

06/26/02 07:15:00

SWEETHALL MARSH:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

06/27/02 20:30:00 - 06/27/02 21:45:00
06/28/02 08:30:00 - 06/28/02 10:00:00
06/28/02 21:00:00 - 06/28/02 21:30:00

b) For the month of June, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

c) For the following dates and times data was missing due to an internal error
within the sonde.(battery issue)

06/20/02 05:00:00 - 06/20/02 05:15:00
06/20/02 07:15:00 - 06/20/02 07:45:00
06/20/02 08:15:00 - 06/20/02 11:30:00

06/20/02 14:45:00
06/20/02 15:15:00 - 06/20/02 15:45:00
06/20/02 20:15:00 - 06/20/02 21:00:00
06/21/02 10:45:00
06/21/02 12:15:00 - 06/21/02 12:30:00
06/21/02 13:30:00
06/22/02 16:00:00
06/22/02 21:30:00
06/23/02 00:45:00 - 06/23/02 03:15:00
06/23/02 03:45:00 - 06/23/02 06:30:00
06/23/02 07:00:00 - 06/23/02 08:00:00
06/23/02 08:30:00 - 06/26/02 02:15:00
06/26/02 05:30:00 - 06/26/02 05:45:00
06/26/02 06:15:00
06/26/02 06:45:00 - 06/26/02 07:00:00
06/26/02 07:30:00 - 06/27/02 01:45:00
06/27/02 02:45:00 - 06/27/02 03:00:00
06/27/02 03:45:00
06/27/02 04:15:00
06/27/02 04:45:00 - 06/27/02 12:45:00

d) For the following dates and times, turbidity readings may be suspect. Data
retained.

06/19/02 13:45:00 407 NTU

e) For the following period, internal sonde electronic malfunction resulted in
sampling 7 minutes ahead the quarter hour. Data time stamp rounded to the
quarter hour. (Example: 12:22 = 12:15, 12:37 = 12:30, ect.)

06/12/02 15:00:00 - 06/19/02 13:30:00

TASKINAS CREEK:

a) For the following dates and times, turbidity readings may be suspect. Data
retained.

06/03/02 20:00:00 117 NTU
06/24/02 20:15:00 191 NTU

b) For the following dates and times, turbidity values high due to sensor
interference. Data deleted.

06/06/02 02:15:00 814 NTU
06/18/02 01:45:00 236 NTU
06/27/02 17:30:00 144 NTU

c) For the following dates and times, turbidity values greater than 1000 were
deleted.

06/14/02 22:15:00

d) For the following dates and times, data was missing due to an internal error
within the sonde.

06/11/02 01:00:00 - 06/11/02 01:15:00
06/11/02 23:15:00 - 06/14/02 15:00:00

e) For the following dates and times, DO % sat and DO mg/L were deleted due to
membrane puncture.

05/26/02 18:15:00 - 06/01/02 18:15:00
06/06/02 12:15:00 - 06/07/02 10:00:00

f) For the following dates and times, brush wiper fell off during the
deployment.

06/14/02 15:15:00 - 06/26/02 10:00:00

JULY

CLAYBANK:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

07/09/02 02:30:00 - 07/09/02 03:15:00

b) For the month of July, turbidity values occasionally reported negative
and/or zero due to sensor precision. Data retained.

c) For the month of July, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

d) For the following dates and times, turbidity readings may be suspect. Data
retained.

07/30/02 19:45:00 608 NTU
07/30/02 21:15:00 301 NTU
07/31/02 11:30:00 368 NTU
07/31/02 12:00:00 908 NTU
07/31/02 19:00:00 553 NTU

e) For the following dates and times, turbidity values high due to sensor
interference. Data deleted.

07/02/02 01:00:00 216 NTU
07/02/02 01:15:00 409 NTU
07/22/02 21:00:00 115 NTU
07/24/02 16:15:00 639 NTU

f) For the following dates and times, turbidity values greater than 1000 were
deleted.

07/29/02 16:15:00
07/31/02 19:30:00

g) For the following dates and times data was missing due to internal error
within the sonde. (battery issue)

07/27/02 07:45:00
07/27/02 08:15:00
07/27/02 08:45:00
07/27/02 09:15:00
07/27/02 10:15:00
07/29/02 15:00:00
07/29/02 15:30:00 - 07/29/02 16:00:00
07/29/02 16:45:00 - 07/29/02 17:00:00
07/29/02 17:30:00 - 07/30/02 19:30:00
07/30/02 20:00:00 - 07/30/02 21:00:00
07/30/02 21:30:00 - 07/31/02 11:15:00
07/31/02 11:45:00
07/31/02 12:15:00 - 07/31/02 18:45:00
07/31/02 19:15:00
07/31/02 19:45:00 - 07/31/02 23:45:00

GOODWIN ISLANDS:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

07/09/02 01:30:00-07/09/02 02:00:00

b) For the month of July, turbidity values occasionally reported negative and/or zero due to sensor precision. Data retained.

c) For the month of July, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

d) For the following dates and times, turbidity readings may be suspect. Data
retained.

07/01/02 17:00:00
07/09/02 20:45:00

07/09/02 15:00:00 - 07/09/02 20:00:00
07/09/02 22:15:00
07/26/02 00:00:00

e) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

07/01/02 13:15:00 417 NTU
07/01/02 16:00:00 985 NTU
07/02/02 02:00:00 765 NTU
07/02/02 02:15:00 177 NTU
07/09/02 23:45:00 527 NTU

f) For the following dates and times, turbidity values greater than 1000 were
deleted.

07/01/02 17:30:00
07/01/02 17:45:00
07/01/02 23:00:00
07/02/02 01:45:00
07/02/02 05:15:00
07/09/02 08:15:00

SWEETHALL MARSH:

a) For the following dates and times, all data was deleted due to datalogger
out of the water.

07/09/02 05:30:00 - 07/09/02 06:15:00
07/10/02 06:15:00 - 07/10/02 06:45:00
07/10/02 18:00:00 - 07/10/02 18:45:00

b) For the month of July, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

c) For the following dates and times, turbidity readings may be suspect. Data
retained.

07/18/02 13:15:00 106 NTU
07/20/02 05:30:00 120 NTU
07/29/02 10:00:00 128 NTU

d) For the following dates and times, turbidity values greater than 1000 were
deleted.

07/29/02 10:15:00

e) For the following dates and times, DO sat and DO mg/l were deleted due to

negative readings.

07/08/02 21:45:00 - 07/09/02 13:30:00
07/18/02 13:45:00 - 07/23/02 10:15:00

TASKINAS CREEK:

a) For the following dates and times, turbidity readings may be suspect. Data
retained.

07/02/02 14:00:00 118 NTU
07/06/02 09:00:00 238 NTU
07/06/02 09:30:00 251 NTU
07/06/02 12:00:00 299 NTU
07/08/02 10:00:00 120 NTU
07/08/02 11:45:00 137 NTU
07/22/02 11:15:00 146 NTU
07/31/02 18:00:00 131 NTU
07/31/02 22:00:00 111 NTU

b) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

07/03/02 11:15:00 245 NTU
07/06/02 05:15:00 515 NTU
07/07/02 06:15:00 165 NTU
07/07/02 10:15:00 723 NTU
07/07/02 11:00:00 435 NTU
07/07/02 21:30:00 574 NTU
07/07/02 21:45:00 702 NTU
07/08/02 02:45:00 160 NTU
07/20/02 18:45:00 226 NTU
07/21/02 09:30:00 243 NTU
07/30/02 12:45:00 441 NTU
07/31/02 16:45:00 340 NTU

c) For the following dates and times, turbidity values greater than 1000 were
deleted.

07/05/02 06:15:00
07/06/02 04:00:00
07/06/02 09:15:00
07/06/02 11:45:00
07/07/02 09:45:00
07/07/02 11:15:00
07/08/02 12:45:00
07/09/02 00:15:00

AUGUST

CLAYBANK:

a) For the month of August, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

b) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

08/06/02 11:45:00 155 NTU
08/20/02 02:00:00 251 NTU

c) For the following dates and times, turbidity values greater than 1000 were
deleted.

08/06/02 11:30:00

d) For the following dates and times data was missing due to internal error
within the sonde.

08/01/02 00:00:00 - 08/01/02 11:45:00

GOODWIN ISLANDS:

a) For the month of August, turbidity values occasionally reported negative
and/or zero due to sensor precision. Data retained.

b) For the month of August, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

c) For the following dates and times, turbidity readings may be suspect. Data
retained.

08/01/02 03:45:00 047 NTU
08/07/02 09:45:00 084 NTU
08/07/02 12:15:00 053 NTU
08/07/02 13:00:00 055 NTU
08/07/02 13:30:00 065 NTU
08/07/02 15:30:00 054 NTU
08/07/02 16:15:00 050 NTU
08/07/02 17:00:00 071 NTU
08/07/02 17:30:00 045 NTU
08/07/02 18:30:00 037 NTU
08/07/02 20:15:00 110 NTU
08/07/02 20:30:00 110 NTU
08/07/02 22:00:00 076 NTU
08/08/02 00:15:00 074 NTU
08/08/02 02:15:00 055 NTU
08/08/02 03:30:00 039 NTU
08/08/02 04:00:00 039 NTU

08/08/02 04:45:00 092 NTU
08/08/02 05:15:00 062 NTU
08/08/02 06:00:00 043 NTU
08/08/02 06:30:00 097 NTU
08/08/02 07:15:00 073 NTU
08/08/02 08:15:00 075 NTU
08/08/02 09:00:00 072 NTU
08/16/02 02:45:00 074 NTU
08/31/02 05:30:00 088 NTU
08/31/02 06:15:00 098 NTU
08/31/02 09:00:00 078 NTU
08/31/02 11:30:00 053 NTU
08/31/02 12:15:00 075 NTU

d) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

08/06/02 07:30:00 150 NTU
08/07/02 11:30:00 101 NTU
08/08/02 01:00:00 117 NTU
08/16/02 00:45:00 415 NTU
08/16/02 11:15:00 401 NTU
08/16/02 23:45:00 162 NTU
08/17/02 01:00:00 109 NTU
08/17/02 11:15:00 343 NTU
08/17/02 15:15:00 159 NTU
08/20/02 03:00:00 459 NTU
08/27/02 11:00:00 163 NTU
08/27/02 12:00:00 200 NTU
08/27/02 19:00:00 377 NTU

e) For the following dates and times, turbidity values greater than 1000 were
deleted.

08/13/02 02:45:00
08/15/02 15:30:00
08/16/02 00:15:00
08/16/02 13:45:00
08/16/02 21:30:00
08/17/02 15:30:00
08/17/02 21:00:00

SWEETHALL MARSH:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

08/16/02 13:00:00 - 08/16/02 13:30:00

b) For the month of August, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

c) For the following dates and times, turbidity readings may be suspect. Data
retained.

08/14/02 11:15:00 347 NTU
08/15/02 08:45:00 361 NTU
08/16/02 04:45:00 100 NTU
08/17/02 04:15:00 290 NTU
08/17/02 04:30:00 198 NTU
08/20/02 05:15:00 111 NTU

d) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

08/12/02 10:45:00 305 NTU
08/20/02 10:00:00 208 NTU
08/26/02 09:30:00 555 NTU
08/30/02 11:15:00 201 NTU

e) For the following dates and times, turbidity values greater than 1000 were
deleted.

08/17/02 02:15:00

f) For the following dates and times DO data was deleted due to negative numbers.

08/01/02 10:30:00

TASKINAS CREEK:

a) For the following dates and times, turbidity readings may be suspect. Data
retained.

08/01/02 12:00:00 104 NTU
08/01/02 12:45:00 102 NTU
08/02/02 17:45:00 101 NTU
08/06/02 07:45:00 128 NTU
08/07/02 03:00:00 192 NTU
08/07/02 03:15:00 317 NTU
08/07/02 10:00:00 191 NTU
08/22/02 03:00:00 423 NTU
08/22/02 03:15:00 136 NTU
08/22/02 05:15:00 148 NTU

b) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

08/04/02 21:00:00 536 NTU
08/16/02 18:30:00 489 NTU
08/24/02 07:45:00 415 NTU

08/31/02 06:45:00 458 NTU

c) For the following dates and times, turbidity values greater than 1000 were
deleted due to wiper malfunction.

08/19/02 15:30:00
08/20/02 00:00:00

d) For the following dates and times, turbidity values were deleted due to probe
malfunction.

08/25/02 00:00:00 to 08/30/02 14:15:00

SEPTEMBER

CLAYBANK:

a) For the month of September, turbidity values occasionally reported negative
and/or zero due to sensor precision. Data retained.

b) For the month of September, depth values occasionally reported negative
and/or zero due to sensor precision. Data retained.

c) For the following dates and times, turbidity readings may be suspect. Data
retained.

09/18/02 17:45:00 090 NTU
09/18/02 18:00:00 172 NTU
09/18/02 18:15:00 044 NTU
09/18/02 18:30:00 028 NTU
09/18/02 18:45:00 029 NTU
09/28/02 17:30:00 309 NTU
09/28/02 17:45:00 210 NTU
09/28/02 18:00:00 123 NTU
09/28/02 18:15:00 059 NTU

d) For the following dates and times, turbidity values high due to sensor
interference. Data deleted.

09/01/02 05:30:00 371 NTU
09/01/02 07:00:00 451 NTU
09/04/02 15:00:00 253 NTU
09/04/02 15:15:00 420 NTU
09/07/02 16:45:00 219 NTU
09/15/02 19:15:00 291 NTU
09/15/02 19:45:00 843 NTU
09/16/02 15:00:00 193 NTU
09/16/02 15:30:00 235 NTU

09/16/02 17:45:00 220 NTU
09/21/02 12:30:00 101 NTU
09/23/02 14:15:00 122 NTU
09/25/02 07:15:00 923 NTU

e) For the following dates and times, turbidity values greater than 1000 were
deleted.

09/07/02 17:00:00
09/16/02 01:15:00
09/16/02 15:15:00
09/23/02 07:00:00
09/28/02 11:45:00
09/28/02 17:00:00
09/28/02 17:15:00

GOODWIN ISLANDS:

a) For the month of September, turbidity values occasionally reported negative
and/or zero due to sensor precision. Data retained.

b) For the following dates and times, turbidity values were deleted due to probe
malfunction.

09/02/02 08:15:00 092 NTU
09/02/02 08:45:00 056 NTU
09/02/02 09:15:00 076 NTU
09/02/02 10:30:00 057 NTU
09/02/02 11:00:00 060 NTU
09/02/02 11:45:00 053 NTU
09/02/02 12:15:00 066 NTU
09/02/02 13:00:00 058 NTU
09/02/02 13:45:00 057 NTU
09/02/02 17:15:00 065 NTU
09/04/02 09:15:00 082 NTU
09/04/02 19:30:00 051 NTU
09/04/02 20:00:00 050 NTU
09/04/02 20:30:00 051 NTU
09/04/02 20:45:00 061 NTU
09/04/02 22:15:00 058 NTU
09/04/02 22:45:00 057 NTU
09/04/02 23:15:00 055 NTU
09/05/02 00:00:00 056 NTU
09/05/02 00:30:00 050 NTU
09/05/02 01:00:00 053 NTU
09/05/02 01:45:00 042 NTU
09/05/02 02:15:00 035 NTU
09/05/02 02:45:00 051 NTU
09/05/02 03:15:00 052 NTU
09/05/02 03:45:00 050 NTU
09/05/02 04:15:00 044 NTU

09/05/02 04:45:00 051 NTU
09/05/02 05:15:00 058 NTU
09/05/02 05:45:00 050 NTU
09/05/02 06:15:00 053 NTU
09/05/02 06:45:00 057 NTU

c) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

09/02/02 18:45:00 190 NTU
09/03/02 02:15:00 099 NTU
09/12/02 10:30:00 260 NTU
09/12/02 19:00:00 142 NTU
09/22/02 07:00:00 100 NTU

SWEETHALL MARSH:

a) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

09/02/02 05:00:00 180 NTU
09/05/02 08:15:00 149 NTU
09/10/02 10:15:00 118 NTU
09/11/02 10:30:00 111 NTU
09/16/02 11:45:00 179 NTU
09/19/02 04:45:00 177 NTU

b) For the following period, internal sonde electronic malfunction resulted in
sampling 4 minutes after the quarter hour. Data time stamp rounded to the
quarter hour. (Example: 12:04 = 12:00, 12:19 = 12:15, ect.)

09/25/02 10:45:00 - 10/10/02 10:30:00

TASKINAS CREEK:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

09/05/02 14:00:00

b) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

09/01/02 15:15:00 355 NTU
09/22/02 12:45:00 467 NTU
09/23/02 11:00:00 728 NTU
09/23/02 12:30:00 712 NTU

c) For the following dates and times, turbidity values greater than 1000 were

deleted.

09/23/02 12:00:00
09/23/02 22:00:00

OCTOBER

CLAYBANK:

a) For the month of October, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

b)For the following dates and times, turbidity readings may be suspect. Data
retained.

10/25/02 09:00:00 085 NTU
10/28/02 10:45:00 065 NTU
10/28/02 11:00:00 137 NTU

c) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

10/05/02 17:30:00 181 NTU
10/07/02 19:30:00 712 NTU
10/18/02 19:00:00 236 NTU
10/19/02 16:30:00 121 NTU
10/28/02 17:15:00 606 NTU
10/28/02 17:30:00 554 NTU

d) For the following dates and times, turbidity values greater than 1000 were
deleted.

10/05/02 17:45:00
10/05/02 18:30:00
10/11/02 21:00:00
10/28/02 18:15:00

GOODWIN ISLANDS:

a) For the month of October, turbidity values occasionally reported negative
and/or zero due to sensor precision. Data retained.

SWEETHALL MARSH:

a) For the month of October, depth values occasionally reported negative and/or
zero due to sensor precision. Data retained.

b) For the following dates and times, turbidity readings may be suspect. Data
retained.

10/07/02 05:15:00 110 NTU
10/10/02 10:45:00 003 NTU

c) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

10/02/02 04:15:00 132 NTU
10/04/02 02:00:00 154 NTU
10/09/02 09:45:00 112 NTU
10/11/02 09:30:00 164 NTU

d) For the following dates and times, DO% sat and DO mg/L were deleted due to
probe malfunction.

10/03/02 18:00:00 - 10/10/02 10:45:00
10/15/02 08:45:00 - 10/24/02 13:45:00

e)For the following period, internal sonde electronic malfunction resulted in
sampling 1 minute behind the quarter hour. Data time stamp rounded to the
quarter hour. (Example: 11:59 = 12:00, 12:14 = 12:15, ect.)

10/24/02 14:00:00 - 11/06/02 15:30:00

TASKINAS CREEK:

a)For the following dates and times, turbidity readings may be suspect. Data
retained.

10/02/02 06:30:00 128 NTU
10/02/02 15:45:00 154 NTU
10/03/02 22:45:00 145 NTU
10/08/02 02:45:00 130 NTU
10/28/02 11:15:00 166 NTU
10/28/02 13:15:00 123 NTU

b) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

10/04/02 06:15:00 863 NTU
10/07/02 15:30:00 242 NTU
10/09/02 01:30:00 247 NTU
10/09/02 02:00:00 208 NTU
10/09/02 05:15:00 316 NTU
10/09/02 14:00:00 672 NTU
10/10/02 17:45:00 418 NTU
10/18/02 10:30:00 650 NTU

10/18/02 11:30:00 972 NTU

c) For the following dates and times, turbidity values greater than 1000 were
deleted.

10/07/02 20:00:00 - 10/07/02 20:15:00
10/08/02 06:15:00
10/08/02 09:45:00
10/08/02 19:45:00
10/18/02 10:15:00
10/18/02 11:45:00 - 10/18/02 12:00:00

d) For the following dates and times, turbidity values were deleted due to probe
malfunction.

10/05/02 22:45:00 to 10/07/02 11:00:00

e) For the following dates and times data was missing due to an internal error
within the sonde.

10/14/02 11:45:00 - 10/14/02 16:15:00

f) For the following dates and times, DO% sat and DO mg/L were deleted due to
probe malfunction.

10/28/02 23:15:00 - 10/31/02 12:00:00

NOVEMBER

CLAYBANK:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

11/03/02 00:45:00 - 11/03/02 02:15:00
11/19/02 14:00:00 - 11/19/02 17:00:00
11/20/02 02:00:00 - 11/20/02 04:00:00
11/24/02 04:45:00 - 11/24/02 07:15:00
11/24/02 17:30:00 - 11/24/02 20:00:00
11/25/02 05:30:00 - 11/25/02 07:45:00
11/25/02 19:15:00 - 11/25/02 20:15:00
11/29/02 22:15:00 - 11/30/02 02:00:00
11/30/02 11:45:00 - 11/30/02 13:00:00
11/30/02 23:15:00 - 11/30/02 23:45:00

b) For the month of November, turbidity values occasionally reported negative
and/or zero due to sensor precision. Data retained.

c) For the month of November, depth values occasionally reported negative and/or zero due to sensor precision. Data retained.

d) For the following dates and times, turbidity readings may be suspect. Data
retained.

11/09/02 14:00:00 139 NTU
11/13/02 15:30:00 122 NTU
11/14/02 10:30:00 034 NTU
11/23/02 08:30:00 385 NTU
11/23/02 10:15:00 335 NTU
11/23/02 10:45:00 114 NTU
11/23/02 12:00:00 178 NTU
11/29/02 21:30:00 193 NTU
11/30/02 03:30:00 158 NTU
11/30/02 03:45:00 190 NTU
11/30/02 04:00:00 164 NTU
11/30/02 04:15:00 154 NTU

e) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

11/01/02 19:45:00 110 NTU
11/29/02 22:00:00 416 NTU

f) For the following dates and times, turbidity values greater than 1000 were
deleted.

11/01/02 20:00:00
11/23/02 08:45:00
11/23/02 10:30:00

GOODWIN ISLANDS:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

11/03/02 00:00:00 - 11/03/02 00:30:00
11/19/02 13:15:00 - 11/19/02 16:30:00
11/20/02 01:00:00 - 11/20/02 03:00:00
11/24/02 03:45:00 - 11/24/02 06:30:00
11/24/02 16:45:00 - 11/24/02 19:00:00
11/25/02 04:15:00 - 11/25/02 07:00:00
11/29/02 21:00:00 - 11/30/02 01:00:00
11/30/02 22:15:00 - 11/30/02 23:45:00

b) For the month of November, turbidity values occasionally reported negative
and/or zero due to sensor precision. Data retained.

c) For the month of November, depth values occasionally reported negative

and/or zero due to sensor precision. Data retained.

d) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

11/09/02 12:30:00 096 NTU

SWEETHALL MARSH:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

11/03/02 04:15:00 - 11/03/02 04:45:00
11/19/02 17:15:00 - 11/19/02 20:15:00
11/20/02 04:45:00 - 11/20/02 07:00:00
11/23/02 20:30:00 - 11/23/02 22:00:00
11/24/02 07:15:00 - 11/24/02 10:30:00
11/24/02 20:45:00 - 11/24/02 22:45:00
11/25/02 08:00:00 - 11/25/02 11:00:00
11/25/02 21:45:00 - 11/26/02 00:00:00
11/30/02 01:15:00 - 11/30/02 04:30:00
11/30/02 14:30:00 - 11/30/02 16:00:00

b) For the month of November, depth values occasionally reported negative and/or zero due to sensor precision. Data retained.

c) For the following dates and times, turbidity readings may be suspect. Data
retained.

11/07/02 09:15:00 106 NTU

TASKINAS CREEK:

a)For the following dates and times, turbidity readings may be suspect. Data
retained.

11/12/02 20:15:00 153 NTU
11/30/02 03:30:00 201 NTU
11/30/02 03:45:00 214 NTU
11/30/02 04:00:00 153 NTU

b) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

11/02/02 11:30:00 407 NTU

c) For the following dates and times, turbidity values greater than 1000 were
deleted.

11/18/02 01:00:00

DECEMBER

Claybank:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

12/01/02 00:00:00 - 12/01/02 02:45:00
12/01/02 12:45:00 - 12/01/02 14:00:00
12/02/02 00:00:00 - 12/02/02 03:30:00
12/02/02 12:30:00 - 12/02/02 16:30:00
12/03/02 00:15:00 - 12/03/02 04:30:00
12/03/02 15:15:00 - 12/03/02 16:30:00
12/04/02 02:00:00 - 12/04/02 05:00:00
12/04/02 15:00:00 - 12/04/02 17:15:00
12/22/02 17:15:00 - 12/22/02 18:30:00
12/23/02 05:15:00 - 12/23/02 06:00:00

b) For the month of December, depth values occasionally reported negative and/or zero due to sensor precision. Data retained.

c) For the following dates and times, turbidity readings may be suspect. Data
retained.

12/01/02 03:00:00 138 NTU
12/11/02 20:00:00 102 NTU

d) For the following dates and times, turbidity values high due to sensor interference. Data deleted.

12/11/02 13:45:00 694 NTU
12/11/02 15:15:00 389 NTU
12/13/02 19:45:00 200 NTU
12/13/02 20:00:00 302 NTU

e) For the following dates and times, turbidity values greater than 1000 were
deleted.

12/11/02 15:30:00
12/11/02 17:00:00 - 12/11/02 17:15:00
12/11/02 21:30:00
12/13/02 19:30:00
12/13/02 20:15:00
12/14/02 02:00:00
12/16/02 09:15:00

f) For the following dates and times data was missing due to internal error

within the sonde.

12/30/02 18:00:00

GOODWIN ISLANDS:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

12/01/02 00:00:00-12/01/02 02:00:00
12/01/02 22:45:00-12/02/02 02:45:00
12/02/02 11:30:00-12/02/02 16:00:00
12/02/02 23:00:00-12/03/02 03:45:00
12/04/02 01:15:00-12/04/02 04:00:00
12/04/02 14:30:00-12/04/02 16:15:00

b) For the month of December, turbidity values occasionally reported negative
and/or zero due to sensor precision. Data retained.

c) For the month of December, depth values occasionally reported negative
and/or zero due to sensor precision. Data retained.

SWEETHALL MARSH:

a) For the following dates and times, all data was deleted due to datalogger out
of the water.

12/01/02 01:30:00 - 12/01/02 05:45:00
12/01/02 15:00:00 - 12/01/02 17:45:00
12/02/02 02:45:00 - 12/02/02 06:00:00
12/02/02 16:00:00 - 12/02/02 19:15:00
12/03/02 03:00:00 - 12/03/02 07:15:00
12/03/02 18:00:00 - 12/03/02 19:30:00
12/04/02 04:30:00 - 12/04/02 07:30:00
12/04/02 18:15:00 - 12/04/02 20:00:00
12/08/02 21:45:00 - 12/08/02 23:00:00
12/22/02 19:30:00 - 12/22/02 21:30:00
12/23/02 08:00:00 - 12/23/02 09:15:00
12/26/02 00:00:00 - 12/26/02 01:00:00

b) For the month of December, depth values occasionally reported negative
and/or zero due to sensor precision. Data retained.

TASKINAS CREEK:

a) For the following dates and times, turbidity values greater than 1000 were
deleted.

12/05/02 07:45:00

12/05/02 13:45:00
12/05/02 15:30:00
12/05/02 17:15:00
12/08/02 23:45:00
12/16/02 04:30:00
12/16/02 18:15:00
12/18/02 23:15:00
12/18/02 23:15:00

12. Missing data

Missing data are denoted by a period in the data set. Data are missing due to equipment failure where no probes were deployed, maintenance/calibration of equipment, elimination of obvious outliers or elimination of data due to calibration problems (both pre and post). For more details on deleted data, see the Data Anomalies Section. To find out more details about missing data, contact the Research Coordinator at the site submitting the data.

13. A. Post-deployment Information
End of deployment Post-calibration Readings in Standard Solutions:
na = no data available for that particular standard

Claybank:

Date	Cond (ms) (Std:10)	DO (AirSat) (Std: 100%)	pH (Std:7)	Turb	Depth (Std:0)	(Std:0)
01/15/02	na	na	na	na	na	
02/01/02	na	na	na	na	na	
02/19/02	10.430	na	6.90	0.6	-0.003	
03/09/02	09.460	na	6.90	-1.5	-0.003	
03/26/02	10.180	na	7.00	1.0	-0.002	
04/18/02	10.050	78.7	7.08	-3.7	-0.004	
05/07/02	09.924	89.6	6.76	9.4	0.001	
05/15/02	10.270	96.2	6.96	12.9	0.062	
05/22/02	10.380	93.0	7.01	5.9	0.212	
05/29/02	10.270	78.0	7.01	65.6	-0.104	
06/06/02	10.530	54.0	6.89	-6.0	-0.072	
06/11/02	10.560	68.7	6.86	1.2	-0.001	
06/19/02	09.952	87.1	7.00	11.1	0.092	
06/27/02	10.380	89.2	7.00	0.1	-0.143	
07/02/02	10.400	85.6	6.98	4.2	0.028	
07/09/02	09.937	90.0	7.19	2.2	-0.015	
07/16/02	09.897	95.5	7.11	4.0	-0.054	
07/23/02	10.300	47.6	6.98	0.0	0.025	
08/01/02	10.450	94.9	7.00	27.5	-0.071	
08/08/02	09.914	100.2	7.09	4.9	0.098	
08/15/02	10.090	100.9	6.97	0.8	-0.001	
08/20/02	10.350	94.0	7.05	3.7	-0.068	
08/27/02	10.170	84.9	7.02	0.8	0.035	
09/05/02	10.000	100.8	7.08	1.7	0.001	
09/12/02	10.200	93.5	7.10	1.0	-0.003	

09/18/02	09.800	99.3	7.04	-0.3	0.003
09/24/02	10.040	99.1	7.07	0.5	0.045
10/09/02	09.871	98.5	7.07	2.0	0.022
10/22/02	09.953	96.7	7.01	1.5	-0.023
11/05/02	09.953	61.2	7.06	2.8	-0.041
11/19/02	09.890	100.1	7.05	4.9	0.128
12/03/02	10.060	99.9	7.04	2.1	0.026
12/16/02	10.020	85.7	7.08	-0.1	0.015
01/09/03	09.956	83.9	7.08	2.9	-0.118

Goodwin Islands:

Date	Cond (ms) (Std:10)	DO (AirSat) (Std: 100%)	pH (Std:7)	Turb	Depth (Std:0)	(Std:0)
01/10/02	10.030	57.2	7.34	-0.1	-0.032	
01/25/02	09.915	98.7	7.09	-0.1	0.119	
01/30/02	na	97.5	7.08	0.3	0.082	
02/12/02	10.560	93.3	7.10	0.8	-0.043	
03/01/02	10.410	100.5	na	-1.0	0.131	
03/14/02	10.010	98.3	7.09	-0.5	-0.136	
03/26/02	10.090	95.0	7.04	-0.4	-0.100	
04/09/02	09.688	102.1	7.01	-2.2	0.010	
04/26/02	09.736	78.2	7.19	11.0	na	
05/03/02	10.250	82.7	7.12	-2.1	0.041	
05/09/02	10.280	95.1	6.98	0.2	na	
05/16/02	10.010	85.3	7.02	1.1	0.034	
05/23/02	10.040	96.7	7.03	-1.7	-0.157	
05/31/02	10.090	94.6	7.04	0.1	-0.186	
06/06/02	10.600	87.0	7.02	0.4	-0.010	
06/11/02	09.988	97.3	6.99	1.3	0.007	
06/19/02	09.760	95.4	7.16	0.5	-0.019	
06/25/02	09.952	93.0	6.98	1.8	na	
07/02/02	09.924	95.6	7.00	0.9	-0.032	
07/10/02	na	92.4	na	3.7	-0.005	
07/18/02	10.450	94.9	6.87	0.7	-0.022	
07/23/02	09.980	97.0	6.97	-0.1	0.025	
08/01/02	09.681	96.6	7.12	-0.1	-0.075	
08/08/02	10.690	95.6	7.08	7.0	0.048	
08/15/02	09.686	94.8	7.00	0.3	0.026	
08/20/02	10.060	95.6	6.90	0.9	-0.094	
08/27/02	10.560	88.3	7.05	1.8	0.026	
09/05/02	09.647	66.0	7.03	3.0	-0.033	
09/12/02	09.914	46.7	6.95	0.8	0.000	
09/18/02	10.010	60.9	7.09	0.2	-0.010	
09/24/02	10.080	95.4	7.01	-1.2	-0.050	
10/08/02	10.370	75.3	7.15	-0.1	0.014	
10/22/02	09.855	93.3	7.13	4.0	-0.012	
11/05/02	10.020	94.3	7.17	-1.7	-0.030	
11/19/02	09.807	96.3	7.03	0.7	0.008	
12/03/02	09.838	96.7	6.98	-1.0	0.019	
12/16/02	09.874	67.6	7.08	1.7	-0.100	
01/09/03	10.220	97.4	6.98	-1.2	-0.113	

Sweethall Marsh:

Date	Cond (ms)	DO (AirSat)	pH	Turb	Depth

	(Std:10)	(Std: 100%)	(Std:7)	(Std:0)	(Std:0)
01/09/02					
01/25/02	09.720	88.7	6.95	-0.8	0.117
02/08/02	10.100	112.6	7.01	0.5	0.050
02/22/02	09.830	66.2	7.03	1.0	-0.065
03/08/02	09.900	109.8	6.98	0.5	0.133
03/22/02	10.070	107.8	7.10	1.2	-0.087
04/05/02	09.960	103.1	7.02	0.5	-0.010
04/17/02	10.080	90.6	7.02	-0.9	-0.090
05/01/02	10.180	102.6	7.00	1.2	-0.107
05/15/02	09.910	99.2	7.05	0.0	0.109
05/29/02	09.720	95.7	7.02	-6.2	-0.038
06/04/02	10.310	95.2	6.95	0.0	-0.220
06/12/02	10.250	92.3	7.03	2.8	-0.107
06/19/02	10.030	93.7	6.88	1.0	0.168
06/27/02	10.050	81.6	6.92	1.0	-0.159
07/03/02	09.850	101.9	6.96	1.8	-0.037
07/09/02	09.780	49.4	6.98	-0.1	-0.026
07/18/02	09.990	95.6	7.04	0.2	-0.072
07/25/02	09.840	82.6	6.98	-3.1	0.042
08/01/02	09.270	98.3	6.98	5.8	-0.080
08/07/02	10.060	na	6.85	0.5	0.026
08/13/02	10.000	99.7	6.94	0.5	-0.044
08/23/02	09.850	100.6	6.84	2.0	na
09/02/02	09.910	98.7	6.98	3.9	0.020
09/10/02	10.010	100.9	7.08	0.8	-0.158
09/19/02	10.120	102.1	7.07	1.1	0.049
09/25/02	10.090	104.6	7.15	1.7	0.009
10/10/02	10.140	60.8	7.09	-0.9	-0.042
10/24/02	10.180	135.9	6.92	-0.2	0.036
11/06/02	10.040	93.1	6.94	0.4	-0.177
11/25/02	10.090	102.8	7.15	11.9	-0.211
12/09/02	10.090	101.0	7.07	-0.2	0.091
12/18/02	10.020	95.6	7.10	-0.4	-0.118
01/06/03	09.960	97.6	7.01	0.2	-0.196

Taskinas Creek:

Date	Cond (ms)	DO (AirSat)	pH	Turb	Depth
	(Std:10)	(Std: 100%)	(Std:7)	(Std:0)	(Std:0)
01/05/02	10.330	100.0	7.18	0.3	-0.011
01/17/02	09.790	100.0	7.23	-0.2	-0.018
01/30/02	10.370	100.0	7.00	0.6	-0.012
02/15/02	10.540	100.0	7.13	0.2	0.018
02/28/02	10.770	100.0	7.31	2.2	-0.025
03/13/02	09.970	100.0	6.96	-1.7	-0.048
03/29/02	09.880	100.0	7.17	na	-0.006
04/11/02	09.810	100.0	7.21	17.8	0.026
04/25/02	08.960	100.0	7.38	5.9	-0.040
05/03/02	10.080	100.0	6.67	2.0	-0.014
05/10/02	09.770	100.0	6.92	0.1	0.044
05/16/02	09.730	na	6.92	-1.3	-0.006
05/24/02	09.580	na	6.90	1.9	0.005
06/01/02	10.250	100.0	7.20	1.4	-0.043
06/07/02	10.000	50.3	6.97	0.2	0.038

06/14/02	10.340	84.6	6.69	18.6	-0.141
06/26/02	09.683	94.0	7.15	4.2	0.120
07/03/02	09.898	57.0	6.99	6.5	-0.068
07/11/02	10.040	78.3	7.04	19.2	0.030
07/17/02	10.320	98.7	6.98	4.7	-0.010
07/23/02	09.674	71.0	7.07	2.8	-0.011
08/01/02	10.700	95.8	7.04	85.5	-0.074
08/09/02	10.020	77.1	6.94	2.9	0.083
08/15/02	10.300	93.4	6.92	-1.6	-0.011
08/20/02	10.100	95.5	7.06	0.3	na
08/30/02	10.080	101.3	7.07	17.2	0.040
09/05/02	09.409	93.8	7.08	0.1	-0.028
09/11/02	10.320	97.6	7.07	-0.1	-0.207
09/17/02	10.100	99.4	7.14	3.5	0.132
09/25/02	09.880	101.8	6.96	2.2	0.042
10/02/02	10.130	97.8	6.98	1.7	-0.071
10/07/02	09.790	100.3	7.03	6.4	-0.242
10/14/02	09.759	99.1	7.02	22.0	0.076
10/31/02	10.210	80.5	7.07	1.2	-0.091
11/14/02	10.200	98.1	7.03	1.1	0.010
11/21/02	09.952	98.2	7.05	-2.1	-0.117
12/04/02	10.090	99.8	6.98	0.2	0.161
12/19/02	10.100	97.1	7.06	-0.7	-0.193
01/08/03	10.080	96.3	7.04	2.8	-0.260

13.B Field Verification samples:
na = no data available

Claybank:

Date	Salinity ppt	pH	Water Temp C		Secchi m	DO mg/L
12/29/01	na	na	na		na	na
01/15/02	na	na	na		na	na
02/01/02	na	na	na		na	na
02/19/02	na	na	na		na	na
03/09/02	na	na	na		na	na
03/26/02	na	na	na		na	na
04/18/02	19.589		na	na	na	5.9
05/07/02	na	na	na		na	na
05/15/02	na	na	na		na	na
05/22/02	na	na	18.0		0.70	7.5
05/29/02	na	7.7	26.0		0.47	7.3
06/06/02	na	7.9	26.0		0.57	6.0
06/11/02	na	7.9	26.0		0.70	7.3
06/19/02	20.600		7.5	27.0	0.60	6.5
06/27/02	19.915		7.5	28.0	0.40	6.7/6.2
07/02/02	16.218		na	27.2	0.50	8.7/8.3
07/09/02	20.749		7.5	27.2	0.60	7.1/6.3
07/16/02	21.283		7.8	29.0	0.80	9.8/9.1
07/23/02	21.845		7.8	28.0	0.70	6.7
08/01/02	na	8.2	31.0		0.50	7.8
08/08/02	23.147		7.6	27.0	0.60	4.9
08/15/02	na	7.9	29.0		0.20	9.4
08/20/02	22.455		8.2	30.5	0.40	9.3

08/27/02	23.017	7.7	27.1	0.80	6.2
09/05/02	23.064	7.8	25.0	0.70	5.8
09/12/02	23.193	7.6	25.0	0.70	7.2
09/18/02	22.680	7.9	25.0	0.70	8.5
09/24/02	22.722	7.5	24.0	0.90	6.5
10/09/02	23.077	7.5	22.0	0.90	6.1
10/22/02	22.600	7.8	17.2	1.10	8.7/8.8
11/05/02	22.424	7.8	13.0	0.80	8.0/8.7
11/19/02	18.943	7.8	11.5	0.70	9.4/9.7
12/03/02	17.246	8.0	7.0	0.50	4.0
12/16/02	17.800	7.6	6.0	0.50	11.3/11.6
01/09/03	12.100	7.2	6.0	0.40	11.1/11.3

Goodwind Islands:

Date	Salinity ppt	pH	Water Temp C	Secchi m	DO mg/L
01/10/02	24.902	8.1	5.1	0.78	9.9
01/25/02	23.520	7.8	na	na	9.5
01/30/02	24.025	na	9.0	1.68	9.3
02/12/02	23.776	7.9	8.9	na	na
03/10/02	24.318	7.9	6.5	1.35	8.7
03/14/02	24.569	7.9	11.5	1.50	8.9
03/26/02	24.106	7.9	14.0	0.90	10.2
04/09/02	23.753	8.0	17.5	0.45	10.1/10.3
04/26/02	23.400	na	19.4	0.80	12.7
05/03/02	23.703	na	19.8	na	9.7
05/09/02	23.035	7.4	19.5	1.10	8.0
05/16/02	22.424	8.1	18.0	0.75	10.5/9.4
05/23/02	22.819	8.4	24.0	0.72	11.5/12.7
05/31/02	22.741	8.0	26.0	1.00	9.6
06/06/02	na	8.3	27.2	0.72	11.4/10.4
06/11/02	22.735	8.1	24.0	0.80	7.5
06/19/02	22.610	na	26.0	0.80	6.4
06/25/02	na	7.8	28.5	1.15	8.0/7.6
07/02/02	22.437	8.1	28.0	na	7.3/7.5
07/10/02	21.325	8.1	27.0	1.20	7.3/6.9
07/18/02	22.569	8.2	28.0	na	6.5/6.0
07/23/02	22.315	8.1	28.0	1.2	6.8
08/01/02	23.055	8.1	30.0	1.00	7.7
08/08/02	na	8.1	25.0	1.00	6.9
08/15/02	24.051	7.7	27.0	0.65	6.4
08/20/02	24.071	8.1	30.1	0.90	10.7
08/27/02	24.675	7.8	26.0	0.70	8.0
09/05/02	23.935	7.6	25.0	0.60	6.5
09/12/02	23.998	7.9	22.5	1.00	8.2
09/18/02	23.830	7.9	24.5	1.15	6.5
09/24/02	24.401	7.5	23.0	0.90	6.3
10/08/02	25.089	7.9	22.5	0.85	7.6
10/22/02	24.473	8.0	17.5	1.30	9.5
11/05/02	23.593	7.8	13.0	1.40	8.6/9.1
11/19/02	23.412	7.5	12.0	0.80	8.5/8.8
12/03/02	22.453	7.9	5.0	0.60	10.0
12/16/02	22.400	7.8	7.0	0.70	10.6

Sweethall Marsh:

Date	Salinity ppt	pH	Water Temp C		Secchi m	DO mg/L	
01/09/02	4.257		7.3	4.4	0.20	9.0	
01/25/02	4.529		7.1	6.0	0.40	10.1	
02/08/02	7.554		7.3	7.0	0.35	9.2	
02/22/02	4.375		7.3	10.7	0.32	9.7	
03/08/02	3.314		7.2	11.0	0.10	9.1	
03/22/02	3.542		7.3	9.5	0.40	10.3	
04/05/02	3.613		7.3	14.0	0.35	9.60	
04/17/02	2.387		7.2	22.0	0.35	8.9/8.2	
05/01/02	2.697		7.1	19.0	0.30	7.4/7.1	
05/15/02	1.057		7.2	20.5	0.10	7.0/6.7	
05/29/02	2.518		7.1	24.0	0.30	7.0/6.3	
06/04/02	4.473		7.0	27.0	0.30	4.9/5.5	
06/12/02	6.689		6.8	26.0	0.40	6.4/5.3	
06/19/02	5.500		6.8	27.5	0.15	na	
06/27/02	5.760		7.1	29.0	0.35	5.7	
07/03/02	5.583		7.5	na	0.30	6.6/6.3	
07/09/02	8.556		7.5	30.0	0.40	4.80	
07/18/02	8.500		7.1	29.0	0.40	5.2	
07/25/02	8.118		7.1	28.0	0.35	6.2	
08/01/02	9.365		7.3	30.0	0.35	7.9	
08/07/02	11.740		na	28.5	0.50	7.5	
08/13/02	9.439		7.2	29.0	0.30	6.1	
08/23/02	9.748		7.3	29.0	0.30	na	
09/02/02	9.631		7.3	29.0	0.45	6.7	
09/10/02	10.598		7.1	26.0	0.40	6.7	
09/19/02	9.626		7.1	25.5	0.30	7.6	
09/25/02	10.224		7.3	24.0	0.40	6.4	
10/10/02	10.492		7.2	23.0	0.50	7.2/6.5	
10/24/02	9.982		7.3	18.0	0.50	8.1	
11/06/02	10.470		7.3	12.8	0.50	7.3/7.3	
11/25/02	0.601		7.0	12.0	0.25	8.2	
12/09/02	0.900		7.1	5.0	0.10	9.8	
12/18/02	0.700		7.2	5.0	0.80	10.5/10.4	
01/06/03	0.200		7.1	6.0	0.30	11.1/10.5	

Taskinas Creek:

Date	Salinity ppt	pH	Water Temp C		Secchi m	DO mg/L	
01/05/02	17.640		7.9	3.5	0.41	11.3	
01/17/02	9.2	8.06	4.5		0.20	11.2	
01/30/02	15.65	8.10	14.5		na	10.2	
02/15/02	15.140		8.25	6.0	0.23	8.3	
02/28/02	13.400		8.17	5.0	0.22	8.8	
03/13/02	16.700		7.74	11.0	0.51	7.3	
03/29/02	8.900		7.77	17.0	0.29	10.7	
04/11/02	10.700		7.72	na	0.25	7.9/8.2	
04/25/02	9.885		7.92	na	0.10	8.9/9.4	
05/03/02	15.500		8.06	na	0.20	9.2/8.3	
05/10/02	1.300		7.68	24.0	0.20	5.0/3.8	
05/16/02	8.932		8.15	24.0	0.35	9.2/9.8	

05/24/02	8.384		8.20	23.5		0.40	10.4/9.8
06/01/02	16.034		8.15	na		0.25	8.8/7.9
06/07/02	na	7.5	24.0		0.20	5.8	
06/14/02	19.014		7.0	28.0		0.20	6.6/6.1
06/26/02	na	7.3	29.5		0.30	5.8/6.2	
07/03/02	10.972		7.4	30.5		0.35	4.0
07/11/02	na	na	26.0		0.10	na	
07/17/02	16.489		7.4	29.5		0.40	6.2
07/23/02	na	7.7	30.0		0.30	6.4	
08/01/02	19.228		8.2	33.0		0.30	11.5
08/09/02	na	7.7	26.0		0.20	6.7	
08/15/02	na	7.9	29.5		0.10	8.8	
08/20/02	20.800		7.7	31.8		0.30	8.5
08/30/02	19.079		7.2	na		na	5.8
09/05/02	na	7.3	27.5		0.30	6.1	
09/11/02	20.064		7.5	26.0		0.10	6.5
09/17/02	15.087		7.3	26.0		0.35	5.5
09/25/02	20.414		7.6	22.3		0.35	7.0
10/02/02	16.127		7.5	24.0		0.50	7.4/7.1
10/07/02	21.409		7.5	23.0		0.30	5.7
10/14/02	na	na	19.5		0.40	na	
10/31/02	6.886		7.3	10.5		0.25	6.5
11/14/02	8.005		7.6	12.0		0.55	7.1/6.9
11/21/02	16.647		7.6	10.3		0.60	9.2
12/04/02	13.000		na	1.0		0.35	na
12/19/02	13.000		7.5	5.5		0.30	11.6/10.9
01/08/02	10.100		7.1	7.1		0.35	12.8/12.3

14. Remarks

On 06/30/2021 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.

A) Depth measurements were determined with non-vented pressure transducers and

therefore depth data should be considered relative depth. Negative depth values
can be due to extremely low water conditions, low-pressure systems, or probes
being out of the water. In the event where probes were clearly out of the
water, as verified by specific conductance values, data were deleted. When
specific conductance values did not indicate probe exposure, negative depth
values were retained and data was marked as suspect.

B) Due to conductance calibration error that occurred on a few occasions,
salinity values were adjusted based on field verification samples taken at each
datasonde deployment and retrieval. Datasonde specific conductance data were
deleted and replaced with periods. Corrected salinity values are presented in
edited and raw data files. Dissolved oxygen concentrations were recalculated
based on equations provided by APHA Standard Methods 1989. No
changes were made to raw % dissolved oxygen saturation data.

C) Any time a reference is made to turbidity data being negative and/or zero, it
was recorded as a negative in the raw data file and a zero in the edited data
file due to the formatting of Excel. The technician edited none of these data
points by hand nor did he/she delete any of them.

D) On a few occasions, turbidity spikes >300 NTU and <1000 NTU were noted to
occur during low water conditions. These data were marked as suspect and may be
a result of resuspended sediment due to wave action.

E) When a particular sample appears twice, at the end of one deployment and at
the beginning of another, the file that most closely resembles the existing
trend was kept.

F) Please note: Time skips can occur due to low batteries, water leakage
into the battery compartment, and for no apparent reason.