1. Identification Information
1.1Citation Information
8.1 Originator: Michael Wetz
8.1 Originator: Alan Lewitus
8.1 Originator: Richard Dame
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 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:
A group of eight intertidal creeks with high densities of oysters, *Crassostrea virginica*, in North Inlet Estuary, South Carolina, USA were studied using a replicated BACI (Before - After Control - Incident) design in which all creeks are sampled simultaneously. The study known as the CREEK Project began in January 1996. Based on preliminary geomorphological observations of North Inlet creeks, by fall of 1996, eight creeks similar in size and configuration were selected for the study. In January 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 in each creek. This stage of the project is referred to as the "pre-manipulation" period where all creeks have the same amount of oyster biomass. Sampling of water and nekton began in March 1997. In February 1998, about one year after the first set of water quality, chemistry, biota, and other measurements were made, living oysters were removed from four of the eight creeks (creeks 1, 4, 5, and 8), resulting in zero dry body weight per cubic meter of water at bank full volume. This was done to investigate the role of oyster reefs in controlling levels of dissolved and particulate materials in the water and to evaluate relationships between living oysters and other ecological parameters in the creeks. During the year following oyster removal, all measurements made in the first year were repeated. The second year of the project during which four of the creeks were without oyster biomass was known as the "manipulation" stage. The BACI analysis was used to compare data between the two years.

In the tidal creeks of North Inlet Estuary, the Eastern oyster *C. virginica* is an abundant component of the benthic macrofauna that exerts controls on microbial communities by its grazing and nutrient regenerative activities. During the CREEK Microzooplankton project, the effects of oyster activity on North Inlet's microbial food web structure were studied using: (1) water samples collected from tidal creeks with oyster reefs versus tidal creeks without oyster reefs and (2) flow-through flumes. In pair-wise comparisons of creeks with similar hydrography and morphology, the only microbial group found to vary significantly with the presence of oyster reefs was the phototrophic nanoflagellates (pflags), which were 1.25- to 2.25-fold less abundant in creeks with oyster reefs during the summer phytoplankton bloom. Because heterotrophic nanoflagellates (hflags) did not vary in these same comparisons, we hypothesized that preferential feeding for pflags by oysters was responsible for the reduction in pflag abundance. The hypothesis was tested during March and July 1999 using flumes with flowing creek water containing either live oysters or dead oyster shells. Significant reductions in pflags and some types of diatoms were measured in the outflow from live oysters, but oyster effects on other microbial components (hflags, cyanobacteria, and heterotrophic bacterioplankton) were not evident. The flume study demonstrated preferential feeding by oysters on pflags using naturally occurring microbial assemblages. The differences in pflag abundance in creeks with oyster reefs versus creeks without oyster reefs suggests that this grazing activity can affect the structure of natural microbial communities.

1.2.2 Purpose: The CREEK Microzooplankton Subproject was initiated in March 1997 to determine the effects of oyster grazing on microbial communities in the eight creeks in the North Inlet Estuary system, Georgetown, South Carolina.

1.2.3. Supplemental Information:

Significant 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.

Other Creek Datasets

Several other datasets were collected over varying periods during the four years. Oyster biomass data was collected to determine the natural average biomass of oysters within intertidal creeks so that all creeks could be adjusted to that average level and subsequently to monitor changes in oyster biomass since elucidating the role of oysters was the primary purpose of the overall study. Intensive planktonic - microbial loop sampling and experiments were conducted in selected creeks at various times. Collections of all nekton in creeks during bankfull neap tides were conducted seasonally during two years of the project, one pre-manipulation year and one post-manipulation year. Oyster growth was 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. See the Creek Project Overview documentation for information on publications, presentations, and other undergraduate and graduate research project topics.

Summary of important 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.

Summary of important results (continued):
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.

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 a Project notebook at the BFML.

1.3 Time Period of Content:
9.3 Range of Dates/Times
9.3.1 Beginning Date: 19970319
9.3.3 Ending Date: 19990731

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 COMMUNITIES
1.6.1.2 Theme Keyword:	ESTUARINE
1.6.1.2 Theme Keyword:	ESTUARY
1.6.1.2 Theme Keyword:	FLUME
1.6.1.2 Theme Keyword:	INTERTIDAL CREEK
1.6.1.2 Theme Keyword:	MARSH
1.6.1.2 Theme Keyword:	MICROBIAL FOOD WEB
1.6.1.2 Theme Keyword:	MICROBIAL COMMUNITES
1.6.1.2 Theme Keyword:	SALT MARSH
1.6.1.2 Theme Keyword:	FIELD EXPERIMENT
1.6.1.2 Theme Keyword:	OYSTER SHELL
1.6.1.2 Theme Keyword:	OYSTER GRAZING
1.6.1.2 Theme Keyword:	MUD BOTTOM
1.6.1.2 Theme Keyword:	PHYTOPLANKTON COMPOSITION
1.6.1.2 Theme Keyword:	PREFERENTIAL FEEDING

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:	SUBSURFACE
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

99.1.7 Taxonomy

99.1.7.1 Taxonomic Keyword Thesaurus: None
99. 1.7.1.2 Taxonomic Keywords: CRASSOSTREA VIRGINICA
99. 1.7.1.2 Taxonomic Keywords: MICROZOOPLANKTON
99. 1.7.1.2 Taxonomic Keywords: FLAGELLATES
99. 1.7.1.2 Taxonomic Keywords: CILIATES
99.1.7.1.2 Taxonomic Keywords: HETEROTROPHS
99.1.7.1.2 Taxonomic Keywords: PHOTOTROPHS
99.1.7.1.2 Taxonomic Keywords: PHOTOTROPHIC NANOFLAGELLATES
99.1.7.1.2 Taxonomic Keywords: PHYTOPLANKTON
99.1.7.1.2 Taxonomic Keywords: NANOFLAGELLATES
99.1.7.1.2 Taxonomic Keywords: HETEROTROPHIC NANOFLAGELLATES
99.1.7.1.2 Taxonomic Keywords: DIATOMS
99.1.7.1.2 Taxonomic Keywords: CYANOBACTERIA
99.1.7.1.2 Taxonomic Keywords: BACTERIOPLANKTON

99.1.7.2 Taxonomic System

99.1.7.2.1 Classification System/Authority

99.1.7.2.1.1 Classification System Citation

8.1 Originator: Tomas, C.R. (ed.)
8.2 Publication Date: 1977
8.4 Title: Identifying marine phytoplankton
8.6 Geospatial Data Presentation Form: Book
8.8 Publication Information:
8.8.1 Publication Place: San Diego
8.8.2 Publisher: Academic Press
8.9 Other Citation Details: 858 pp.

99.1.7.2.3 Taxonomic Procedures

Technicians were trained by experienced professionals to identify and discriminate ciliates and flagellates (heterotroph vs. phototroph). Identifications were also made by the use of identification keys.

99.1.7.4 Taxonomic Classification
99.1.7.4.1 Taxon Rank Name: Kingdom
99.1.7.4.1 Taxon Rank Value: Animalia
99.1.7.4.3 Applicable Common Name: Animals

99.1.7.4 Taxonomic Classification
99.1.7.4.1 Taxon Rank Name: Kingdom
99.1.7.4.1 Taxon Rank Value: Monera
99.1.7.4.3 Applicable Common Name: Bacteria and Blue-green Algae

99.1.7.4 Taxonomic Classification
99.1.7.4.1 Taxon Rank Name: Kingdom
99.1.7.4.1 Taxon Rank Value: Protista
99.1.7.4.3 Applicable Common Name: none

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:	Michael Wetz
10.3 Contact Position:	Ph. D. candidate
10.4 Contact Address	
10.4.1 Address Type:	Mailing Address
10.4.2 Address:	104 Ocean Administration Bldg
10.4.2 Address:	College of Oceanic and Atmospheric Sciences, Oregon State University
10.4.3 City:	Corvallis
10.4.4 State or Province:	Oregon
10.4.5 Postal Code:	97331
10.4.6 Country:	USA
10.5 Contact Voice Telephone:	(541) 737 -3965
10.8 Contact Electronic Mail Address:	mwetz@coas.oregonstate.edu

1.11 Data Set Credit:
We wish to thank the Honors Program and Marine Science Department of Coastal Carolina University, Belle W. Baruch Institute for Marine and Coastal Sciences, and the numerous Coastal Carolina University students who helped with the CREEK project, with Dr. Richard Dame as project director. We would also like to thank Dr. Susan Libes for her guidance and support during this project. Thanks to Don Caton, Rick Matthews, and Paul Kenny of the University of South Carolina's Baruch Marine Laboratory for their help in construction of the flumes, to Bonnie Willis, Ivy Collins, Raphael Tymowski, Emily Butsic, and Beth Brost for their help with the flume sampling, and to Ryan Pigg and Leah Gregory for assistance in field collections. We are also grateful to David Bushek, Richard Dame, Donald Edwards, and Chris Corbett for supplying advice and essential information. The research was funded by the National Science Foundation's Research Experience for Undergraduates (REU) Program, grant DEB-9509057, the US ECOHAB Program, sponsored by NOAA/NSF/EPA/NASA/ONR, grant NA86OP0493, NOAA grant NA90AA-D-SG672, and EPA grant R826944-01-0. Contribution No. 1347 of the Belle W. Baruch Institute for Marine and Coastal Sciences. ECOHAB Contribution No. 48.

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. Data and figures are in MS EXCEL and jpg formats.

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
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

1.15 Cross Reference:
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/

1.15 Cross Reference:
8. Citation Information
8.1 Originator: Richard Dame
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: Richard Dame
8.1 Originator: Bjorn Kjerfve
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 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:
8.1 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: 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 Growth and Survival 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/

2. Data Quality Information
2.1 Attribute Accuracy
2.1.1 Attribute Accuracy Report:
Duplicate ciliate and flagellate samples were counted for each data point in 1997, while triplicate samples were counted for each data point in 1998. Differences between paired creeks were tested for significance using *t*-tests at the 5% confidence level.

2.1.2 Quantitative Attribute Accuracy Assessment

2.1.2.1 Attribute Accuracy Value

Parameter	Number of Decimal Places
Flagellate and Ciliate Abundance	2 (measured in cells per milliliter)

2.1.2.2 Attribute Accuracy Explanation

The precision of the counts is estimated to be greater than or equal to 95%. The accuracy of the counts was never tested, but followed standard counting protocols.

2.2 Logical Consistency Report: not applicable

2.3 Completeness Report:

Missing Data:

No Ciliate data exist for March, July, and August of 1997. No ciliate data are listed on 3/10/98 in Creek 3; see file CREEK.MICROZPK.ORIGINAL.RAW/FieldCiliates. The data does not exist in the raw triplication data and in the final average database.

2.5.1 Methodology

2.5.1.1 Methodology Type: Field Collection Procedures and Protocols

2.5.1.3 Methodology Description: Overall Field Collection Protocol

Comparisons of creeks with, versus without, oyster reefs:

For comparative purposes, the creeks were paired (1 with and 1 without oyster reefs) based on similarities in hydrology and physical structure (i.e. Creeks 1 and 2, 3 and 4, 5 and 6, and 7 and 8); see Dame et al. (2000) for details. Replicate water samples for the present study were collected on 19 March, 17 July, and 29 August 1997 (in the pre-manipulation year), and monthly from March through September 1998 (first post-manipulation year), from the mouth of the 8 tidal creeks in the early afternoon at mid-ebb tide. In the other creeks where oyster reefs were removed (Creeks 1, 4, and 8), oyster biomass remained substantially less than in the creeks where oysters were left intact (D. Bushek unpublished manuscript), (Please see web data: http://links.baruch.sc.edu/Data/CREEK/CreekOysterBiomass/CreekOysterBiomass.htm). Water was collected in acid-cleaned 1-liter polycarbonate bottles at a depth of 1 meter from the surface. Samples were then transported to the field laboratory and processed within 1 hour of collection. Also, as part of the CREEK monitoring program, water samples were collected weekly from these same sites during mid-ebb tide. These latter samples were collected at various times of day, and only those collected in the afternoon are included here for comparative purposes.

2.5.1.4 Methodology Citation:

8. Citation Information

8.1 Originator: Richard Dame
8.1 Originator: David Bushek
8.1 Originator: Dennis Allen
8.1 Originator: Leah Gregory
8.1 Originator: Don Edwards
8.1 Originator: Alan Lewitus
8.1 Originator: Sarah Crawford
8.1 Originator: Eric Koepfler
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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: 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: Vol.19:1, pages 361-369.

2.5.1 Methodology

2.5.1.1 Methodology Type: Laboratory Procedures and Protocols

2.5.1.3 Methodology Description: NH4 and chl *a* concentrations, and ciliate, pflag, and hflag abundances

Comparisons of creeks with, versus without, oyster reefs:

Water samples were processed for measurements of NH4 and chl *a* concentrations, and ciliate, pflag, and hflag abundances. NH4 concentration was determined by automated colorimetric analysis using Technicon AutoAnalyzers. Chlorophyll was extracted in 90% acetone, using a freeze-thaw method adapted from Glover & Morris (1979). Chl *a* concentrations were determined fluorometrically, using a Sequoia-Turner model 450 fluorometer with NB440 excitation and SC665 emission filters. Ciliates were preserved in 3% Lugol's solution and enumerated using the Utermöhl settling chamber method (Lund et al. 1958). Depending on the date collected, 50 or 100 ml of sample was allowed to settle for ca. 1.5 h. Ciliates were enumerated at a magnification of 300×. For pflag or hflag abundance, 1% glutaraldehyde-fixed samples were stained with 4'6-diamidino-2-phenylindole (DAPI), following Porter & Feig (1980), pulled onto a 2.0 µm black polycarbonate filter, and examined using an Olympus epifluorescence microscope (model BX50F) at a magnification of 600×. Phototrophs and heterotrophs were differentiated by alternating between ultraviolet (DAPI fluorescence of DNA) and blue excitation (pigment autofluorescence). Duplicate ciliate and flagellate samples were counted for each data point from the 1997 study, while triplicate samples were counted for each data point from the 1998 study. Differences between paired creeks were tested for significance using *t*-tests at the 5% confidence level.

On selected dates, water collected during the monitoring program also was used in bioassay experiments to test the response of phytoplankton biomass (i.e. chl *a*) to a dilution treatment designed to reduce microzooplankton grazing pressure (Lewitus et al. 1998, modified from Landry & Hassett 1982). Triplicate water samples from each creek were dispensed into acid cleaned 1-liter polycarbonate bottles and incubated in raceways containing flowing estuarine water. Overhead fluorescent cool white bulbs provided uniform irradiance (116 µE m^{-2} s^{-1}) adjusted to a light:dark cycle simulating natural conditions (12 h light:12 h dark to 14 h light:10 h dark, depending on sampling date). Water samples were mechanically stirred at uniform rates (200 rpm) between bottles, using low speed AC motors with motor-post spindles driving a small paddle positioned at mid-bottle height. The flasks were time-course sampled (24, 48, and 72 h) for chl *a* concentrations. The 'dilution effect' was defined as the fractional change in chl *a* over 72 h in the whole water treatment subtracted from that in the dilution treatment (see Lewitus et al. 1998).

2.5.1.4 Methodology Citation:

8. Citation Information

8.1 Originator: H.E. Glover
8.1 Originator: I. Morris
8.2 Publication Date: 1979
8.4 Title: "Photosynthetic carboxylating enzymes in marine phytoplankton"
8.6 Geospatial Data Presentation Form: Published Manuscript
8.8 Publication Information:
8.8.1 Publication place: unknown
8.8.2 Publisher: Limnology and Oceanography
8.9 Other Citation Details: Volume 23: pp. 510-519

2.5.1.4 Methodology Citation:

8. Citation Information

8.1 Originator: J.W.G. Lund
8.1 Originator: C. Kipling
8.1 Originator: E.D. LeCren
8.2 Publication Date: 1958
8.4 Title: "The inverted microscope method of estimating algal numbers and the statistical basis of estimates by counting"
8.6 Geospatial Data Presentation Form: Published Manuscript
8.8 Publication Information:
8.8.1 Publication place: unknown
8.8.2 Publisher: Hydrobiologia
8.9 Other Citation Details: Volume 11: pp. 143–170

2.5.1.4 Methodology Citation:

8. Citation Information

8.1 Originator: K.G. Porter
8.1 Originator: Y. Feig
8.2 Publication Date: 1980
8.4 Title: "The use of DAPI for identifying and counting aquatic microflora"
8.6 Geospatial Data Presentation Form: Published Manuscript
8.8 Publication Information:
8.8.1 Publication place: unknown
8.8.2 Publisher: Limnology and Oceanography
8.9 Other Citation Details: Volume 25: pp. 943–948

2.5.1.4 Methodology Citation:

8. Citation Information

8.1 Originator: M.R. Landry
8.1 Originator: R.P. Hassett
8.2 Publication Date: 1982
8.4 Title: "Estimating the grazing impact of marine microzooplankton"
8.6 Geospatial Data Presentation Form: Published Manuscript
8.8 Publication Information:
8.8.1 Publication place: New York, NY
8.8.2 Publisher: Marine Biology
8.9 Other Citation Details: Volume 67: pp. 283–288

2.5.1.4 Methodology Citation:

8. Citation Information

8.1 Originator: A.J. Lewitus
8.1 Originator: E.T. Koepfler
8.1 Originator: J.T. Morris
8.2 Publication Date: 1998
8.4 Title: "Seasonal variation in the regulation of phytoplankton by nitrogen and grazing in a salt-marsh estuary"
8.6 Geospatial Data Presentation Form: Published Manuscript
8.8 Publication Information:
8.8.1 Publication place: Waco, TX
8.8.2 Publisher: Limnology and Oceanography
8.9 Other Citation Details: Volume 43: pp. 636-646

2.5.1 Methodology

2.5.1.1 Methodology Type: Mesocosm Outdoor Laboratory Flume experiment
2.5.1.3 Methodology Description: Mesocosm Design & Collection Protocol

On 19 March and 1 July 1999, 2 flow-through flumes (8.4 × 0.1 m) were used to test the effects of oyster grazing on microbial community composition. Unfiltered seawater was drawn into the flumes via a pipe from Oyster Landing, a tidal creek in North Inlet. The water temperature and salinity during the experiments were 13°C and 34 psu respectively in March, and 28°C and 30 psu respectively in July. Valves on the intake pipe allowed regulation of current velocity in the flumes. Baffles were placed ca. 0.5 m from the intake valves in order to evenly distribute flow to the sample area. Flume 1 contained ca. 325 oyster shells alone, with no live oysters, covering an area of 0.34 m^2 and served as a control that accounted for phytoplankton settling due to oyster shell surface area. Flume 2 was the experimental flume, containing ca. 340 live oysters. The average oyster length was 56.3 ± 15.4 mm in March and 53.3 ± 18.4 mm in July. Oyster biomass was determined non-destructively using the allometric equation found in Dame (1972) and is presented as shell-free dry body weight. For each trial, the average biomass was 207 gdb m^{-2}. The biomass of oysters in North Inlet tidal creeks generally ranges from 200 to 250 gdb m^{-2} (Dame 1979, Dame & Libes 1993). Live oysters and dead shells were scrubbed several days before the experiments in order to remove attached organisms. Oysters were starved for 12 hour prior to sampling. Water flow was started at high tide, with a current velocity of 10 cm s^{-1}. The first samples were taken 1 hour after high tide, and subsequent samples were collected every hour until 1 h prior to low tide, for a total of 5 sampling times. Immediately preceding each sampling time, water velocity was adjusted to correspond roughly to the *in situ* velocity at that tidal stage. Velocities were measured using a Marsh-Mcbirney portable water current meter (model 201D). Velocities starting with the first sampling time were 10, 20, 25, 15, and 10 cm s^{-1}, which are similar to those found in North Inlet tidal creeks over an ebbing tide cycle (Dame et. al 1985, 1992).

2.5.1.4 Methodology Citation:
8. Citation Information
8.1 Originator: R.F. Dame
8.2 Publication Date: 1972
8.4 Title: "Comparison of various allometric relationships in intertidal and subtidal American oysters"
8.6 Geospatial Data Presentation Form: Published Manuscript
8.8 Publication Information:
8.8.1 Publication place: USA
8.8.2 Publisher: Fishery Bulletin
8.9 Other Citation Details: Volume 70: pp. 1121–1126

2.5.1.4 Methodology Citation:
8. Citation Information
8.1 Originator: R.F. Dame
8.2 Publication Date: 1979
8.4 Title: "The abundance, diversity and biomass of macrobenthos on North Inlet, South Carolina, intertidal oyster reefs"
8.6 Geospatial Data Presentation Form: Published Manuscript
8.8 Publication Information:
8.8.1 Publication place: USA
8.8.2 Publisher: Proceedings of the National Shellfish Association
8.9 Other Citation Details: Volume 69: pp. 6–10

2.5.1.4 Methodology Citation:
8. Citation Information
8.1 Originator: R.F. Dame
8.1 Originator: S. Libes
8.2 Publication Date: 1993
8.4 Title: "Oyster reefs and nutrient retention in tidal creeks"
8.6 Geospatial Data Presentation Form: Published Manuscript
8.8 Publication Information:
8.8.1 Publication place: unknown
8.8.2 Publisher: Journal of Experimental Marine Biology and Ecology
8.9 Other Citation Details: Volume 171: pp. 251–258

2.5.1.4 Methodology Citation:
8. Citation Information
8.1 Originator: R.F. Dame
8.1 Originator: T.G. Wolaver
8.1 Originator: S.M. Libes
8.2 Publication Date: 1985
8.4 Title: "The summer uptake and release of nitrogen by an intertidal oyster reef"
8.6 Geospatial Data Presentation Form: Published Manuscript
8.8 Publication Information:
8.8.1 Publication place: Netherlands
8.8.2 Publisher: Netherlands Journal of Sea Research
8.9 Other Citation Details: Volume 19: pp. 265–268

2.5.1.4 Methodology Citation:
8. Citation Information
8.1 Originator: R.F. Dame
8.1 Originator: J.D. Spurrier
8.1 Originator: R.G. Zingmark
8.2 Publication Date: 1992
8.4 Title: "*In situ* metabolism of an oyster reef"
8.6 Geospatial Data Presentation Form: Published Manuscript
8.8 Publication Information:
8.8.1 Publication place: unknown
8.8.2 Publisher: Journal of Experimental Marine Biology and Ecology
8.9 Other Citation Details: Volume 164: pp. 147–159

2.5.1 Methodology

2.5.1.1 Methodology Type: Laboratory Procedures and Protocols

2.5.1.3 Methodology Description: NH4 and chl *a* concentrations, and ciliate, pflag, hflag, bacterioplankton, cynobacteria, and diatom abundances

Flume experiment:

Triplicate samples were collected from each flume simultaneously, at sites before and after passage over the oyster reefs. Water was collected for determination of NH4 and chl *a* concentrations, and ciliate and flagellate abundances following the protocols above. In addition, bacterioplankton and cyanobacteria abundances were determined on 1% glutaraldehyde-fixed samples and diatom abundances on 3% Lugol's fixed samples. Bacterioplankton were stained with acridine orange (Hobbie et al. 1977), filtered onto a 0.2µm black polycarbonate filter, and examined under blue excitation at 1000×. Cyanobacteria were filtered onto a 0.2 µm black polycarbonate filter and identified by autofluoresence under green excitation at 600×. Diatoms were examined at a magnification of 300×using the Utermöhl settling method.

2.5.1.4 Methodology Citation:

8. Citation Information

8.1 Originator: J.E. Hobbie
8.1 Originator: R.J. Daley
8.1 Originator: S. Jasper
8.2 Publication Date: 1977
8.4 Title: "Use of Nucleopore filters for counting bacteria by fluorescence microscopy"
8.6 Geospatial Data Presentation Form: Published Manuscript
8.8 Publication Information:
8.8.1 Publication place: USA
8.8.2 Publisher: Applied and Environmental Microbiology
8.9 Other Citation Details: Volume 33: pp. 1225–1228

2.5.3: Process Step

2.5.3.1 Process Description:

Overall Description: Original workup

Duplicate ciliate and flagellate samples counts from 1997 and triplicate samples for 1998 were entered by hand into MS Excel spreadsheets from the hardcopy microscope counting sheets. Likewise, the triplicate samples that were collected from each flume, at sites before and after passage over the oyster reefs were entered into MS Excel. Data were visually inspected for entry errors. Means and standard deviations were created by formulas written in the MS Excel spreadsheet.

Data Rescue Process Description: 2004 workup

Data Capture and Processing of Final Data Files and Documentation (August 2004)

Raw and final digital data were obtained from the author, Michael Wetz. The original raw digital data files called, ***FieldCiliates***, ***FieldFlagellate***, ***FlumeChl***, ***FlumeFlagellates***, and ***FlumeNH4***, contain triplicate count data, means, and standard deviations for heterotrophic and phototrophic nanoflagellates, ciliates, chlorophyll a, and NH4. There were two summary final databases that were obtained from the PI. One was called, ***CreekMicrozpkData***, which contains means and standard deviations from replicated field collections for heterotrophic and phototrophic nanoflagellates, and ciliates. The other final digital database, called ***WetzFlumeSummary***, contains the means and standard deviations from the flume data for heterotrophic and phototrophic nanoflagellates, ciliates, chlorophyll a, and NH4. The documentation of this metadata record came from the following manuscript: 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.

Data Verification and Creation of Final Rescued Databases (September 2004)

The Data Rescue Manager did not have hard copy hand written notes to verify the triplicate database for errors. However, the final summary digital files, ***CreekMicrozpkData*** and ***WetzFlumeSummary*** were verified using the raw digital replicated data files. The final summary digital file, ***CreekMicrozpkData*** that was obtained from the PI was modified and used to create the rescued/published graphics; this modified version was named ***Final.CreekMicrozpkData***. The data documentation (this metadata record) was drafted by Baruch's Data Rescue team and was edited and verified by the author, Michael Wetz.

Data Archival of Final Rescued Databases (December 2004)
All final documentation, graphics, and data were printed out in hardcopy and placed into the CREEK Project's 3-ring binder; the digital version of the final products are also kept on Baruch's Web Site. The 3-ring binder and the web site are maintained at the Baruch Marine Field Laboratory (BMFL) in Georgetown, SC. Also, all of the rescue products for the Microzooplankton database were copied to Compact Disk; one set of the CDs are kept with the hardcopy printouts and the other set is kept in the fireproof cabinet in the Data Manager's Office at the BMFL. The entire rescue project is also archived on the BMFL's Rescue Server's Hard Drive.

2.5.2.3 Process Date: 20041001

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:
Each CREEK subproject had its own database attribute naming conventions, abbreviations, and meanings. See each subproject's metadata for details. However, there were some names and meanings common to the entire CREEK project.

Creek = 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).

Listed below are definitions that pertain to the CREEK Microzooplankton database:
chl a: chlorophyll a
hflag: heterotrophic nanoflagellate
pflag: phototrophic nanoflagellate
NH4+: Ammonium

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:	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
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 Mon.- Friday

6.2 Resource Description:

Dataset Identification names:
CREEK Microzooplankton database

Final Rescued and Archived Directory and File Names (October 2004)
Directory: CREEK.MICROZPK.ORIGINAL.RAW: (Total size 192 Kb, 0 Folders, 10 files)
MS Excel spreadsheet and Comma Separate Values (csv) formatted files:
FieldCiliates
FieldFlagellate
FlumeChl
FlumeFlagellates
FlumeNH4
FieldCiliates contains the raw digital data of the replicates for ciliate abundance, mean # of organisms <20 microns (µm) , standard deviation, mean # of organisms >20 microns (µm), and standard deviation for the following dates: 3/10/98, 4/15/98, 5/13/98, 6/15/98, 7/15/98, 8/24/98, and 9/22/98. FieldFlagellate contains the raw digital data of the replicates for heterotrophic and phototrophic nanoflagellate abundance, average and standard deviation for the following dates: 3/19/97, 7/17/97, 8/29/97, 3/10/98, 4/15/98, 5/13/98, 6/15/98, 7/15/98, 8/24/98, and 9/22/98. FlumeChl, FlumeFlagellates and FlumeNH4 contain the raw digital data of the replicates for chlorophyll a, heterotrophic and phototrophic nanoflagellate abundance, and NH4 respectively. Included with the data are the mean and standard deviation for before shell, after shell, before oyster, and after oyster for 3/19/99 and 7/1/99.

Directory: CREEK.MICROZPK.ORIGINAL.FINAL: (Total size 80.2 Kb, 0 Folders, 5 files)
MS Excel spreadsheet and Comma Separate Values (csv) formatted files:
WetzFlumeSummary (contains two worksheets called, WetzFlumeSummary.July & .March)
CreekMicrozpkData
WetzFlumeSummary contains the means and standard deviations for the heterotrophic and phototrophic nanoflagellate abundance, chlorophyll a, and NH4 for before shell, after shell, before oyster, and after oyster for 3/19/1999 and 7/1/1999. CreekMicrozpkData contains the means and standard deviations for the heterotrophic and phototrophic nanoflagellates for 3/19/97, 7/17/97, 8/29/97, 3/10/98, 4/15/98, 5/13/98, 6/15/98, 7/15/98, 8/24/98, and 9/22/98 and the ciliate mean # of organisms <20 microns (µm) , standard deviation, mean # of organisms >20 microns (µm), and standard deviation for the following dates: 3/10/98, 4/15/98, 5/13/98, 6/15/98, 7/15/98, 8/24/98, and 9/22/98.

Directory: CREEK.MICROZPK.PROCESS: (Total size 2.71 Mb, 1 Folders, 1 files)
Directory: Graphics: the file, Microzpk, is in SIGMAPLOT 8.0 format. This directory contains the flagellate, ciliate and flume mean distribution graphs.

Directory: CREEK.MICROZPK.FINAL : (Total size 8.58 Mb, 6 Folders, 31 files)
Directory: FINAL.DOCUMENTATION: the file is in Microsoft word format, text, .pdf
CREEK.MICROZPK.FINAL
Directory: FINAL.DATA: the file is in in Microsoft Excel and Comma Separate Value (.csv) format.
Final.CreekMicrozpkData
Directory: FINAL.GRAPHICS: all files are in .jpg format.
Directory: Ciliate: this directory contains the ciliate mean distribution graphs and the graphs are listed by date sampled.
Directory: Flagellate: this directory contains the flagellate mean distribution graphs and the graphs are listed by date sampled.
Directory: Flume: this directory contains the flume mean data distribution graphs listed by date sampled.

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), sigma plot 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
6.4.2.2.1.1 Computer Contact Information
6.4.2.2.1.1.1 Network Address
6.4.2.2.1.1.1.1 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: 20040601
7.2 Metadata Review Date: 20041220
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
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 Mon. - 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