NRDA Bottom Longline Dataset Documentation

This document is meant to serve as a reference for the file structure of the datasets provided from the NMFS Bottom Longline Survey. Data included is limited to the United States waters of the Gulf of Mexico, collected during the annual bottom longline survey from 1995 - 2013.

Datasets

Six files are provided: STATION, CATCH, ENV, CTD, CTD_PROC_CAST and LENGTH. The STATION file contains information on where and when the operations (stations) took place. The CATCH contains information on the total number of species captured at each station. The ENV contains environmental information for each station (from 1995 – 2003), summarized by surface, mid water depth, and bottom measurements. The CTD contains information about where and when the Conductivity, Temperature and Depth (CTD) unit, with added instruments (Fluorometer, Oxygen and Transmissometer) was used to collect environmental measurements (from 2004 – 2013). The CTD_PROC_CAST contains the entire CTD cast for a given station. Finally, the LENGTH contains information about individual taxa collected at each station.

Dataset Linkage

All the individual files can be linked by the STATIONKEY variable contained within each dataset.

Notes

In the CATCH dataset there may be more than one instance (row) of a particular taxon at a station. To get the total number of individual, each row for a taxon at a station needs to be summed. This is done in order to get an accurate of the measure of the weights, if a total taxon weight is required.

In the LENGTH dataset, not all taxon at a given station may have a length record (e.g. body damaged due to predation). In addition, not all length measurements (fork, total, etc.) will be present for each taxon (e.g. not all species, such as nurse sharks, have the full suite of characters such as fork length).

The ENV file only contains environmental summary data from 1995 – 2003. From 2004 – 2013, all the environmental measurements can be found in the CTD_PROC_CAST file, which provides a more detailed profile of the water column since all measurements are included. In both cases, there may be instances when one or more sensors may not have readings due to breakdowns, malfunctions, or other issues.

STATION Dataset File Structure

Variable – dataset variable name
Type – character (Char) or numeric (Num) variable
Len – variable length

	Variable	*Type*	*Len*
1	STATIONKEY	Num	8
2	STARTLAT	Num	8
3	STARTLON	Num	8
4	STARTDEPTH	Num	8
5	START_TIME	Num	8
6	ENDLAT	Num	8
7	ENDLON	Num	8
8	ENDDEPTH	Num	8
9	END_TIME	Num	8
10	TIME_ZONE	Num	8
11	EFFORT	Num	8
12	NUMBERHOOKS	Num	8
13	HOOKTYPE	Char	1
14	LLINEGEAR	Char	2
15	LLINEHOOKSIZE	Num	8
16	TEMPAIR	Num	8
17	BAROPRES	Num	8
18	WINDSPD	Num	8
19	WINDDIR	Num	8
20	WATERCOLOR	Char	1
21	FORELULE	Num	8
22	CLOUDCOVER	Char	3
23	PRECIPITATION	Char	2
24	WAVE_HGHT	Num	8
25	SEA_COND	Char	2
26	COMMENT	Char	255

Explanation of STATION variables

STATIONKEY

Concatenation of the vessel number, cruise number and Pascagoula station number. Used to link the datasets.

STARTLAT

Decimal degrees of latitude for the position of the first highflyer deployed.

STARTLON

Decimal degrees of longitude for the position of the first highflyer deployed.

START_TIME

Starting date and time of the soak of the longline.

ENDLAT

Decimal degrees of latitude for the position of the last highflyer retrieved.

ENDLON

Decimal degrees of longitude for the position of the last highflyer retrieved.

END_TIME

Ending date and time of the soak of the longline.

TIME_ZONE

Time zone code. Valid values are:

2 – Eastern Daylight Savings Time
4 – Central Daylight Savings Time
8 – Greenwich Mean Time

EFFORT

Total soak time of the bottom longline in minutes taken from the deployment of the last highflyer and retrieval of the first highflyer. .

NUMBERHOOKS

Number of hooks set out.

HOOKTYPE

Type of hook used during the set:

J – 3/0 J Hook
C – 15/0 Circle Hook

LLINEGEAR

Type of longline gear used (BL = bottom longline).

LLINEHOOKSIZE

Size of the hook used.

TEMPAIR

Air temperature in degrees Celsius.

BAROPRES

Barometric pressure in millibars.

WINDSPD

Wind speed in knots.

WINDDIR

Wind direction in compass degrees.

WATERCOLOR

Character code describing the general color of the water:

B – Blue / Clear
G – Green
T – Blue Green
Y – Yellow
M – Muddy / Brown

FORELULE

Forel-Ule Water Color Measurements in Arabic numbers.

CLOUDCOVER

Percent cloud cover during daylight hours only. Cloud cover is determined for the entire sky, not just that portion overhead.

PRECIPITATION

1 character code code designating the relative amount of precipitation. Valid values are:

0 – Not recorded
1 – Light Rain
2 – Moderate Rain
5 – Sleet

WAVE_HGHT

Wave height in meters.

SEA_COND

Sea surface condition according to Beaufort Scale.

COMMENT

Short comment regarding an issues or observations occurring during the sampling at the station.

CATCH Dataset File Structure

Variable – dataset variable name
Type – character (Char) or numeric (Num) variable
Len – variable length

	Variable	*Type*	*Len*
1	STATIONKEY	Num	8
2	TAXON	Char	50
3	NUMBER	Num	8
4	WEIGHT	Num	8
5	WTCODE	Char	1

Explanation of CATCH variables

STATIONKEY

Concatenation of the vessel number, cruise number and Pascagoula station number. Used to link the datasets.

TAXON

50-character field containing the full taxonomic name.

NUMBER

Number of individuals caught at a station.

WEIGHT

Total weight of taxon caught at a station.

WTCODE

Code describing the condition of the taxon when it was weighted:

E – Estimated Weights
C – Counts without weights
D – Damaged

ENV Dataset File Structure

Variable – dataset variable name
Type – character (Char) or numeric (Num) variable
Len – variable length

	Variable	*Type*	*Len*
1	STATIONKEY	Num	8
2	DEPTH_ESRF	Num	8
3	DEPTH_EMID	Num	8
4	DEPTH_EMAX	Num	8
5	DEPTH_EWTR	Num	8
6	TEMPSURF	Num	8
7	TEMPMID	Num	8
8	TEMPMAX	Num	8
9	SALSURF	Num	8
10	SALMID	Num	8
11	SALMAX	Num	8
12	CHLORSURF	Num	8
13	CHLORMID	Num	8
14	CHLORMAX	Num	8
15	OXYSURF	Num	8
16	OXYMID	Num	8
17	OXYMAX	Num	8
18	TURBSURF	Num	8
19	TURBMID	Num	8
20	TURBMAX	Num	8

Explanation of ENV variables

STATIONKEY

Concatenation of the vessel number, cruise number and Pascagoula station number. Used to link the datasets.

DEPTH_ESRF

Depth in meters at which surface environmental measurements were taken.

DEPTH_EMID

Depth in meters at which mid-water or mid-point environmental measurements were taken.

DEPTH_EMAX

Depth in meters at bottom or maximum depth of environmental measurements were taken.

DEPTH_EWTR

Depth in meters of the station.

TEMPSURF, TEMPMID AND TEMPMAX

Water temperature in degrees Celsius for DEPTH_ESRF, DEPTH_EMID and DEPTH_EMAX.

SALSURF, SALMID AND SALMAX

Salinity in ppt or PSU for DEPTH_ESRF, DEPTH_EMID and DEPTH_EMAX.

CHLORSURF, CHLORMID AND CHLORMAX

Chlorophyll a in in milligrams per cubic meter for DEPTH_ESRF, DEPTH_EMID and DEPTH_EMAX.

OXYSURF, OXYMID AND OXYMAX

Dissolved oxygen mg/L for DEPTH_ESRF, DEPTH_EMID and DEPTH_EMAX.

TURBSURF, TURBMID AND TURBMAX

Percent transmissivity for DEPTH_ESRF, DEPTH_EMID and DEPTH_EMAX.

CTD Dataset File Structure

Variable – dataset variable name
Type – character (Char) or numeric (Num) variable
Len – variable length

	Variable	*Type*	*Len*
1	STATIONKEY	Num	8
2	CAST_NUM	Num	8
3	STA_TIME	Num	8
4	END_TIME	Num	8
5	TIMEZONE	Char	3
6	STA_LAT	Char	8
7	STA_LON	Char	8
8	END_LAT	Char	8
9	END_LON	Char	8
10	STA_DPTH	Num	8
11	END_DPTH	Num	8
12	COMMENTS	Char	255

Explanation of CTD variables

STATIONKEY

Concatenation of the vessel id, cruise number and Pascagoula station number. Used to link the datasets.

CAST_NUM

Cast number for the CTD

STA_TIME

Date and time at the start of the CTD cast.

END_TIME

Date and time at the end of the CTD cast.

TIMEZONE

Time zone that the STA_TIME and END_TIME are recorded in:

CDT – Central Daylight Savings Time
GMT – Greenwich Mean Time

STA_LAT

Latitude at the start of the CTD cast in DDMM.DM

DD – Degrees
MM – Minutes
DM – Decimal Minutes

STA_LON

Longitude at the start of the CTD cast in DDDMM.DM

DDD – Degrees
MM – Minutes
DM – Decimal Minutes

END_LAT

Latitude at the start of the CTD cast in DDMM.DM

DD – Degrees
MM – Minutes
DM – Decimal Minutes

END_LON

Longitude at the end of the CTD cast in DDDMM.DM

DDD – Degrees
MM – Minutes
DM – Decimal Minutes

STA_DPTH

Depth in meters at the start of the CTD cast.

END_DPTH

Depth in meters at the end of the CTD cast.

COMMENTS

Short comment regarding an issues or observations occurring during the CTD cast.

CTD_PROC_CAST Dataset File Structure

Variable – dataset variable name
Type – character (Char) or numeric (Num) variable
Len – variable length

	Variable	*Type*	*Len*
1	STATIONKEY	Num	8
2	DEPTH	Num	8
3	TEMP	Num	8
4	FLUORO	Num	8
5	XMISS	Num	8
6	OXY_MG	Num	8
7	OXSAT	Num	8
8	DENSITY	Num	8
9	SALINITY	Num	8
10	NBIN	Num	8

Explanation of CTD_PROC_CAST variables

STATIONKEY

Concatenation of the vessel number, cruise number and Pascagoula station number. Used to link the datasets.

DEPTH

Depth in meters where the measurements were taken.

TEMP

Water temperature in degrees Celsius

FLUORO

Fluorescence measured in mg/m^3.

XMISS

Beam Transmission measured in %.

OXY_MG

Dissolved oxygen concentration measured in mg/l.

OXSAT

Dissolved oxygen saturation measured in %.

DENSITY

Water density measured in kg/m^3.

SALINITY

Salinity measured in practical salinity units (PSU).

NBIN

Number of scans per bin.

LENGTH Dataset File Structure

Variable – dataset variable name
Type – character (Char) or numeric (Num) variable
Len – variable length

	Variable	*Type*	*Len*
1	STATIONKEY	Num	8
2	TAXON	Char	50
3	DAMAGED	Num	8
4	INDVL_WEIGHT	Num	8
5	INDVL_W_ESTIMATED	Num	8
6	SEX	Char	1
7	MATURITY	Char	1
8	LENGTHESTIMATED	Num	8
9	PRECAUDAL	Num	8
10	STANDARD	Num	8
11	FORK	Num	8
12	NAT_TOTAL	Num	8
13	TOTAL	Num	8
14	DISK_WIDTH	Num	8
15	SNOUT_ANAL	Num	8
16	TURTLE_MLCTL	Num	8
17	TURTLE_MLCW	Num	8

Explanation of LENGTH variables

STATIONKEY

Concatenation of the vessel number, cruise number and Pascagoula station number. Used to link the datasets.

TAXON

50-character field containing the full taxonomic name.

DAMAGED

Field indicating whether an individual was damaged in some way:

0 – No
1 – Yes

INDVL_WEIGHT

Weight of the individual, measured in kilograms.

INDVL_W_ESTIMATED

Field indicating whether an individual weight was estimated:

0 – No
1 – Yes

SEX

Sex of the animal.

M – Male
F – Female
U – Unknown

MATURITY

Stage of maturity of the animal:

1 – Undetermined
2 – Resting
3 – Enlarging / Developing
4 – Running Ripe
5 – Spent
6 – Elasmobranch Mature
7 – Elasmobranch Immature

LENGTHESTIMATED

Field indicating whether an individual's length was estimated:

0 – No
1 – Yes

PRECAUDAL

Precaudal length of the animal.

STANDARD

Standard length of the animal.

FORK

Fork length of the animal.

NAT_TOTAL

Natural total length of the animal.

TOTAL

Stretched total length of the animal.

DISK_WIDTH

Measurement of the maximum disk width of the animal (typically skates and rays).

SNOUT_ANAL

Measurement from the snout to anus of the animal.

TURTLE_MLCTL

Measurement of the maximum total length of a turtle's carapace.

TURTLE-MLCW

Measurement of the maximum total width of a turtle's carapace.