

## Metadata Content:

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### Identification Information:

#### *Identification Information:*

##### *Citation:*

##### *Citation Information:*

*Originator:* Stephanie Arsenault

*Originator:* Patricia Woodruff

*Originator:* Hsiao-Yun Chang

*Originator:* Katrina Rokosz

*Originator:* Yong Chen

*Publication Date:* 20230608

##### *Title:*

The Long River Ichthyoplankton Survey (LRS): A Component of the Historical Hudson River Biological Monitoring Program (HRBMP)

*Edition:* First

*Geospatial Data Presentation Form:* tabular digital data

##### *Other Citation Details:*

Use the following citation:

The Long River Ichthyoplankton Survey (LRS): A Component of the Historical Hudson River Biological Monitoring Program (HRBMP). HRBMP Metadata. The Chen Lab, School of Marine and Atmospheric Sciences, Stony Brook University, Stony Brook, NY, USA.

#### *Description:*

##### *Abstract:*

The Hudson River Biological Monitoring Program (HRBMP) is a large-scale comprehensive long-term survey program covering the Hudson River Estuary (HRE) from Battery Park (river mile [RM] 0) to Albany (RM 152), New York (NY). The Long River Survey (LRS) was designed to monitor the distribution and abundance of fish eggs and larvae in the HRE. The historical HRBMP,

gifted to and curated by the Chen Lab at Stony Brook University (<https://you.stonybrook.edu/hrbmp/>), includes the six core surveys conducted over varying time periods between 1974 through 2017. The three major river-wide fish surveys (ie., LRS, Fall Juvenile Survey, and Beach Seine Survey) follow random stratified survey designs consistently over their survey period.

***Purpose:***

The HRBMP programs mainly target the early life history stages from eggs to young-of-year. Fish in early life stages are most vulnerable and sensitive to changes in their environments and play a key role in regulating fish population dynamics. From 1974 to 2017, the LRS collected data from more than 160 species in the HRE with more than 108 thousand tow samples.

***Time Period of Content:***

***Time Period Information:***

***Range of Dates/Times:***

***Beginning Date:*** 19740416

***Ending Date:*** 20170517

***Currentness Reference:*** ground condition

***Status:***

***Progress:*** Complete

***Maintenance and Update Frequency:*** None planned

***Spatial Domain:***

***Bounding Coordinates:***

***West Bounding Coordinate:*** -74.1900

***East Bounding Coordinate:*** -73.5700

***North Bounding Coordinate:*** 43.9400

***South Bounding Coordinate:*** 40.7000

***Keywords:***

***Theme:***

***Theme Keyword Thesaurus:*** ISO 19115 Topic Category

***Theme Keyword:*** biota

***Theme Keyword:*** environment

***Theme Keyword:*** inlandWaters

***Theme:***

***Theme Keyword Thesaurus:*** Coastal and Marine Ecological Classification Standard

***Theme Keyword:*** Estuarine Tidal Riverine Coastal

***Theme Keyword:*** Planktonic Biota

***Theme Keyword:*** Fish Meroplankton

***Theme Keyword:*** Fish Larval Aggregation

***Theme Keyword:*** Fish Spawning and Larval Aggregation

***Theme:***

***Theme Keyword Thesaurus:*** Data Categories for Marine Planning

***Theme Keyword:*** Fishes

***Place:***

***Place Keyword Thesaurus:*** Common geographic areas

***Place Keyword:*** New York

***Place Keyword:*** Lower Hudson

***Place Keyword:*** Middle Hudson

***Place Keyword:*** Upper Hudson

***Place:***

***Place Keyword Thesaurus:*** None

***Place Keyword:*** Hudson River Estuary

***Access Constraints:*** None. Please see 'Distribution Info' for details.

***Use Constraints:***

None. Users are required to read the dataset's metadata and associated documents thoroughly to understand appropriate use and data limitations.

***Point of Contact:***

***Contact Information:***

***Contact Person Primary:***

***Contact Person:*** Patricia Woodruff

***Contact Organization:*** Stony Brook University

***Contact Position:*** Program Coordinator HRBMP

***Contact Address:***

***Address Type:*** mailing and physical

***Address:*** 155 Discovery Hall

***City:*** Stony Brook

***State or Province:*** NY

***Postal Code:*** 11794

***Country:*** United States

***Contact Voice Telephone:*** 631-632-9411

***Contact Electronic Mail Address:*** patricia.woodruff@stonybrook.edu

***Data Set Credit:***

Funding for this metadata development project is provided by the Hudson River Foundation.

***Native Data Set Environment:***

Data files collected in the field were originally "mapped" to Statistical Analysis System (SAS) compatible files. The HRBMP data were organized at several levels; level 3- sample collection (spatial and temporal information), level 4- gear deployment data, level 5- catch data, level 6- biological data, and level 7- food items data. Variable names in different levels of datasets were standardized to be

consistent over levels and years. Levels 3, 4, and 5 variables of all years were then compiled into a dataset. Levels 3, 4, and 6 variables of all years were then compiled into a dataset. In 2021, the SAS files were converted to RDS (R Data Serialization) files using R. Additional processing steps were performed using R.

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## **Data Quality Information:**

### *Data Quality Information:*

#### *Attribute Accuracy:*

##### *Attribute Accuracy Report:*

Historically, the Quality Assurance (QA) Program for the LRS provided a 1% Average Outgoing Quality Limit for all data calculations, data tables, and data files. The QA program was separated into two functionally independent systems: a QC system and a QA system. The QC system continually monitored the reliability, accuracy, precision, and completeness of data produced daily by the LRS. The responsibility of the QA system was to evaluate data and sample quality through audits, tests, and surveys by providing objective evidence that the QC program was being implemented.

#### *Logical Consistency Report:*

Data cover the area specified for this project without any known issues.

#### *Completeness Report:*

Dataset is considered complete for the information presented, as described in the abstract. Users are required to read the rest of the metadata record and accompanying documents.

#### *Positional Accuracy:*

##### *Horizontal Positional Accuracy:*

##### *Horizontal Positional Accuracy Report:*

Latitude and longitude data collected from 2002 to 2017 were measured by onboard GPS systems during sampling events. Prior to 2002, observations of latitude and longitude are not available.

##### *Vertical Positional Accuracy:*

*Vertical Positional Accuracy Report:* No formal positional accuracy tests were conducted.

#### *Lineage:*

##### *Process Step:*

##### *Process Description:*

Step 1- Sample Collection: For additional information on LRS implementation and sampling protocols, see the Description of the Long River Survey document and the Long River Survey Timeline.

*Process Date:* 20230216

*Process Step:*

*Process Description:*

Step 2- Sample Processing: For additional information on LRS sample processing in the field and the lab, see the Description of the Long River Survey document.

*Process Date:* 20230216

*Process Step:*

*Process Description:*

Step 3- Data Analysis and Exploration: All data analysis and exploration were performed in R Studio. Various data quality issues were identified such as duplicate tows with conflicting catch data, tows with catch for an unidentified species, and more. For additional information on the data quality issues, see the Description of the Long River Survey document.

*Process Date:* 20230216

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## **Entity and Attribute Information:**

*Entity and Attribute Information:*

*Detailed Description:*

*Entity Type:*

*Entity Type Label:* LongRiverSurveyAllVariables

*Entity Type Definition:*

Description of all LRS variables, including column labels, column definitions, column content type (numeric, categorical, etc.), data ranges, and units of measure (where applicable). Variables are presented in alphabetical order.

*Entity Type Definition Source:* Producer Defined

*Attribute:*

*Attribute Label:* A

*Attribute Definition:*

Regression constant derived from calibration test that is used to transform the flowmeter revolutions to volume. This variable is available from 1991-1994 and 1996-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Range Domain:*

*Range Domain Minimum:* -11.23533333

*Range Domain Maximum:* 1.9215463191

*Attribute:*

*Attribute Label:* B

*Attribute Definition:*

Regression constant derived from calibration test that is used to transform flowmeter revolutions to volume. This variable is available from 1991-2017.

*Attribute Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Range Domain:*

*Range Domain Minimum:* 0.3171619048

*Range Domain Maximum:* 0.4731355935

*Attribute:*

*Attribute Label:* CALIB\_DT

*Attribute Definition:*

Last calibration date for the flowmeter. Date in MM/DD/YY format. This variable is available from 1991-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Unrepresentable Domain:* Date in MM/DD/YY format.

*Attribute:*

*Attribute Label:* CATCH\_CD

*Attribute Definition:*

A code indicating whether the sample had catch or not. For ichthyoplankton, sampling will have a CATCH\_CD = 2 (No catch) if for all taxa in the sample, the following are equal to 0 or missing values: CT\_EGGS, CT\_YSL, CT\_PYSL, CT\_UNID, and CT\_YOY. This variable is available from 1974-2017.

**Attribute Definition Source:** Producer Defined- ASA Analysis & Communication, Inc.

**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** 1

**Enumerated Domain Value Definition:** Catch

**Enumerated Domain Value Definition Source:** Producer defined

**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** 2

**Enumerated Domain Value Definition:** No catch

**Enumerated Domain Value Definition Source:** Producer defined

**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** 3

**Enumerated Domain Value Definition:** Catch not analyzed

**Enumerated Domain Value Definition Source:** Producer defined

**Attribute:**

**Attribute Label:** CONDUCTIVITY

**Attribute Definition:**

The conductivity of the water expressed in microsiemens per centimeter at 25 degrees Celsius taken at depths associated with the collection of LRS samples. This variable is available from 1974-1981.

**Attribute Definition Source:** Producer Defined- ASA Analysis & Communication, Inc. and

**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** NA

**Enumerated Domain Value Definition:** No Data

**Enumerated Domain Value Definition Source:** Producer defined

**Attribute Domain Values:**

**Range Domain:**

**Range Domain Minimum:** 40

**Range Domain Maximum:** 31500

**Attribute Units of Measure:** Microsiemens/cm

***Attribute:***

***Attribute Label:*** CT\_EGGS

***Attribute Definition:*** Number of eggs counted. This variable is available from 1974-2017.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Range Domain:***

***Range Domain Minimum:*** 0

***Range Domain Maximum:*** 433152

***Attribute:***

***Attribute Label:*** CT\_OLDER

***Attribute Definition:***

Number of older than yearling fish counted. This variable is available from 1974-2017.

***Attribute Definition Source:*** : Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Range Domain:***

***Range Domain Minimum:*** 0

***Range Domain Maximum:*** 390

***Attribute:***

***Attribute Label:*** CT\_OLDER\_corrected

***Attribute Definition:***

Corrected number of older than yearling counted. CT\_OLDER was corrected with the number of fish in length class based on a suggestion by John Young (ASA Analysis & Communication, Inc.). This variable is available from 1974-2017.

***Attribute Definition Source:*** Producer Defined- Stony Brook University



*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Range Domain:*

*Range Domain Minimum:* 0

*Range Domain Maximum:* 390

*Attribute:*

*Attribute Label:* CT\_PYSL

*Attribute Definition:*

Number of post-yolk-sac-larvae (PYSL) counted. This variable is available from 1974-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Range Domain:*

*Range Domain Minimum:* 0

*Range Domain Maximum:* 83882

*Attribute:*

*Attribute Label:* CT\_UNID

*Attribute Definition:*

Number of fish of unidentified life stage counted. This variable is available from 1974-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* X

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Range Domain:*

*Range Domain Minimum:* 0

*Range Domain Maximum:* 995

*Attribute:*

*Attribute Label:* CT\_YOY

*Attribute Definition:*

Number of young-of-year (YOY) counted. This variable is available from 1974-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Range Domain:*

*Range Domain Minimum:* 0

*Range Domain Maximum:* 3861

*Attribute:*

*Attribute Label:* CT\_YOY\_corrected

*Attribute Definition:*

Corrected number of young-of-year counted. CT\_YOY was corrected with the number of fish in a length class based on a suggestion by John Young (ASA Analysis & Communication, Inc.). This variable is available from 1974-2017.

*Attribute Definition Source:* Producer Defined- Stony Brook University

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Range Domain:*

*Range Domain Minimum:* 0

*Range Domain Maximum:* 3861.333

*Attribute:*

*Attribute Label:* CT\_YR\_OL

*Attribute Definition:*

Number of yearling and older fish counted (to be used when impossible to split totals by life stage). This variable is available from 1974-2017.

**Attribute Definition Source:** Producer Defined- ASA Analysis & Communication, Inc.

**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** NA

**Enumerated Domain Value Definition:** No Data

**Enumerated Domain Value Definition Source:** Producer defined

**Attribute Domain Values:**

**Range Domain:**

**Range Domain Minimum:** 0

**Range Domain Maximum:** 797

**Attribute:**

**Attribute Label:** CT\_YRLNG

**Attribute Definition:**

Number of yearling fish counted. This variable will be equal to the count in length class 2 (CT\_LC2) for those species where division II (DIV II) represents the upper length limit for yearling fish (American shad, Blueback Herring, Striped Bass, Atlantic Tomcod, and White Perch). For all other species CT\_YRLING should be assigned a missing value except between January 1-June 1, where DIV II represents the yearling upper length limit. From June 1-December 31, for all species except 6 above, DIV II is assigned a static value of 150 mm (see definition of DIV\_2). This variable is available from 1974-2017.

**Attribute Definition Source:** Producer Defined- ASA Analysis & Communication, Inc.

**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** NA

**Enumerated Domain Value Definition:** No Data

**Enumerated Domain Value Definition Source:** Producer defined

**Attribute Domain Values:**

**Range Domain:**

**Range Domain Minimum:** 0

**Range Domain Maximum:** 464

**Attribute:**

**Attribute Label:** CT\_YRLNG\_corrected

**Attribute Definition:**

Corrected number of yearlings counted. CT\_YRLING was corrected with the number of fish in length class based on a suggestion by John Young (ASA Analysis & Communication, Inc.). This variable is available from 1974-2017.

***Attribute Definition Source:*** Producer Defined- Stony Brook University

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Range Domain:***

***Range Domain Minimum:*** 0

***Range Domain Maximum:*** 592

***Attribute:***

***Attribute Label:*** CT\_YROL\_corrected

***Attribute Definition:***

Corrected number of yearling and older fish counted (to be used when impossible to split totals by life stage). CT\_YR\_OL was corrected with the number of fish in length class based on a suggestion by John Young (ASA Analysis & Communication, Inc.). This variable is available from 1974-2017.

***Attribute Definition Source:*** Producer Defined- Stony Brook University

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Range Domain:***

***Range Domain Minimum:*** 0

***Range Domain Maximum:*** 797

***Attribute:***

***Attribute Label:*** CT\_YSL

***Attribute Definition:***

Number of yolk-sac-larvae (YSL) counted. This variable is available from 1974-2017.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Range Domain:***

***Range Domain Minimum:*** 0

***Range Domain Maximum:*** 130176

***Attribute:***

***Attribute Label:*** DATE

***Attribute Definition:***

The date of sample collection. The date in MM/DD/YY format derived from the SAS date function. This variable is available from 1974-2017.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Unrepresentable Domain:*** The date in MM/DD/YY format.

***Attribute:***

***Attribute Label:*** DISSOLVED.OXYGEN

***Attribute Definition:***

The concentration of dissolved oxygen (DO) in the water expressed in milligram per liter at ambient temperature taken at depths associated with the collection of LRS samples. This variable is available from 1974-1981.

***Attribute Definition Source:***

Producer Defined- ASA Analysis & Communication, Inc. and Stony Brook University

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Range Domain:***

***Range Domain Minimum:*** 0.0

***Range Domain Maximum:*** 15.1

***Attribute Units of Measure:*** Mg/L

***Attribute:***

***Attribute Label:*** DIVISION.1.CUTOFF

***Attribute Definition:***

A length (mm) for each species, which defines the estimated upper length limit for young-of-year. Division 1 + 1 mm defines the lower length limit for length class 2. This variable is available from 1980-2017.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Range Domain:***

***Range Domain Minimum:*** 0

***Range Domain Maximum:*** 350

***Attribute Units of Measure:*** Millimeters

***Attribute:***

***Attribute Label:*** DIVISION.2.CUTOFF

***Attribute Definition:***

A length (mm) for each species which defines the estimated upper length limit for yearling taxa. Note that after 1 January 1980, DIV\_2 equals the upper boundary for length class 2 and division 2+1 mm defines the lower length limit for length class. During 1 January through 31 May, division 2 represents the upper length limit for yearling fish for all species. From 1 June through 31 December, division 2 is assigned a static value of 150 mm total length (TL) for all species except Alewife, American Shad, Blueback Herring, Striped Bass, Atlantic Tomcod, and White Perch. For these species, division 2 is maintained as a dynamic upper length limit for yearling fish throughout the year. This variable is available from 1980-2017.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Range Domain:***

***Range Domain Minimum:*** 0

***Range Domain Maximum:*** 350

*Attribute Units of Measure:* Millimeters

*Attribute:*

*Attribute Label:* DURATION

*Attribute Definition:*

The duration of sampling effort in minutes. This variable is available from 1974-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Range Domain:*

*Range Domain Minimum:* 1.0

*Range Domain Maximum:* 10.0

*Attribute Units of Measure:* Minutes

*Attribute:*

*Attribute Label:* FISH\_ID

*Attribute Definition:*

A number assigned to each fish within a sample usually in order of measurements taken. When used in conjunction with year, task code, and sample number this number provides the ability to uniquely identify a fish at level 6. This variable is available from 1976-1987 and 1992-2017.

*Attribute Definition Source:* Producer defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Range Domain:*

*Range Domain Minimum:* 0

*Range Domain Maximum:* 90

*Attribute:*

*Attribute Label:* FLOWMETER.DIFFERENCE

*Attribute Definition:*

Flowmeter end minus flowmeter start equals flowmeter difference. This variable is available from 1974-2017.

**Attribute Definition Source:** Producer Defined- ASA Analysis & Communication, Inc.

**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** NA

**Enumerated Domain Value Definition:** No Data

**Enumerated Domain Value Definition Source:** Producer defined

**Attribute Domain Values:**

**Range Domain:**

**Range Domain Minimum:** 77

**Range Domain Maximum:** 153396

**Attribute:**

**Attribute Label:** FLOWMETER.END

**Attribute Definition:**

The numbers read from the mechanical flowmeter at the end of each collection or calibration. This variable is available from 1974-2017.

**Attribute Definition Source:** Producer Defined- ASA Analysis & Communication, Inc.

**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** NA

**Enumerated Domain Value Definition:** No Data

**Enumerated Domain Value Definition Source:** Producer defined

**Attribute Domain Values:**

**Range Domain:**

**Range Domain Minimum:** 0

**Range Domain Maximum:** 999987

**Attribute:**

**Attribute Label:** FLOWMETER.NUMBER

**Attribute Definition:**

A number assigned to each flowmeter for identification purposes. This variable is available from 1974-2017.

**Attribute Definition Source:** Producer Defined- ASA Analysis & Communication, Inc.

**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** NA



*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Range Domain:*

*Range Domain Minimum:* 0

*Range Domain Maximum:* 98202

*Attribute:*

*Attribute Label:* FLOWMETER.START

*Attribute Definition:*

The numbers read from the mechanical flowmeter before the collection or calibration starts. This variable is available from 1974-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Range Domain:*

*Range Domain Minimum:* 0

*Range Domain Maximum:* 999987

*Attribute:*

*Attribute Label:* GEAR.CODE

*Attribute Definition:*

A code assigned to each type of sampling gear used. This variable is available from 1974-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 64

*Enumerated Domain Value Definition:* 1-m epibenthic sled

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 65

*Enumerated Domain Value Definition:* 1-m Tucker trawl

*Enumerated Domain Value Definition Source:* Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 67

***Enumerated Domain Value Definition:***

1-m Tucker trawl (oblique) from the 1984 Lawler, Matusky & Skelly Engineers (LMS) gear comparison

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute:***

***Attribute Label:*** LAT.DEGREE

***Attribute Definition:*** Latitude degrees. This variable is available from 2002-2017.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Range Domain:***

***Range Domain Minimum:*** 40

***Range Domain Maximum:*** 42

***Attribute Units of Measure:*** Degrees

***Attribute:***

***Attribute Label:*** LAT.MINUTE

***Attribute Definition:*** Latitude minute. This variable is available from 2002-2017.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Range Domain:***

***Range Domain Minimum:*** 0.00

***Range Domain Maximum:*** 59.999

***Attribute Units of Measure:*** Minutes

***Attribute:***

***Attribute Label:*** LENGTH

***Attribute Definition:***

The length of an individual in millimeters. This variable is available from 1976-1977 and 1979-2017.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Range Domain:***

***Range Domain Minimum:*** 0.0

***Range Domain Maximum:*** 203

***Attribute Units of Measure:*** Millimeters

***Attribute:***

***Attribute Label:*** LIFE\_STG

***Attribute Definition:***

A code representing the discrete stage of development of a specimen based on morphological characteristics. This variable is available from 1976-2017.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 0

***Enumerated Domain Value Definition:*** Unidentified

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 1

***Enumerated Domain Value Definition:*** Egg

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 2

***Enumerated Domain Value Definition:*** Yolk-sac-larvae

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 3

*Enumerated Domain Value Definition:* Post-yolk-sac-larvae

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 4

*Enumerated Domain Value Definition:* Young of year

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 5

*Enumerated Domain Value Definition:* Yearling

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 7

*Enumerated Domain Value Definition:* Yearling or older

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute:*

*Attribute Label:* LON.DEGREE

*Attribute Definition:* Longitude degree. This variable is available from 2002-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* N

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Range Domain:*

*Range Domain Minimum:* 73

*Range Domain Maximum:* 74

*Attribute Units of Measure:* Degrees

*Attribute:*

*Attribute Label:* LON.MINUTE

**Attribute Definition:** Longitude minute. This variable is available from 2002-2017.

**Attribute Definition Source:** Producer Defined- ASA Analysis & Communication, Inc.

**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** NA

**Enumerated Domain Value Definition:** No Data

**Enumerated Domain Value Definition Source:** Producer defined

**Attribute Domain Values:**

**Range Domain:**

**Range Domain Minimum:** 0.0

**Range Domain Maximum:** 59.999

**Attribute Units of Measure:** Minutes

**Attribute:**

**Attribute Label:** NET.LENGTH.OPENING.WIDTH.RATIO

**Attribute Definition:**

A code representing the net length (from mouth to cod end) divided by the net width (measured horizontally at the mouth). Codes 7, 10, and 58 (used only in 1974) are not defined in the existing HRMBP data dictionaries. This variable is available from 1974-2017.

**Attribute Definition Source:** Producer Defined- ASA Analysis & Communication, Inc.

**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** NA

**Enumerated Domain Value Definition:** No Data

**Enumerated Domain Value Definition Source:** Producer defined

**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** 5

**Enumerated Domain Value Definition:** 5:1

**Enumerated Domain Value Definition Source:** Producer defined

**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** 8

**Enumerated Domain Value Definition:** 8:1

**Enumerated Domain Value Definition Source:** Producer defined

**Attribute:**

**Attribute Label:** NET.MESH

***Attribute Definition:***

A code which indicates ichthyoplankton net gear mesh size in microns. Codes 53, 58, 65, and 85 (used only in 1974) are not defined in the existing HRBMP data dictionaries. This variable is available from 1974-2017.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 50

***Enumerated Domain Value Definition:*** 500 microns

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 55

***Enumerated Domain Value Definition:*** 505 microns

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 500

***Enumerated Domain Value Definition:*** 500 microns

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute:***

***Attribute Label:*** PH

***Attribute Definition:***

The pH of water measured in pH units taken at depths associated with the collection of LRS samples. This variable is available from 1974-1978.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Range Domain:***

***Range Domain Minimum:*** 0.0

***Range Domain Maximum:*** 9.05

***Attribute:***

***Attribute Label:*** PRESERVATION.METHOD

***Attribute Definition:***

A code which indicates the state of the preservation of the specimen at time of workup. This variable is available from 1986-1987 and 1991-2017.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 4

***Enumerated Domain Value Definition:*** Preserved in formalin

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 5

***Enumerated Domain Value Definition:*** Other

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute:***

***Attribute Label:*** PROCESSING.DATE

***Attribute Definition:***

The date (derived from SAS date function) a sample was processed. Date in MM/DD/YY format. This variable is available from 1980-1981.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

**Unrepresentable Domain:** The date in MM/DD/YY format.

**Attribute:**

**Attribute Label:** QC\_OLDER

**Attribute Definition:**

A code which indicates whether specimens were missed by the sorter and found in the sorting QC. If no organisms were missed during the QC sort, then QC\_OLDER = 0. If QC\_OLDER > 0, then it is the number of specimens missed by the sorter (QC finds). This variable is available in 1990.

**Attribute Definition Source:** Producer Defined- ASA Analysis & Communication, Inc.

**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** NA

**Enumerated Domain Value Definition:** No Data

**Enumerated Domain Value Definition Source:** Producer defined

**Attribute Domain Values:**

**Range Domain:**

**Range Domain Minimum:** 0

**Range Domain Maximum:** 150

**Attribute:**

**Attribute Label:** QC\_YOY

**Attribute Definition:**

A code which indicates whether specimens were missed by the sorter and found in the sorting Q). If no organisms were missed during the QC sort, then QC\_YOY = 0. If QC\_YOY > 0, then it is the number of specimens missed by the sorter (QC finds). This variable is available in 1990.

**Attribute Definition Source:** Producer Defined- ASA Analysis & Communication, Inc.

**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** NA

**Enumerated Domain Value Definition:** No Data

**Enumerated Domain Value Definition Source:** Producer defined

**Attribute Domain Values:**

**Range Domain:**

**Range Domain Minimum:** 0

**Range Domain Maximum:** 2944

**Attribute:**

**Attribute Label:** QC\_YR\_OL



***Attribute Definition:***

A code which indicates whether specimens were missed by the sorter and found in the sorting QC. If no organisms were missed during the QC sort, then QC\_YR\_OL = 0. If QC\_YR\_OL > 0, then it is the number of specimens missed by the sorter (QC finds). This variable is available in 1990.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Range Domain:***

***Range Domain Minimum:*** 0

***Range Domain Maximum:*** 320

***Attribute:***

***Attribute Label:*** QC\_YRLNG

***Attribute Definition:***

A code which indicates whether specimens were missed by the sorter and found in the sorting QC. If no organisms were missed during the QC sort, then QC\_YRLNG = 0. If QC\_YRLNG > 0, then it is the number of specimens missed by the sorter (QC finds). This variable is available in 1990.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Range Domain:***

***Range Domain Minimum:*** 0

***Range Domain Maximum:*** 135

***Attribute:***

***Attribute Label:*** RIVER.DEPTH

***Attribute Definition:***

The depth, in meters, of the river from the surface to the bottom where sampling occurred. This variable is available from 1974-2017.

**Attribute Definition Source:** Producer Defined- ASA Analysis & Communication, Inc.

**Attribute Domain Values:**

**Range Domain:**

**Range Domain Minimum:** 0.6

**Range Domain Maximum:** 61.0

**Attribute Units of Measure:** Meters

**Attribute:**

**Attribute Label:** RIVER.MILE

**Attribute Definition:**

A segment of the Hudson River (approximately one mile) defined on the river charts. A river mile extends from the river mile line northward to the next successive river mile line. This variable is available from 1974-2017.

**Attribute Definition Source:** Producer Defined- ASA Analysis & Communication, Inc.

**Attribute Domain Values:**

**Range Domain:**

**Range Domain Minimum:** 1

**Range Domain Maximum:** 152

**Attribute Units of Measure:** Miles

**Attribute:**

**Attribute Label:** RIVER.RUN

**Attribute Definition:**

A number assigned to each ichthyoplankton survey sampling period. This variable is available from 1974-2017.

**Attribute Definition Source:** Producer Defined- ASA Analysis & Communication, Inc.

**Attribute Domain Values:**

**Range Domain:**

**Range Domain Minimum:** 1

**Range Domain Maximum:** 25

**Attribute:**

**Attribute Label:** SAM\_NARR

**Attribute Definition:**

A code used to describe the quality of the biological collection. For ichthyoplankton samples, SAM\_NARR codes will be the same as those for CATCH\_CD. This variable is available from 1980-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 1

*Enumerated Domain Value Definition:* Fish caught (field) or processed (lab) as appropriate.

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 2

*Enumerated Domain Value Definition:* No fish caught.

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 3

*Enumerated Domain Value Definition:*

Lab processing problems (spilled, deteriorated, misplaced) and sample not processed.

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute:*

*Attribute Label:* SAMPLE.DEPTH.m

*Attribute Definition:*

The depth, in meters, from which the sample was collected. The 1981 depth data were corrected by dividing SAMPLE.DEPTH.m by 0.3048. This variable is available from 1974-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

***Range Domain:***

***Range Domain Minimum:*** 0.0

***Range Domain Maximum:*** 60.3

***Attribute Units of Measure:*** Meters

***Attribute:***

***Attribute Label:*** SAMPLE.NUMBER

***Attribute Definition:***

Number assigned sequentially within a year and task which are used to identify a sample collection. This variable is available from 1974-2017.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Range Domain:***

***Range Domain Minimum:*** 1

***Range Domain Maximum:*** 470658

***Attribute:***

***Attribute Label:*** SITE

***Attribute Definition:***

Site indicates a more specific area or zone within a river mile from which the sample is taken. This variable is available from 1974-2017.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 4

***Enumerated Domain Value Definition:*** West of channel (<= 20 ft. depth)

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 5

***Enumerated Domain Value Definition:*** Channel (>20 ft. depth)

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 6

***Enumerated Domain Value Definition:*** East of channel (<= 20 ft. depth)

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute:***

***Attribute Label:*** SPLIT\_CD

***Attribute Definition:***

Code indicating the portion of the sample which was worked up. This variable is available from 1980-1981 and 1983-1987.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 1

***Enumerated Domain Value Definition:*** None

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 8

***Enumerated Domain Value Definition:*** 1/8 split

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute:***

***Attribute Label:*** SPLIT\_CD\_1v4

***Attribute Definition:***

Code indicating the portion of the sample which was worked up, but just for level 4 data.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 1

***Enumerated Domain Value Definition:*** None

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 8

***Enumerated Domain Value Definition:*** 1/8 split

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute:***

***Attribute Label:*** SPLIT\_CD\_lv5

***Attribute Definition:***

Code indicating the portion of the sample which was worked up, but just for level 5 data.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 1

***Enumerated Domain Value Definition:*** None

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 8

***Enumerated Domain Value Definition:*** 1/8 split

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute:***

***Attribute Label:*** STRATA.CODE

***Attribute Definition:***

A code indicating a segment of the river characterized by specific depth criteria. Note, in regions where the shoal stratus is not formally sampled, samples collected in water  $\leq 20$  ft. depth should be assigned to the bottom or channel structure based on the difference between sample depth and river depth. This variable is available from 1974-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 1

*Enumerated Domain Value Definition:* Shoals- water of 20 ft (6m) or less

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 2

*Enumerated Domain Value Definition:*

Bottom- water within 10 ft (3m) of the river bottom in more than 20 ft (6m depth)

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 3

*Enumerated Domain Value Definition:*

Channel- water more than 10 ft (3m) from the river bottom in more than 20 ft (6m) depth

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute:*

*Attribute Label:* TASK\_CD

*Attribute Definition:*

A code uniquely identifying each HRBMP survey from which a sample originated. This variable is available from 1974-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 88

*Enumerated Domain Value Definition:* Long River Ichthyoplankton Survey

*Enumerated Domain Value Definition Source:* Producer defined

**Attribute:**

*Attribute Label:* TAXON.CODE

*Attribute Definition:*

A code used to identify each taxa (species). See the LRS Data Dictionary document for the common and scientific species name associated with each taxon code. The taxon codes 513 and 999 do not have an associated species name. This variable is available from 1974-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Range Domain:*

*Range Domain Minimum:* 1

*Range Domain Maximum:* 888

**Attribute:**

*Attribute Label:* TIDE.STAGE

*Attribute Definition:*

A code used to describe the direction of tidal flow. This variable is available from 1974-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 1

*Enumerated Domain Value Definition:* Low slack

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 2

*Enumerated Domain Value Definition:* Flood tide

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 3



*Enumerated Domain Value Definition:* High slack

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 4

*Enumerated Domain Value Definition:* Ebb

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute:*

*Attribute Label:* TIME

*Attribute Definition:*

The time at which sampling occurred. Time in Hour:Minute format derived from the SAS time function. This variable is available from 1974-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Unrepresentable Domain:* The time in Hour:Minute format.

*Attribute:*

*Attribute Label:* TOTAL.COUNT.IN.LENGTH.CLASS.1

*Attribute Definition:*

The actual or extrapolated number of fish per species collected in length class 1. See length class. Note, this is different from total number/LG). This variable is available from 1980-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Range Domain:*

*Range Domain Minimum:* 0

*Range Domain Maximum:* 3861.333

*Attribute:*

*Attribute Label:* TOTAL.COUNT.IN.LENGTH.CLASS.2

*Attribute Definition:*

The actual or extrapolated number of fish per species collected in length class 2. See length class. Note, this is different from total number/LG). This variable is available from 1980-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Range Domain:*

*Range Domain Minimum:* 0

*Range Domain Maximum:* 592

*Attribute:*

*Attribute Label:* TOTAL.COUNT.IN.LENGTH.CLASS.3

*Attribute Definition:*

The actual or extrapolated number of fish per species collected in length class 3. See length class. Note, this is different from total number/LG). This variable is available from 1980-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Range Domain:*

*Range Domain Minimum:* 0

*Range Domain Maximum:* 264

*Attribute:*

*Attribute Label:* TOTAL.COUNT.IN.LENGTH.CLASS.4

*Attribute Definition:*

The actual or extrapolated number of fish per species collected in length class 3. See length class. Note, this is different from total number/LG). This variable is available from 1980-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Range Domain:*

*Range Domain Minimum:* 0

*Range Domain Maximum:* 45

*Attribute:*

*Attribute Label:* TOW.DIRECTION

*Attribute Definition:*

Code for the direction toward which the gear was towed. Codes 5 and 7 (used only in 1984) are not defined in the existing HRBMP data dictionaries. This variable is available from 1980-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 1

*Enumerated Domain Value Definition:* North

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 2

*Enumerated Domain Value Definition:* South

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 3

*Enumerated Domain Value Definition:* East

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute:*

*Attribute Label:* TOW.SPEED

*Attribute Definition:*

Boat speed in meters per second, relative to the water during sampling. This variable is available from 1974-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Range Domain:*

*Range Domain Minimum:* 0.0

*Range Domain Maximum:* 9.5

*Attribute Units of Measure:* Meters/second

*Attribute:*

*Attribute Label:* TURBIDITY

*Attribute Definition:*

The turbidity of the water, measured in Formazin turbidity units. This variable is available from 1974-1978.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Range Domain:*

*Range Domain Minimum:* 1.0

*Range Domain Maximum:* 215.0

*Attribute Units of Measure:* Formazin turbidity units

*Attribute:*

*Attribute Label:* USE.CODE

*Attribute Definition:*

A code limiting the analytical use of a sample. This variable is available from 1980-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 1

*Enumerated Domain Value Definition:*

Assigned to a sample when there are no sampling problems.  
Sample may be used for C/F analysis for all species.

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 2

*Enumerated Domain Value Definition:*

Assigned to samples when sampling problems are encountered, but any markable or unusual species are caught. Sample not to be used for C/F analysis.

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 5

*Enumerated Domain Value Definition:*

Assigned to samples when sampling problems are encountered and no markable or unusual species are caught (i.e., void).

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute:*

*Attribute Label:* VESSEL.CODE

*Attribute Definition:*

A code assigned to the boat used to collect ichthyoplankton and commercial samples. Vessel codes 23 (1990 only), 26 (2000-2016), and 27 (2013-2017) are not defined in the existing HRBMP data dictionaries. This variable is available from 1974-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis & Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 1

*Enumerated Domain Value Definition:* Liberty Belle

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

***Enumerated Domain:***

***Enumerated Domain Value:*** 2

***Enumerated Domain Value Definition:*** Celia Thaxter

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 3

***Enumerated Domain Value Definition:*** Sametta Too

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 5

***Enumerated Domain Value Definition:*** Robert Gabrielson's boats

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 6

***Enumerated Domain Value Definition:*** David White's boats

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 9

***Enumerated Domain Value Definition:*** Woody I

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 10

***Enumerated Domain Value Definition:*** Ecological Analyst's  
Pride

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 15

***Enumerated Domain Value Definition:*** Pannaway

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 16

***Enumerated Domain Value Definition:*** Duranautic (22 ft.), NAI  
1983

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* 17

*Enumerated Domain Value Definition:* R/V Fritcher (32 ft.), NAI  
1983

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute:*

*Attribute Label:*

VOLUME.OF.WATER.SAMPLED.IN.CUBIC.METERS

*Attribute Definition:*

Volume of water sampled in cubic meters. This variable is available from  
1974-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis &  
Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Range Domain:*

*Range Domain Minimum:* 2.96

*Range Domain Maximum:* 4172.3699999

*Attribute Units of Measure:* Cubic meters

*Attribute:*

*Attribute Label:* WATER.QUALITY.SAMPLE.DEPTH

*Attribute Definition:*

Depth in meters from which a water quality sample was collected. This  
variable is available from 1974-2017.

*Attribute Definition Source:* Producer Defined- ASA Analysis &  
Communication, Inc.

*Attribute Domain Values:*

*Enumerated Domain:*

*Enumerated Domain Value:* NA

*Enumerated Domain Value Definition:* No Data

*Enumerated Domain Value Definition Source:* Producer defined

*Attribute Domain Values:*

*Range Domain:*

*Range Domain Minimum:* 0.0  
*Range Domain Maximum:* 60.0  
*Attribute Units of Measure:* Meters

***Attribute:***

***Attribute Label:*** WATER.TEMPERATURE

***Attribute Definition:***

The measurement of the temperature of the water in degrees Celsius taken at depths associated with the collection of LRS samples. This variable is available from 1974-1981.

***Attribute Definition Source:***

Producer Defined- ASA Analysis & Communication, Inc. and Stony Brook University

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Range Domain:***

***Range Domain Minimum:*** 0.0

***Range Domain Maximum:*** 28.0

***Attribute Units of Measure:*** Degrees Celsius

***Attribute:***

***Attribute Label:*** WAVE.HEIGHT

***Attribute Definition:***

Code describing the condition of the surface water. This variable is available from 1974-2017.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 1

***Enumerated Domain Value Definition:*** Calm (0 to 0.5 ft.)

***Enumerated Domain Value Definition Source:*** Producer defined



***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 2

***Enumerated Domain Value Definition:*** Light chop (>0.5 ft. to 1 ft.)

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 3

***Enumerated Domain Value Definition:*** Heavy chop (>1 ft. to 2 ft.)

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 4

***Enumerated Domain Value Definition:*** Large waves (>2 ft.)

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute:***

***Attribute Label:*** USE.CODE

***Attribute Definition:***

A code limiting the analytical use of a sample. This variable is available from 1980-2017.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** NA

***Enumerated Domain Value Definition:*** No Data

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 1

***Enumerated Domain Value Definition:***

Assigned to a sample when there are no sampling problems. Sample may be used for C/F analysis for all species.

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 2

***Enumerated Domain Value Definition:***

Assigned to samples when sampling problems are encountered, but any markable or unusual species are caught. Sample not to be used for C/F analysis.

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute Domain Values:***

***Enumerated Domain:***

***Enumerated Domain Value:*** 5

***Enumerated Domain Value Definition:***

Assigned to samples when sampling problems are encountered and no markable or unusual species are caught (i.e., void).

***Enumerated Domain Value Definition Source:*** Producer defined

***Attribute:***

***Attribute Label:*** YEAR.OF.DATA.COLLECTION

***Attribute Definition:***

Year in which data was collected. This variable is available from 1974-2017.

***Attribute Definition Source:*** Producer Defined- ASA Analysis & Communication, Inc.

***Attribute Domain Values:***

***Range Domain:***

***Range Domain Minimum:*** 1974

***Range Domain Maximum:*** 2017

***Attribute Units of Measure:*** Years

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**Distribution Information:**

***Distribution Information:***

***Distributor:***

***Contact Information:***

***Contact Person Primary:***

***Contact Person:*** Patricia Woodruff

***Contact Organization:*** Stony Brook University

***Contact Position:*** Program Coordinator HRBMP

***Contact Address:***

***Address Type:*** mailing and physical

***Address:*** 155 Discovery Hall

***City:*** Stony Brook

*State or Province:* NY

*Postal Code:* 11794

*Country:* United States

*Contact Voice Telephone:* 631-632-9411

*Contact Electronic Mail Address:* patricia.woodruff@stonybrook.edu

***Distribution Liability:***

Unless otherwise stated, all data, metadata, and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the Chen Lab at Stony Brook University School of Marine and Atmospheric Sciences, no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

***Custom Order Process:*** The dataset will be provided directly to the end-user via email.

---

**Metadata Reference Information:**

***Metadata Reference Information:***

***Metadata Date:*** 20230104

***Metadata Contact:***

***Contact Information:***

***Contact Person Primary:***

***Contact Person:*** Patricia Woodruff

***Contact Organization:*** Stony Brook University

***Contact Position:*** Program Coordinator HRBMP

***Contact Address:***

***Address Type:*** mailing and physical

***Address:*** 155 Discovery Hall

***City:*** Stony Brook

***State or Province:*** NY

***Postal Code:*** 11794

***Country:*** United States

***Contact Voice Telephone:*** 631-632-9411

***Contact Electronic Mail Address:*** patricia.woodruff@stonybrook.edu

***Metadata Standard Name:*** FGDC Content Standard for Digital Geospatial Metadata

***Metadata Standard Version:*** FGDC-STD-001-1998