

1. Identification Information

1.1 Citation Information

8.1 Originator: Alan Lewitus

8.1 Originator: Raphael Tymowski

8.1 Originator: Ivy Collins

8.1 Originator: Department of Marine Science, Coastal Carolina University

8.1 Originator: Belle W. Baruch Institute for Marine and Coastal Sciences and Department of Statistics of the University of South Carolina

8.2 Publication Date: 20050228

8.4 Title: CREEK Project's Phytoplankton Pigment Monitoring Database for Eight Creeks in the North Inlet Estuary, South Carolina: 1997-1999

8.6 Geospatial Data Presentation Form: comma delimited digital data and Microsoft Excel spreadsheet

8.8 Publication Information:

8.8.1 Publication Place: Baruch Marine Field Laboratory, Georgetown, SC USA

8.8.2 Publisher: Belle W. Baruch Institute for Marine and Coastal Sciences, University of South Carolina

8.10 Online linkage: <http://links.baruch.sc.edu/data/>

8.11 Larger work citation

8. Citation Information

8.1 Originator: Richard Dame

8.1 Originator: Dave Bushek

8.1 Originator: Dennis Allen

8.1 Originator: Don Edwards

8.1 Originator: Alan Lewitus

8.1 Originator: Eric Koepfler

8.1 Originator: Bjorn Kjerfve

8.1 Originator: Leah Gregory

8.1 Originator: Department of Marine Science, Coastal Carolina University

8.1 Originator: Belle W. Baruch Institute for Marine and Coastal Sciences, Department of Marine Science, and Department of Statistics of the University of South Carolina

8.2 Publication Date: 20000730

8.4 Title: CREEK Project: RUI: the Role of Oyster Reefs in the Structure and Function of Tidal Creeks.

8.6 Geospatial Data Presentation Form: NSF Proposal

8.8 Publication Information:

8.8.1 Publication Place: Baruch Marine Field Laboratory, Georgetown, SC

8.8.2 Publisher: Belle W. Baruch Institute for Marine and Coastal Sciences, University of South Carolina

8.9 Other Citation Details: The CREEK Project (January 1996 – June 2000) was an ecological research program that investigated relationships between oysters and other estuarine subcomponents including nekton, microzooplankton, phytoplankton, oyster diseases, and water chemistry. See cross-reference section - this metadata file.

1.2 Description

1.2.1 Abstract:

The CREEK Project began in January of 1996 and was designed to help determine the role of oysters, *Crassostrea virginica*, in tidal creeks of the North Inlet Estuary, South Carolina, USA. A group of eight intertidal creeks with high densities of oysters were studied using a replicated BACI (Before - After Control - Incident) design in which all creeks are sampled simultaneously. By the fall of 1996, based on preliminary geomorphological observations of North Inlet creeks, eight creeks similar in size and configuration were selected and a survey was conducted to estimate the oyster biomass in each creek. In January of 1997, oysters were added or removed from each creek to equalize oyster biomass at 8 grams dry body weight per cubic meter of bank full water volume. This marked the beginning of the "pre-manipulation year" and the collection of baseline data. Nutrients and chlorophyll *a* were measured weekly in each creek and exhibited seasonal and inter-annual influences. Phytoplankton pigment levels were measured with high-performance liquid chromatography (HPLC). Intensive planktonic - microbial loop and nekton abundance and biomass samplings were conducted seasonally. Oyster growth and survival were measured monthly and information was gathered on the dispersal of the oyster parasite *Perkinsus marinus*. A habitat survey was also conducted in January of 1998 to categorize the creek bottom types for the database. In February of 1998, oysters were removed from 4 of the 8 creeks (creeks 1, 4, 5, and 8) and collection of the same data for the "manipulation year" began. In May of 2000, a final biomass estimate was performed to determine if oyster recruitment and trampling during sampling activities had altered oyster biomass during the manipulation phase of the study.

In the tidal creeks of North Inlet Estuary, the Eastern oyster *C. virginica* is an abundant component of the benthic macrofauna and exerts controls on microbial communities through its grazing and nutrient regenerative activities.

This subcomponent of the CREEK Project (overview above) focused on the effect that oysters have on another important element of the tidal creek system, the phytoplankton community. Investigators used HPLC to analyze the pigments present in selected weekly water samples gathered from control and experimental creek sites, before and after manipulation, for water chemistry analyses. Pigment levels can then be extrapolated to provide information on the types and abundance of phytoplankton in these creeks over the course of seasons and years, and in the presence and absence of oysters.

1.2.2 Purpose: The CREEK Phytoplankton Pigment Monitoring Subproject was initiated in January of 1997 to explore the effect of oysters on the types and abundance of phytoplankton present in eight tidal creeks in the North Inlet Estuary system, Georgetown, South Carolina.

1.2.3. Supplemental Information:

Related Publications and Presentations:

Impact of the Eastern oyster *Crassostrea virginica* on microbial community structure in a salt marsh estuary. (Wetz, M.S., Lewitus, A.J., Koepfler, E.T., and K. Hayes.) Aquatic Microbial Ecology. May 16, 2002. Vol. 28: 87-97.

Testing the role of oyster reefs in the structure and function of tidal creeks with a replicated ecosystem scale experiment: system level variability and response to removal of oysters. (Dame, R.F., E. Koepfler, L. Gregory, T. Prins, D.M. Allen, D. Bushek, D. Edwards, B. Kjerfve, A. Lewitus). 2nd International Conference on Shellfish Restoration. Hilton Head, SC. November 1998. Presented by R. Dame.

Lewitus A, Koepfler E and ¹Pigg R. 2000. Use of dissolved organic nitrogen by a salt marsh phytoplankton bloom community. *Arch. Hydrobiol. Spec. Issues Adv. Limnol.* 55:441-456.

Other Creek Datasets

Several other datasets were collected as subcomponents of the CREEK Project over varying periods during the four year study. Oyster biomass data were collected to determine the natural average biomass of oysters within intertidal creeks. All creeks were then adjusted to that average level. A year later, all live oysters were removed from 4 of the creeks, for the “manipulation year”, and changes in biomass were estimated for the creeks that were not manipulated. A final oyster biomass survey was conducted approximately two years after manipulation. The geomorphology dataset contains detailed geomorphological observations made of each creek near the beginning of the study. A habitat survey was conducted manually to determine bottom type classifications for every square meter of each creek. The water chemistry dataset contains weekly nutrient and chlorophyll *a* measurements for each creek, throughout the study. Intensive planktonic - microbial loop sampling and experiments were conducted in selected creeks seasonally as part of the microzooplankton study. The nekton dataset included seasonal collections of all nekton in creeks during bankfull neap tides during two years of the project, one pre-manipulation year and one post-manipulation year. Oyster growth and survival were measured monthly during the same period of nekton collections. Infection intensities of the oyster parasite, *Perkinsus marinus*, were made in fall of the pre-manipulation year and once following the manipulation for the oyster disease dataset. See the Creek Project Overview documentation for more information on these datasets and additional subprojects, undergraduate and graduate research projects, publications, and presentations.

Summary of Important CREEK Project Results:

The phototrophic nanoflagellates (pflags) were found to vary significantly with the presence of oyster reefs which were 1.25- to 2.25-fold less abundant in creeks with oyster reefs during the summer phytoplankton bloom. The flume study demonstrated and confirmed preferential feeding by oysters on pflags.

Although covering 25-70% (avg. 40%) of intertidal creek bottoms, oysters do not dominate faunal biomass or the remineralization of nutrients.

Totally unexpected was the finding that summer nekton (fishes, shrimps, crabs) biomass is higher than oyster biomass.

Nekton prefer certain creeks to others and these distributions are related to creek shape, mean depth, flooding and discharge rate, and distance to upland ridge, but not creek size (volume, area, or length).

A tag / recapture study by a student found that pinfish migrated into flooding creeks but did not move among creeks.

El Niño, a global environmental event, was clearly evident from the analysis of three years of weekly chlorophyll and nutrient data (1997-2000).

Utilizing limited literature values and preliminary experiments, a simple budget for ammonium indicated that nekton inputs were considerably greater than oyster excretion as a source to intertidal creeks.

A map of the eight creek sites can be found at <http://links.baruch.sc.edu/data/CREEK/CreekOysterBiomass/OysterBio.htm> or in the printed version of the Creek Project Overview documentation that is in the CREEK Project notebook at the BFML.

1.3 Time Period of Content:

9.3 Range of Dates/Times

9.3.1 Beginning Date: 19970113

9.3.3 Ending Date: 19990714

1.3.1 Currentness Reference: Ground condition.

1.4 Status:

1.4.1 Progress: Complete

1.4.2 Maintenance and update frequency: As needed

99.1.5.1 Description of Geographic Extent:

All eight creeks reside in North Inlet Estuary, four off of Clambank Creek, and four off of Town Creek. The North Inlet Estuary (33.20°N, 79.10°W) lies east of the uplands of Hobcaw Barony (also known as the Belle W. Baruch Property). The Estuary is located in Georgetown County, South Carolina.

1.5.1.1 West Bounding Coordinate: -79.192

1.5.1.2 East Bounding Coordinate: -79.167

1.5.1.3 North Bounding Coordinate: 33.350

1.5.1.4 South Bounding Coordinate: 33.327

1.6 Keywords

1.6.1 Theme

1.6.1.1 Theme Keyword Thesaurus:	None
1.6.1.2 Theme Keyword:	COASTAL
1.6.1.2 Theme Keyword:	CREEK
1.6.1.2 Theme Keyword:	CREEK PROJECT
1.6.1.2 Theme Keyword:	ECOSYSTEMS
1.6.1.2 Theme Keyword:	ESTUARINE
1.6.1.2 Theme Keyword:	ESTUARINE COMMUNITIES
1.6.1.2 Theme Keyword:	ESTUARY
1.6.1.2 Theme Keyword:	HIGH-PERFORMANCE LIQUID CHROMATOGRAPHY
1.6.1.2 Theme Keyword:	HPLC
1.6.1.2 Theme Keyword:	INTERTIDAL CREEK
1.6.1.2 Theme Keyword:	MARSH
1.6.1.2 Theme Keyword:	SALT MARSH
1.6.1.2 Theme Keyword:	FIELD EXPERIMENT
1.6.1.2 Theme Keyword:	OYSTERS
1.6.1.2 Theme Keyword:	OYSTER GRAZING
1.6.1.2 Theme Keyword:	PHYTOPLANKTON
1.6.1.2 Theme Keyword:	PHYTOPLANKTON BLOOM
1.6.1.2 Theme Keyword:	PLANKTON
1.6.1.2 Theme Keyword:	PREFERENTIAL FEEDING
1.6.1.2 Theme Keyword:	TIDAL CREEKS
1.6.1.2 Theme Keyword:	WATER SAMPLE

1.6.2 Place

1.6.2.1 Place Keyword Thesaurus:	None
1.6.2.2 Place Keyword:	NORTH INLET ESTUARY
1.6.2.2 Place Keyword:	SOUTH CAROLINA
1.6.2.2 Place Keyword:	TOWN CREEK
1.6.2.2 Place Keyword:	CLAMBANK CREEK
1.6.2.2 Place Keyword:	EAST COAST
1.6.2.2 Place Keyword:	SOUTHEAST COAST
1.6.2.2 Place Keyword:	COASTAL
1.6.2.2 Place Keyword:	GEORGETOWN COUNTY
1.6.2.2 Place Keyword:	USA

1.6.3 Stratum

1.6.3.1 Stratum Keyword Thesaurus:	None
1.6.3.2 Stratum Keyword:	WATER COLUMN

1.6.4 Temporal

1.6.4.1 Temporal Keyword Thesaurus:	None
1.6.4.2 Temporal Keyword:	1997
1.6.4.2 Temporal Keyword:	1998
1.6.4.2 Temporal Keyword:	1999

1.7 Access Constraints:

None; however, it is strongly recommended that these data be acquired directly from the Belle W. Baruch Institute for Marine and Coastal Sciences and not indirectly through other sources which may have changed the data in some way.

1.8 Use Constraints:

Following academic courtesy standards, the PIs (originators), the University of South Carolina's Belle W. Baruch Institute for Marine and Coastal Sciences, Coastal Carolina University, and Grantor (see Data Set Credit section) should be fully acknowledged in any subsequent publications in which any part of these data are used. Use of the data without completely reading and understanding the metadata is not recommended. The Baruch Institute, Coastal Carolina University, Baruch Institute and Coastal Carolina researchers, and Grantor are not responsible for the use and/or misuse of data from this database. See the section on Distribution Liability for more information.

1.9 Point of Contact:

10.2 Contact Person Primary

10.2.2 Contact Person:	Raphael Tymowski
10.3 Contact Position:	Research Technician

10.4 Contact Address

10.4.1 Address Type:	Mailing Address
10.4.2 Address:	PO Box 1630
10.4.2 Address:	USC Baruch Marine Field Lab
10.4.3 City:	Georgetown
10.4.4 State or Province:	South Carolina
10.4.5 Postal Code:	29442
10.4.6 Country:	USA

10.5 Contact Voice Telephone: (843) 546-6219 extension 238

10.7 Contact Facsimile Telephone: (843) 546-1632

10.8 Contact Electronic Mail Address: raph@belle.baruch.sc.edu

1.11 Data Set Credit:

Funding was provided by the National Science Foundation, grant DEB_95_0957 to Coastal Carolina University and the University of South Carolina's Belle W. Baruch Institute, with Dr. Richard Dame as project director. Numerous researchers and students contributed to these datasets.

1.14 Native Data Set Environment

Data are in Microsoft Excel 2000 Professional and comma separated value (csv) formats. Metadata are in Microsoft (MS) Word 2000 Professional and text formats. Images are in JPEG (.JPG) format.

1.15 Cross Reference:

8. Citation Information

8.1 Originator: Richard Dame

8.1 Originator: David Bushek

8.1 Originator: Dennis Allen

8.1 Originator: Don Edwards

8.1 Originator: Leah Gregory

8.1 Originator: Alan Lewitus

8.1 Originator: Sarah Crawford

8.1 Originator: Eric Koepfler

8.1 Originator: Bjorn Kjerfve

8.1 Originator: Theo Prins

8.1 Originator: Chris Corbett

8.1 Originator: Department of Marine Science, Coastal Carolina University

8.1 Originator: Belle W. Baruch Institute for Marine and Coastal Sciences, Department of Statistics of the University of South Carolina

8.2 Publication Date: 20000730

8.4 Title: The experimental analysis of tidal creeks dominated by oyster reefs: the premanipulation year

8.6 Geospatial Data Presentation Form: Scientific publication

8.8 Publication Information:

8.8.1 Publication Place: Unknown

8.8.2 Publisher: Journal of Shellfish Research

8.9 Other Citation Details: Volume 19:1, pages 361-369.

1.15 Cross Reference:

8. Citation Information

8.1 Originator: Richard Dame

8.1 Originator: David Bushek

8.1 Originator: Dennis Allen

8.1 Originator: Alan Lewitus

8.1 Originator: Don Edwards

8.1 Originator: Eric Koepfler

8.1 Originator: Leah Gregory

8.1 Originator: Department of Marine Science, Coastal Carolina University

8.1 Originator: Belle W. Baruch Institute for Marine and Coastal Sciences, Department of Statistics of the University of South Carolina

8.2 Publication Date: 200201

8.4 Title: Ecosystem response to bivalve density reduction: management implications

8.6 Geospatial Data Presentation Form: Scientific publication

8.8 Publication Information:

8.8.1 Publication Place: Netherlands

8.8.2 Publisher: Aquatic Ecology

8.9 Other Citation Details: Volume36:1, pages 51-65.

1.15 Cross Reference:

8. Citation Information

8.1 Originator: David Bushek

8.1 Originator: Richard Dame

8.1 Originator: Leah Gregory

8.1 Originator: Department of Marine Science, Coastal Carolina University

8.1 Originator: Belle W. Baruch Institute for Marine and Coastal Sciences and Department of Statistics of the University of South Carolina

8.2 Publication Date: 20030808

8.4 Title: CREEK Project's Oyster Biomass Database for Eight Creeks in the North Inlet Estuary, South Carolina: 1996-2000

8.6 Geospatial Data Presentation Form: comma delimited digital data and spreadsheet

8.8 Publication Information:

8.8.1 Publication Place: Belle W. Baruch Marine Field Laboratory, Georgetown, South Carolina USA

8.8.2 Publisher: Belle W. Baruch Institute for Marine and Coastal Sciences, University of South Carolina

8.10 Online linkage: <http://links.baruch.sc.edu/data/>

1.15 Cross Reference:

8. Citation Information

8.1 Originator: Richard Dame

8.1 Originator: Leah Gregory

8.1 Originator: Department of Marine Science, Coastal Carolina University

8.1 Originator: Belle W. Baruch Institute for Marine and Coastal Sciences

8.2 Publication Date: 20000701

8.4 Title: CREEK Project's Water Chemistry, Chlorophyll *a*, and Suspended Sediment Weekly Monitoring Database for Eight Creeks in the North Inlet Estuary, South Carolina: 1997-2000.

8.6 Geospatial Data Presentation Form: comma delimited digital data and spreadsheet

8.8 Publication Information:

8.8.1 Publication Place: Baruch Marine Field Laboratory, Georgetown, SC

8.8.2 Publisher: Belle W. Baruch Institute for Marine and Coastal Sciences, University of South Carolina

8.10 Online linkage: <http://links.baruch.sc.edu/data/>

1.15 Cross Reference:

8. Citation Information

8.1 Originator: Dennis Allen

8.1 Originator: David Bushek

8.1 Originator: Brian Milan

8.1 Originator: Department of Marine Science, Coastal Carolina University

8.1 Originator: Belle W. Baruch Institute for Marine and Coastal Sciences and Department of Statistics of the University of South Carolina

8.2 Publication Date: 20040726

8.4 Title: CREEK Project's Internal Creek Habitat Survey for Eight Creeks in the North Inlet Estuary, South Carolina: January 1998.

8.6 Geospatial Data Presentation Form: comma delimited digital data and spreadsheet

8.8 Publication Information:

8.8.1 Publication Place: Baruch Marine Field Laboratory, Georgetown, SC

8.8.2 Publisher: Belle W. Baruch Institute for Marine and Coastal Sciences, University of South Carolina

8.10 Online linkage: <http://links.baruch.sc.edu/data/>

1.15 Cross Reference:

8. Citation Information

8.1 Originator: Michael Wetz

8.1 Originator: Richard Dame

8.1 Originator: Alan Lewitus

8.1 Originator: Eric Koepfler

8.1 Originator: Department of Marine Science, Coastal Carolina University

8.1 Originator: Belle W. Baruch Institute for Marine and Coastal Sciences and Department of Statistics of the University of South Carolina

8.2 Publication Date: 20041216

8.4 Title: CREEK Project's Microzooplankton Seasonal Monitoring Database for Eight Creeks in the North Inlet Estuary, South Carolina: 1997-1999

8.6 Geospatial Data Presentation Form: comma delimited digital data and spreadsheet

8.8 Publication Information:

8.8.1 Publication Place: Baruch Marine Field Laboratory, Georgetown, SC

8.8.2 Publisher: Belle W. Baruch Institute for Marine and Coastal Sciences, University of South Carolina

8.10 Online linkage: <http://links.baruch.sc.edu/data/>

1.15 Cross Reference:

8. Citation Information

8.1 Originator: Becky Ellin

8.1 Originator: David Bushek

8.1 Originator: Department of Marine Science, Coastal Carolina University

8.1 Originator: Belle W. Baruch Institute for Marine and Coastal Sciences and Department of Statistics of the University of South Carolina

8.2 Publication Date: unpublished material

8.4 Title: CREEK Project's Oyster Disease Monitoring Database for Eight Creeks in the North Inlet Estuary, South Carolina

8.6 Geospatial Data Presentation Form: spreadsheet

8.8 Publication Information:

8.8.1 Publication Place: Baruch Marine Field Laboratory, Georgetown, SC

8.8.2 Publisher: Belle W. Baruch Institute for Marine and Coastal Sciences, University of South Carolina

8.10 Online linkage: <http://links.baruch.sc.edu/data/>

1.15 Cross Reference:

8. Citation Information

8.1 Originator: Chris Corbett

8.1 Originator: Bjorn Kjerfve

8.1 Originator: Department of Marine Science, Coastal Carolina University

8.1 Originator: Belle W. Baruch Institute for Marine and Coastal Sciences and Department of Statistics of the University of South Carolina

8.2 Publication Date: unpublished material

8.4 Title: CREEK Project's Tidal Creek Geomorphology Database for Eight Creeks in the North Inlet Estuary, South Carolina

8.6 Geospatial Data Presentation Form: unknown

8.8 Publication Information:

8.8.1 Publication Place: Baruch Marine Field Laboratory, Georgetown, SC

8.8.2 Publisher: Belle W. Baruch Institute for Marine and Coastal Sciences, University of South Carolina

8.9 Other Citation Details: CREEK Morphology: Physical Dimensions of Creeks 1 through 8 North Inlet. (Corbett, C. and L. Humphries). In-House Report. August 27, 1997. Belle W. Baruch Institute for Marine Biology and Coastal Sciences, University of South Carolina, Columbia, SC.

8.10 Online linkage: <http://links.baruch.sc.edu/data/>

1.15 Cross Reference:

8. Citation Information

8.1 Originator: Dennis Allen

8.1 Originator: Richard Dame

8.1 Originator: Leah Gregory

8.1 Originator: Department of Marine Science, Coastal Carolina University

8.1 Originator: Belle W. Baruch Institute for Marine and Coastal Sciences and Department of Statistics of the University of South Carolina

8.2 Publication Date: 20040615

8.4 Title: CREEK Project's Nekton Monitoring Database for Eight Creeks in the North Inlet Estuary, South Carolina: 1997-1998.

8.6 Geospatial Data Presentation Form: comma delimited digital data and spreadsheet

8.8 Publication Information:

8.8.1 Publication Place: Baruch Marine Field Laboratory, Georgetown, SC USA

8.8.2 Publisher: Belle W. Baruch Institute for Marine and Coastal Sciences, University of South Carolina

8.10 Online linkage: <http://links.baruch.sc.edu/data/>

1.15 Cross Reference:

8. Citation Information

8.1 Originator: Richard Dame

8.1 Originator: David Bushek

8.1 Originator: Christopher DeFranco

8.1 Originator: Department of Marine Science, Coastal Carolina University

8.1 Originator: Belle W. Baruch Institute for Marine and Coastal Sciences and Department of Statistics of the University of South Carolina

8.2 Publication Date: 20050331

8.4 Title: CREEK Project's Oyster Growth and Survival Monitoring Database for Eight Creeks in the North Inlet Estuary, South Carolina: 1997-1999.

8.6 Geospatial Data Presentation Form: spreadsheet

8.8 Publication Information:

8.8.1 Publication Place: Baruch Marine Field Laboratory, Georgetown, SC

8.8.2 Publisher: Belle W. Baruch Institute for Marine and Coastal Sciences, University of South Carolina

8.10 Online linkage: <http://links.baruch.sc.edu/data/>

2. Data Quality Information

2.1 Attribute Accuracy

2.1.1 Attribute Accuracy Report:

Duplicate water samples (A and B) were analyzed for phytoplankton pigments in 1997 and 1998. In 1999 only water sample “B” was analyzed. All samples analyzed are included in the final database. Over the course of the database, two different trained technicians were responsible for HPLC analysis. All values were calculated and compiled by one of these technicians. Along with personnel changes, there were also changes in analysis software and the pigments that were isolated (see the Methodology Section of this document). However, the detector portion of the HPLC apparatus, which determines sensitivity/accuracy, did NOT change during sample analysis for this database. Detector specifications are included below. Information on Anomalous/Erroneous data may be found in the Completeness Report below.

Model 168 DAD Detector*

Wavelength Range: 190 to 600 nanometers

Wavelength Accuracy: plus or minus 1 nanometer

Bandwidth: Adjustable, 4 to 410 nanometers

Linearity: plus or minus 1 percent to 1.5 absorbance units (AU) with acetone at 265 nanometers

Sensitivity Range: Adjustable from 0.001 to 2.0 absorbance units full scale (AUFS), no lower limit with digital signal

* For more information on HPLC system specifications for this database, please see the System Gold Pre-Installation Guide archived along with this document in the CREEK.PHYTOPLNKTN.FINAL Directory on CD, Baruch’s Server, and in the CREEK Project’s Notebook, or go to: <http://www.beckman.com/products/pr2.asp>.

2.1.2 Quantitative Attribute Accuracy Assessment

2.1.2.1 Attribute Accuracy Value

<u>Parameter</u>	<u>Number of Decimal Places</u>
All Pigments	3 (measured in nanograms per milliliter)

2.1.2.2 Attribute Accuracy Explanation

Date: The date values are integers and have no decimal places assigned to them, they are accurate to the whole number.

Creek/Rep: The creek number (1-8) and replicate designation (A-B) are integers and have no decimal places assigned to them.

All Pigment Parameters: Pigment concentrations (reported in nanograms per milliliter) were calculated by the HPLC technician using the following formula: $(\text{Peak Area} * \text{Rf} * 20) / \text{Volume}$. See the Process Section for more information on this equation. The HPLC technician felt that the resulting concentration values were accurate to the second decimal place and that the third place was a valid estimate.

2.2 Logical Consistency Report: not applicable

2.3 Completeness Report:

Missing Data:

All parameters (pigments):

07/13/1998, sample 4A: Entire sample is missing, it is unclear whether it was lost, compromised, or never collected. The 2004 Data Rescue Manager removed all zero peak areas and ng/ml values and replaced with missing data markers. Rf values were also replaced with missing data markers since the sample was never run.

03/16/1999, samples 1B – 7B, all pigments. The 2004 Data Rescue Manager attempted to track down the volumes filtered for these samples, but they were apparently not recorded. As a result, Peak Areas and Rf values are reported, but concentrations could not be calculated. The 2004 Data Rescue Manager inserted missing data markers for all volumes and for all concentrations where the Peak Area was not zero. Concentrations for zero Peak Areas were recorded as zero.

03/16/1999, sample 8B, all pigments. There were no data reported for the Creek 8B sample and no evidence that the sample was ever analyzed. The 2004 Data Rescue Manager added a row for this sample and inserted missing data markers for the Volume, all Rf values, all Concentrations, and all Peak Areas.

Chlorophyll C3:

01/13/1997 through 07/14/1999 (entire database), all samples, Chlorophyll C3. Throughout the course of this database there was no response factor (no Rf value) available to calculate the concentration of the Chlorophyll C3 pigment. However, for a portion of the database the Chlorophyll C3 pigment was isolated and Peak Areas are available in the Process Spreadsheet. During this portion of the database, concentrations of zero ng/ml were reported in the final database when the measured peak area was zero.

03/25/1998 – 04/08/1998, Chlorophyll C3, all samples. The 2004 Data Rescue Manager replaced zero values for the Peak Area with missing data markers. The C3 pigment was not isolated during this portion of the database. Peak areas were improperly recorded as zeros by the Research Technician.

01/15/1999 through 07/14/1999, all samples, Chlorophyll C3. Chlorophyll C3 was not isolated for these samples.

Chlorophyll C1 and C2 (together):

03/25/1998 through 04/08/1998, all samples, Chlorophyll C1 and C2 (together). Chlorophyll C1 and C2 were not isolated for these samples.

01/15/1999 through 07/14/1999, all samples, Chlorophyll C1 and C2 (together). Chlorophyll C1 and C2 were not isolated for these samples.

Chlorophyll C1:

01/13/1997 through 02/17/1998, all samples, Chlorophyll C1. Chlorophyll C1 was not isolated for these samples.

05/22/1998 through 10/20/1998, all samples, Chlorophyll C1. Chlorophyll C1 was not isolated for these samples.

Chlorophyll C2:

01/13/1997 through 02/17/1998, all samples, Chlorophyll C2. Chlorophyll C2 was not isolated for these samples.

05/22/1998 through 10/20/1998, all samples, Chlorophyll C2. Chlorophyll C2 was not isolated for these samples.

Peridinin:

No missing data, other than those noted under All Parameters.

19'-Butanoyloxyfucoxanthin:

No missing data, other than those noted under All Parameters.

Fucoxanthin:

No missing data, other than those noted under All Parameters.

19'-Hexanoyloxyfucoxanthin:

No missing data, other than those noted under All Parameters.

Neoxanthin:

No missing data, other than those noted under All Parameters.

Violaxanthin:

No missing data, other than those noted under All Parameters.

Diadinoxanthin:

No missing data, other than those noted under All Parameters.

Alloxanthin:

No missing data, other than those noted under All Parameters.

Lutein:

No missing data, other than those noted under All Parameters.

Zeaxanthin:

No missing data, other than those noted under All Parameters.

Chlorophyll b:

No missing data, other than those noted under All Parameters.

Chlorophyll a:

No missing data, other than those noted under All Parameters.

alpha-Carotene:

03/25/1998 through 04/08/1998, all samples, alpha-Carotene. alpha-Carotene was not isolated for these samples.

08/24/1998, all samples, alpha-Carotene. alpha-Carotene was not isolated for these samples.

01/15/1999 through 07/14/1999, all samples, alpha-Carotene. alpha-Carotene was not isolated for these samples.

beta-Carotene:

03/25/1998 through 04/08/1998, all samples, beta-Carotene. beta-Carotene was not isolated for these samples.

08/24/1998, all samples, beta-Carotene. beta-Carotene was not isolated for these samples.

01/15/1999 through 07/14/1999, all samples, beta-Carotene. beta-Carotene was not isolated for these samples.

alpha and beta Carotenes:

01/13/1997 through 02/17/1998, all samples, alpha and beta Carotenes (together). alpha and beta Carotenes (together) were not isolated for these samples.

05/22/1998 through 08/03/1998, all samples, alpha and beta Carotenes (together). alpha and beta Carotenes (together) were not isolated for these samples.

09/30/1998 through 10/20/1998, all samples, alpha and beta Carotenes (together). alpha and beta Carotenes (together) were not isolated for these samples.

Prasinoxanthin:

No missing data, other than those noted under All Parameters.

Canthaxanthin:

No missing data, other than those noted under All Parameters.

Diatoxanthin:

01/13/1997 through 02/17/1998, all samples, Diatoxanthin. Diatoxanthin was not isolated for these samples.

05/22/1998 through 08/03/1998, all samples, Diatoxanthin. Diatoxanthin was not isolated for these samples.

09/30/1998, Diatoxanthin, all samples. The 2004 Data Rescue Manager replaced blank cells for the Rf values with missing data markers. The 2004 Research Technician attempted to find any record of the values used to process these samples, but it appears that the Research Technician did not record them, probably because the pigment was not found to be present in these samples.

10/20/1998, all samples, Diatoxanthin. Diatoxanthin was not isolated for these samples.

Anomalous Data:

11/03/1997 – 02/17/1998 and 05/22/98 – 10/20/1998, Data Manager corrected erroneous data. For this portion of the database, the Chlorophyll C3 pigment was isolated and Peak Areas were recorded, but all concentrations were reported as missing data. The 2004 Data Rescue Manager replaced all missing data

markers for concentration values (ng/ml) corresponding to zero Peak Area values, with zeros. While there was no Rf value (no response factor) available to calculate concentrations of Diatoxanthin where a Peak Area greater than zero was registered, if the Peak Area was zero, the concentration should also be recorded as zero, not as missing data.

07/13/1998, sample 4A: Entire sample was noted as missing, but all pigment peak areas and ng/ml values were recorded as zero. It is unclear whether the sample was lost, compromised, or never collected. The 2004 Data Rescue Manager removed all zero peak areas and ng/ml values and replaced with missing data markers. Rf values and the volume were also replaced with missing data markers since the sample was never run.

08/03/1998, samples TCa, TCb, CBa, and CBb: These samples were included in the database in addition to all the regular samples processed for this date. It is unclear why they were included, but they appear to be duplicate samples taken from the two main creeks (Town Creek and Clambank Creek) that all the sample site creeklets arise from. They may have been included for comparisons or baseline information.

08/24/1998, Diatoxanthin, all samples. For these samples, the Diatoxanthin pigment was isolated and Peak Areas were recorded, but there were no Rf values reported or concentrations calculated. The 2004 Data Rescue Manager found and inserted the Rf value for these samples and then calculated the concentrations for the final database.

08/24/1998, Carotene, all samples. The 2004 Data Rescue Manager corrected erroneous data. For these samples, the alpha and beta-carotene pigments were not isolated from each other, but were isolated from the other pigments together. The results were improperly entered as beta-carotene results, and zeros were improperly entered for the Peak Areas and concentrations for alpha-carotene. The Data Manager entered the pigment results under the Carotenes (alpha and beta) parameter, and filled the separate alpha and beta carotene parameters with missing data markers.

03/25/1998 Diatoxanthin, all samples. For these samples, the Diatoxanthin pigment was isolated and Peak Areas were recorded, but there were no Rf values reported or concentrations calculated. The 2004 Data Rescue Manager found and inserted the Rf value for these samples and then calculated the concentrations for the final database.

2.5.1 Methodology

2.5.1.1 Methodology Type: Field Collection Procedures and Protocols

2.5.1.3 Methodology Description: Phytoplankton Pigment Field Collection Protocol

Water samples collected for chemical analysis (Water Chemistry, Chlorophyll *a*, and Suspended Solids) were also used for phytoplankton pigment analysis. The samples were taken in triplicate (A, B, and C) approximately mid-way between the daytime high and low tide stages, from the center of each creek mouth, and at a depth of 1 m below the surface, but not closer than about 0.3 m to the bottom. Water temperatures were measured as the samples were taken (see Creek Water Chemistry data) and all samples were collected within 45 minutes. Sample bottles were immediately placed on ice and rushed to the laboratory for processing. Samples were collected on a weekly basis, however, not all samples were processed for pigments. In 1997 and 1998 duplicate samples (A and B) were processed. In 1999 only one sample (B) was used. Water samples were processed for pigments more frequently in summer months and least frequently in winter months. Processing frequency varied from every couple of months to every couple of weeks.

2.5.1 Methodology

2.5.1.1 Methodology Type: Laboratory Procedures and Protocols

2.5.1.3 Methodology Description: Phytoplankton Pigment Sample processing and HPLC Analysis

The water samples were filtered using a 25-millimeter glass fiber grade F (GF/F) filter, with a vacuum of 10 inches mercury or less, within a couple hours of collection. The filter and the algae it contained were stored in a -80 degree Celsius freezer until the samples were needed. From this freezer, each sample (filter with algae) was placed into a glass vial. The HPLC technician added 2 milliliters of HPLC grade acetone and agitated the mixture with a vortex mixer for about 20 seconds, or until the filter broke down. The filter and algae "slurry" were then placed in a -20 degree Celsius freezer overnight. The next morning, the sample was vortexed again and then syringe filtered through a 0.2 micron pore size PTFE membrane. The filtrate was stored at -20 degrees Celsius until it was analyzed, usually within a day or two. Analysis was conducted using a Beckman System Gold HPLC (125 pump unit and 168

detector), initially with the Beckman Gold software and later with the 32 Karat Gold software, following the method of Van Heukelem and Thomas (2001) specific for the Agilent XDB C8 column.

2.5.1.4 Methodology Citation:

8. Citation Information

8.1 Originator: Laurie Van Heukelem

8.1 Originator: Crystal S. Thomas

8.2 Publication Date: 2001

8.4 Title: “Computer-assisted high-performance liquid chromatography method development with applications to the isolation and analysis of phytoplankton pigments”

8.6 Geospatial Data Presentation Form: Scientific Publication

8.8 Publication Information:

8.8.1 Publication place: unknown

8.8.2 Publisher: Journal of Chromatography A

8.9 Other Citation Details: Volume 910, pages 31-49

2.5.1.4 Methodology Citation:

8. Citation Information

8.1 Originator: Beckman Coulter, Inc.

8.2 Publication Date: 2002

8.4 Title: Beckman Coulter System Gold HPLC literature

8.6 Geospatial Data Presentation Form: various published manuals

8.8 Publication Information:

8.8.1 Publication place: Fullerton California

8.8.2 Publisher: Beckman Coulter

8.9 Other Citation Details: www.beckmancoulter.com

2.5.3.1 Process Description:

Overall Description

After HPLC analysis was completed, the HPLC technician used a Microsoft Excel spreadsheet to calculate pigment concentrations using the following formula: $(\text{Peak Area} * \text{Rf} * 20) / \text{Volume} = \text{concentration}$. The Peak Area is the pigment measurement output resulting from HPLC analysis. The Rf value is the response factor calculated from a standard, 20 is a multiplier based on the amount of sample injected, and Volume refers to the volume of original sample filtered (not the amount of extract that was analyzed). This Process Excel spreadsheet contained each pigment's Peak Area, Rf value, and the calculated concentrations for the specified sample, as well as the, date, sample location and volume filtered. The HPLC technician verified all data entered into the spreadsheet.

2004-2005 Data Rescue Process Description

The 2004-2005 Data Rescue Manager obtained all available raw and process data files from Raphael Tymowski and Alan Lewitus (primary investigators). Raw files were originally exported and saved in a format that is readable only with the HPLC software. Hardcopies of the HPLC output contained within these files are maintained onsite by the HPLC technician. In order to archive the raw data in a more usable digital format, they were exported as text files. In a few instances, the raw files were corrupted and could not be exported as text, so the hardcopies were scanned into a .JPG format. The original raw data files, exported text files, and those few scanned images were archived on CD and on Baruch's Rescue Server in the CREEK.PHYTOPLNKTN.RAW Archive Directory. Hardcopies of the HPLC output remain at the Baruch Marine Field Lab and are maintained by the HPLC Technician.

Two process data files, CREEK.HPLC.1997-1998 and CREEK.HPLC.1999, were maintained in Microsoft Excel Spreadsheet format by the HPLC Technician. The 2004-2005 Data Rescue Manager obtained these two process files, rearranged the formats to make them compatible, and then combined them into a single spreadsheet called CREEK.HPLC.1997-1999.PROCESS. Merging these spreadsheets required dealing with differences between the pigments that were analyzed and the combinations that they were analyzed in. All pigments and pigment combinations that were analyzed throughout the database were included in the combined spreadsheet, and missing data markers (periods) were inserted for portions of the dataset where the pigments or pigment combinations were not analyzed. The resulting Excel spreadsheet contained the sample date, sample site and replicate, volume filtered, Rf values, pigment peak areas, and pigment concentrations for all processed samples and pigments.

The 2004-2005 Data Manager used the combined Process Spreadsheet to quality check the data. All obvious errors and questionable data were discussed with the HPLC technician and corrected where possible. Corrections to the

data made by the Data Rescue Manager included determining whether blank cells represented a zero reading or missing data, calculating concentrations where they had not been previously calculated, and correcting pigment results recorded under the wrong parameter. All corrections and questionable data were noted under the Anomalous Data portion of the Completeness Report in this document. After completing this quality check, the Data Rescue Manager verified that all missing data were marked with a period (.) and documented completely in the Missing Data portion of the Completeness Report. The original process data files and the process spreadsheet compiled and edited by the 2004-2005 Data Rescue Manager were archived, on CD and Baruch's Rescue Server in the CREEK.PHYTOPLNKTN.PROCESS Directory, in both MS Excel and CSV formats.

Finally, the 2004-2005 Data Rescue Manager created a Final spreadsheet, called CREEK.PHYTOPLNKTN.1997-1999 for publishing purposes. This spreadsheet contains the sample date, sample site and replicate, and pigment concentrations for all samples and pigments analyzed. This final spreadsheet was archived in both MS Excel and CSV formats, along with this metadata document, in the CREEK.PHYTOPLNKTN.FINAL Directory on CD, Baruch's Server and Baruch's website as part of the final, published database. Hardcopies of both the metadata document and final spreadsheet were printed for archival in the CREEK Project's Notebook, which is maintained by Baruch's Data Manager onsite at the Field Lab. In addition to the final published database archival, all raw and process files were also archived on CD and on Baruch's Rescue Server.

2.5.2.3 Process Date: 20050228

3 Spatial Data Organization Information:

3.1 Indirect Spatial Reference: North Inlet Estuary, which is part of Hobcaw Barony, is located in Georgetown County, South Carolina, USA

3.2 Direct Spatial Reference Method: Point

5. Entity and Attribute Information:

5.2 Overview Description:

5.2.1 Entity and Attribute Overview:

Date = the month day and year that the sample was collected, not necessarily processed or analyzed.

Creek/Rep = sample designation information. Creek refers to the numbering identification of each tidal creek within North Inlet Estuary where water samples were collected; creeks 1-4 were creeklets running into Clambank Creek; creeks 5-8 were creeklets running into Town Creek. See map for creek numbering and location within North Inlet Estuary (located in the Supplemental Information). Rep refers to replicates A, B, and C collected from each site. Only replicates A and B were used in this dataset.

All Pigment Parameters = designation of the pigment isolated and quantified in the water sample. A list of all pigment parameters follows (not all pigment parameters were measured at the same time due to methodology changes):

Chlorophyll C3 (**Note:** peak areas for this pigment were measured and are available in the Process Spreadsheet, but concentrations could not be calculated because there was no response factor (Rf value) available. All peak areas of zero are reported as concentrations of zero in this dataset, all peak areas greater than zero are reported as missing data.)

Chlorophyll C1 + C2

Chlorophyll C1

Chlorophyll C2

Peridinin

19'-Butanoyloxyfucoxanthin

Fucoxanthin

19'-Hexanoyloxyfucoxanthin

Neoxanthin

Violaxanthin

Diadinoxanthin

Alloxanthin

Lutein

Zeaxanthin

Chlorophyll b

Chlorophyll a

alpha-Carotene

beta-Carotene

alpha+beta Carotenes

Prasincoxanthin
 Canthaxanthin
 Diatoxanthin

The following table describes the variable names, value type and size (in total number of digits.number of decimal places format), and the value measurement range (maximum and minimum recorded values, may include anomalous data) with its unit of measurement.

<u>Variable</u>	<u>Type and Total Size of Value.Number of Decimal Places</u>	<u>Range of Measurement and Units</u>
Date (mm/dd/yyyy)	Integer	1-12, 1-31, 1997-1999
Creek/Rep (8A)	Integer/Alpha	1-8, A-B
Chlorophyll C3 (see note above)	Real 5.3	0.000 – 0.000 nanograms per milliliter
Chlorophyll C1 + C2	Real 5.3	0.000 – 5.065 nanograms per milliliter
Chlorophyll C1	Real 5.3	0.082 – 2.055 nanograms per milliliter
Chlorophyll C2	Real 5.3	0.086 – 1.603 nanograms per milliliter
Peridinin	Real 5.3	0.000 – 1.156 nanograms per milliliter
19'-Butanoyloxyfucoxanthin	Real 5.3	0.000 – 0.432 nanograms per milliliter
Fucoxanthin	Real 6.3	0.406 – 13.647 nanograms per milliliter
19'-Hexanoyloxyfucoxanthin	Real 5.3	0.000 – 4.132 nanograms per milliliter
Neoxanthin	Real 5.3	0.000 – 1.925 nanograms per milliliter
Violaxanthin	Real 5.3	0.000 – 1.692 nanograms per milliliter
Diadinoxanthin	Real 5.3	0.000 – 2.055 nanograms per milliliter
Alloxanthin	Real 5.3	0.000 – 0.524 nanograms per milliliter
Lutein	Real 5.3	0.000 – 0.431 nanograms per milliliter
Zeaxanthin	Real 5.3	0.000 – 1.287 nanograms per milliliter
Chlorophyll b	Real 5.3	0.000 – 1.327 nanograms per milliliter
Chlorophyll a	Real 6.3	0.000 – 30.771 nanograms per milliliter
alpha-Carotene	Real 5.3	0.000 – 0.494 nanograms per milliliter
beta-Carotene	Real 5.3	0.000 – 0.841 nanograms per milliliter
alpha+beta Carotenes	Real 5.3	0.000 – 1.352 nanograms per milliliter
Prasincoxanthin	Real 5.3	0.000 – 0.120 nanograms per milliliter
Canthaxanthin	Real 5.3	0.000 – 0.000 nanograms per milliliter
Diatoxanthin	Real 5.3	0.000 – 0.311 nanograms per milliliter

5.2.2 Entity and Attribute Detail Citation:

Definitions were developed by the Baruch Institute's and Coastal Carolina University's researchers, data managers, and technicians; no published standards for entity definitions were used to define the entities used in this dataset. However, some of the entity type definitions are standard for the field of estuarine and microbial ecology.

6. Distribution Information

6.1 Distributor:

10.2 Contact Organization Primary

10.1.2 Contact Organization:

10.1.1 Contact Person:

10.3 Contact Position:

10.4 Contact Address

10.4.1 Address Type:

10.4.2 Address:

10.4.2 Address:

10.4.3 City:

10.4.4 State or Province:

10.4.5 Postal Code:

10.4.6 Country:

10.5 Contact Voice Telephone:

10.7 Contact Facsimile Telephone:

10.8 Contact Electronic Mail Address:

10.9 Hours of Service:

Univ. of South Carolina's Baruch Institute

Ginger Ogburn-Matthews

Research Data Manager & Analyst

Mailing Address

USC Baruch Marine Field Lab

PO Box 1630

Georgetown

South Carolina

29442

USA

(843) 546-6219 extension 225

(843) 546-1632

ginger@belle.baruch.sc.edu

8:30 am to 4:30 pm EST/EDT Mon.- Friday

6.2 Resource Description:

Dataset Identification names:

CREEK Phytoplankton database
CREEK Phytoplankton Pigments database
CREEK HPLC database

Final Rescued and Archived Directory and File Names (February 2005)

CREEK.PHYTOPLNKTN.FINAL (Directory Size: 468 KB, 2 Folders, 5 files)

FINAL.DOCUMENTATION (Directory Size: 256 KB, 3 files)

CREEK.PHYTOPLNKTN.1997-1999.METADATA.doc (this document)
CREEK.PHYTOPLNKTN.1997-1999.METADATA.txt (duplicate text version of this document)
ExampleChromatograph.jpg

FINAL.DATA (Directory Size: 212 KB, 2 files)

CREEK.PHYTOPLNKTN.1997-1999.xls
CREEK.PHYTOPLNKTN.1997-1999.csv

CREEK.PHYTOPLNKTN.PROCESS (Directory Size: 1.25 Mb, 3 Folders, 24 files)

DataRescue.PROCESS (Directory Size: 588 KB, 2 files)

CREEK.HPLC.1997-1999.PROCESS.xls
CREEK.HPLC.1997-1999.PROCESS.csv

Original.PROCESS (Directory Size: 692 KB, 1 Folder, 22 Files)

CREEK.HPLC.1997-1998.xls
CREEK.HPLC.1999.xls

CSV.Files

CREEK.HPLC.1999.csv (CSV version of 1999 file above)

The following CSV files are duplicates of each individual worksheet contained in the above 1997-1998 file:

CREEK.HPLC.01.13.1997.csv
CREEK.HPLC.05.21.1997.csv
CREEK.HPLC.06.05.1997.csv
CREEK.HPLC.07.01.1997.csv
CREEK.HPLC.07.17.1997.csv
CREEK.HPLC.08.14.1997.csv
CREEK.HPLC.08.29.1997.csv
CREEK.HPLC.09.30.1997.csv
CREEK.HPLC.10.29.1997.csv
CREEK.HPLC.11.26.1997.csv
CREEK.HPLC.02.17.1998.csv
CREEK.HPLC.03.25.1998.csv
CREEK.HPLC.04.08.1998.csv
CREEK.HPLC.05.22.1998.csv
CREEK.HPLC.07.13.1998.csv
CREEK.HPLC.08.03.1998.csv
CREEK.HPLC.08.24.1998.csv
CREEK.HPLC.09.30.1998.csv
CREEK.HPLC.10.20.1998.csv

CREEK.PHYTOPLNKTN.RAW Archive: (Directory size: 135 MB, 269 Folders, 1556 files)

RAW.ArchiveDirectory.doc: details the contents of the CREEK.PHYTOPLNKTN.RAW Archive directory.
RAW.ArchiveDirectory.txt: a duplicate version of the above file in text only format.

RawHPLC.FileDirectory.xls: corresponds the raw file names to sample date, time, and site.
RawHPLC.FileDirectory.csv: a duplicate version of the above file in comma separated version format.

RawHPLCfiles (Directory Size: 85.7 MB, 266 folders, 1108 files)

This directory contains the raw HPLC output files as they were exported by the Beckman System Gold HPLC.

ExportedTXTfiles (Directory Size: 45.3 MB, 428 files)

This directory contains the raw HPLC output files exported in text version for usability.

CorruptedFiles

(Directory Size: 4.58 MB, 16 files)

This directory contains .JPG images of the raw HPLC printouts for samples with corrupted raw digital files that could not be exported in text format.

6.3 Distribution Liability:

The datasets are only as good as the quality assurance and quality control procedures outlined in the Metadata. The user bears all responsibility for its subsequent use in any further analyses or comparisons. No warranty expressed or implied is made regarding the accuracy or utility of any data collected, managed, or disseminated for general or scientific purposes by the Belle W. Baruch Institute for Marine and Coastal Sciences. This disclaimer applies both to individual use of the data and aggregate use with other data. It is strongly required that these data be directly acquired from the Belle W. Baruch Institute for Marine and Coastal Sciences and not indirectly through other sources which may have changed the data in some way. It is strongly recommended that careful attention be paid to the contents of the metadata file associated with these data. Neither the Belle W. Baruch Institute for Marine and Coastal Sciences, Coastal Carolina University, nor the National Science Foundation shall be held liable for the use and/or misuse of the data described and/or contained herein.

6.4 Standard Order Process

6.4.2. Digital Form

6.4.2.1 Digital Transfer Information

6.4.2.1.1 Format Name: EXCEL (.XLS), WORD (.DOC), .CSV, .TXT (text only), and jpg.

6.4.2.1.2 Format Version Number: Microsoft Office Professional 2000

6.4.2.1.6 File Decompression Technique: No compression applied

6.4.2.2 Digital Transfer Option

6.4.2.2.1 Computer Contact Information

6.4.2.2.1.1 Network Address

6.4.2.2.1.1.1 Network Resource Name: <http://links.baruch.sc.edu/data/>

6.4.3 Fees: None

6.5 Custom Order Process:

If requesting Non-digital (Paper (hard copy) printout), a fee of \$50 per hour (with a one-hour minimum) plus the cost of supplies will be imposed. As an offline option, CD-ROMs are available at the cost of \$5.00 each. This fee pays for the CD, the creation of the CD, and mailing charges.

7. Metadata Reference Information

7.1 Metadata Date: 20050228

7.2 Metadata Review Date: 20050329

7.4 Metadata Contact:

10.2 Contact Organization Primary

10.1.2 Contact Organization:

Univ. of South Carolina's Baruch Institute

10.1.1 Contact Person:

Ginger Ogburn-Matthews

10.3 Contact Position:

Research Data Manager & Analyst

10.4 Contact Address

10.4.1 Address Type:

Mailing Address

10.4.2 Address:

USC Baruch Marine Field Lab

10.4.2 Address:

PO Box 1630

10.4.3 City:

Georgetown

10.4.4 State or Province:

South Carolina

10.4.5 Postal Code:

29442

10.4.6 Country:

USA

10.5 Contact Voice Telephone:

(843) 546-6219 extension 225

10.7 Contact Facsimile Telephone:

(843) 546-1632

10.8 Contact Electronic Mail Address:

ginger@belle.baruch.sc.edu

10.9 Hours of Service:

8:30 am to 4:30 pm EST/EDT Monday - Friday

7.5 Metadata Standard Name:

Content Standard for Digital Geospatial Metadata, Part 1: Biological Data Profile

7.6 Metadata Standard Version: FGDC-STD_001.1-1999