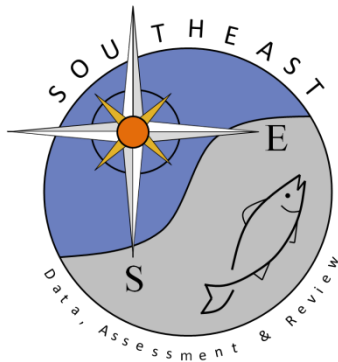


Fishery-Independent Sampling: SEAMAP Trawl

SEDAR27-RD-05



SouthEast Area Monitoring & Assessment Program (SEAMAP) TRAWL PROTOCOL

Introduction

SEAMAP surveys use trawl gear to collect fishery independent data (i.e. finfish, shrimp, and other invertebrates). The Summer and Fall Shrimp/Groundfish use the same survey design that has been used from 1987 to 2009. National Marine Fisheries Service (NMFS) in 2009 changed protocol from stations that were collected across a fathom stratum to a 30 minute fixed tow time; additionally, the designation of “day” and “night” stations was removed. State partners made this switch in 2010. Currently all SEAMAP trawls follow the same 30-minute tow time survey design. State and federal agencies collaboratively coordinate the scheduling of cruise dates and the selection of stations to be sampled by each agency, which results in a coordinated and cost-efficient program.

Methods

SEAMAP sampling stations are chosen using a random design with proportional allocation by bottom area within shrimp statistical zones. Stations are sampled 24-hours a day, with a tow time (bottom time) of 30 minutes per station. A 42-foot SEAMAP trawl with 1 5/8” inch stretched mesh is lowered to depth at each station and the towline is set at a 5:1 cable length water depth ratio. Desired vessel speed while towing is 2.5 - 3 knots.

1. At each station the following data parameters need to be collected:

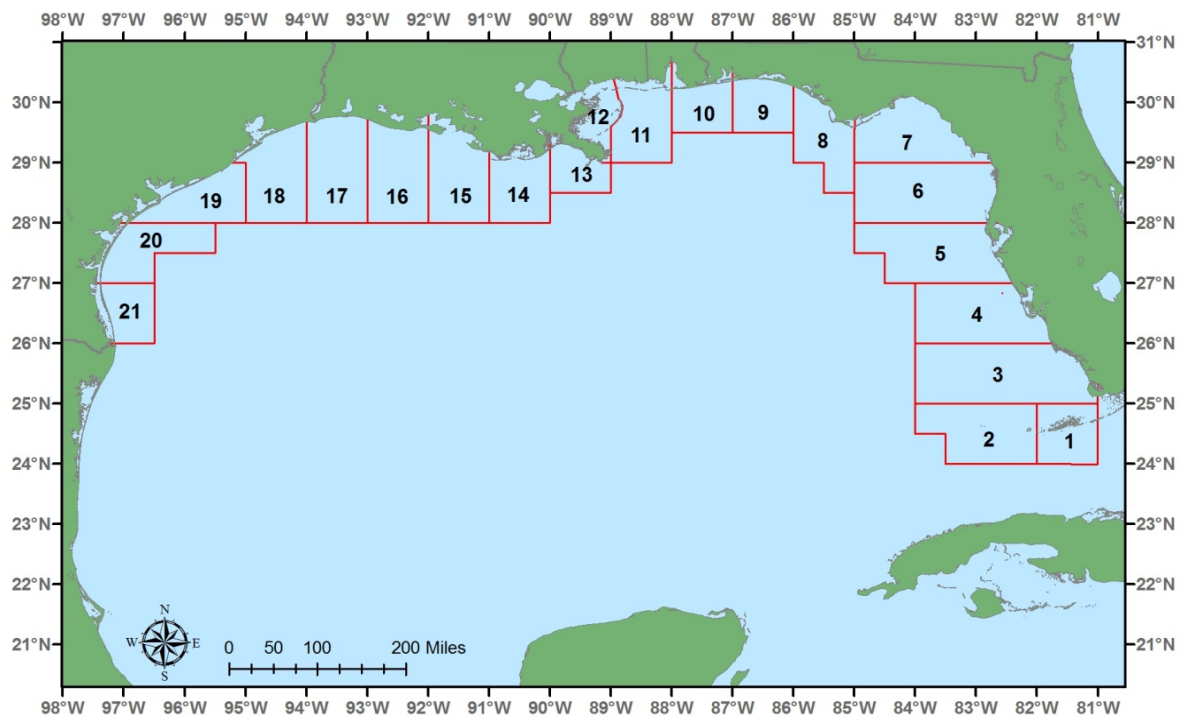
VESSEL - Enter 2-digit numerical code.

PASCAGOULA STATION NUMBER - Enter the 2-digit vessel code followed by a 3-digit station number.

CRUISE - Enter 3-digit cruise number. Except for the *Oregon II* and other vessels having historically different cruise numbering conventions, the cruise number for **ALL VESSELS** shall be the calendar year of the survey followed by the cruise number for the year, e.g. “111” first cruise for year 2011, “112”- second cruise for year 2011, etc.

SEAMAP/OTHER STATION NO. - For SEAMAP Station numbers, use four to five alpha/numeric characters and right justify, but be consistent in field length - all numbers should be the same number of characters (W102, E1018). East or west of the Mississippi River, shrimp statistical zone (Figure 1) and then random station number from NMFS.

Figure 1. NMFS Gulf Shrimp Landing Statistical Zones



DATE - Enter station date (based on start time), in the format MMDDYY.

GEAR TYPES USED AT THIS STATION - Enter codes for all gear types used.

SURFACE AND BOTTOM TEMPERATURES - If taken, enter temperatures in degrees Celsius, observing 2 indicated decimals. Add trailing zeros if necessary. If more than one method is used, data entry precedence is 1) CTD, 2) XBT, and 3) bucket.

AIR TEMPERATURE - Enter in degrees Celsius and tenths, observing 1 indicated decimal.

BAROMETRIC PRESSURE - Enter in millibars of mercury, observing 1 indicated decimal.

WIND SPEED - Enter wind speed in knots, no decimals.

WIND DIRECTION - Enter wind direction in compass degrees, 001-360.

WAVE HEIGHT - Enter wave height in meters, observing 1 indicated decimal.

VESSEL SPEED - Enter in knots, during the station, observing 1 indicated decimal.

START OR END TIME - Obtain time zone code and enter military time (0000-2359), HHMM, of start of station. For fishing stations, enter dog-off time or end of gear set. For environmental and plankton stations, enter the time data acquisition started.

START OR END LATITUDE & LONGITUDE - Enter position occupied at start time in degrees, minutes, and hundredths of minutes..

START OR END DEPTH - Enter depth in fathoms and tenths, observing the indicated decimal and entering a trailing zero.

2. **Data Requirements for Processing Trawl stations:**

TOTAL LIVE CATCH - Enter total **LIVE** catch in kilograms, observing 1 decimal. For extremely small catches, you **must** enter a minimum weight of 0.1 kg. **DO NOT** include weight of dead shell, mud, sand, wood, rocks, trash, etc. Such items should be mentioned in the comments section or with an operation code. Use an actual or estimated weight, but do make an entry.

FINFISH, CRUSTACEANS, AND OTHER LIVE CATCH - Record in these sections the totals for each category in kilos and tenths. These should reflect the **ENTIRE** live catch, not just the sample or select weight. When completed, these figures should add up to the “total live catch” weight above. When working up the entire catch, obtain total weight for each category and record. For ‘sampled’ catches, it is necessary to extrapolate from the sample weights to obtain the total weights. ‘Select’ generally refers to processing the entire trawl sample, but can also be applied to species that are specifically pulled to be processed when a representative sample of the catch is processed.

NUMBER - Enter number of individuals in **SELECT** or **SAMPLE**. For some colonial organisms, sponges and corals, enter the number of pieces.

LENGTH - Measure up to **20** organisms that are identified to the species level. Do not measure organisms identified to the genus or higher taxon. Use of appropriate measurement type by species (e.g., SL, FL or TL)

SAMPLE WT. (kg) - Enter weight in kilos of organism in the **SAMPLE** column, observing three decimal places. Enter trailing zeros where needed.

SELECT WT. (kg) - Enter weight in kilos of organism in the **SELECT** column, observing three decimal places. Enter trailing zeros where needed. **IMPORTANT:** If the catch was worked up in its entirety (not sampled), **ALL** weight entries will be in the **SELECT** column. Do not list a species in both the sample and **SELECT** column.

Subtotal the sample and select weights columns for each category, then combine for total sample and select weights.

3. Standard SEAMAP Shrimp and Groundfish Trawl Gear Specifications

A. Introduction

The Summer and Fall SEAMAP trawl surveys use a 42' semi-balloon trawl with 8'x40" chain doors towed at 2.5 - 3 knots. The complete trawl and door specifications, towing warp scope ratio, efficiency checks, and inspection schedule for this gear have been included as a guide for proper use.

B. SEAMAP 42' Semiballon Trawl Specifications

Webbing (Nylon) :

Bosom, wings and comers - 2" stretched x #18 twine.

Intermediate - 1-1/2" stretched x #24 twine.

Codend - 1-5/8" stretched x #42 twine w/1/4" x 2" galvanized rings.

Chaffing gear - 3-1/2" stretched x #90 polyethylene 60 x 40.

Hanging Cable:

Headrope and footrope - 9/16" diameter (6x6) polyethylene cover stainless steel combination net rope.

Leglines - 6 ft with heavy duty wire rope thimbles.

Weight:

Loop chain - 1/4" galvanized chain, 16 links per loop, tied every foot. 67.8 ft of chain needed 48.13 lb.

Mud Rollers:

17 mud rollers on a separate line (1/2" polypropylene) tied every 3 feet, with 3" of slack (top of roller to bottom of footrope).

Floatation:

Floats - 6- 3"x4" spongex floats spaced 5 ft apart, across the middle of the headrope.

Lazyline:

18 fathoms of 3/4" polydacron.

Purse rope - 3/4" polydacron 16 ft. long.

Net Treatment:

Green plastic net coat.

C. **Door Specifications:**

Length and Height 8'40"

Chain - 1/2" proof coil chain

Swivels - 1/2"

Bolts - 5/16"

Planking - 5/4 yellow pine, Grade 1

Stiffeners - 4"x4"

Uprights - 2"x10"

Shoe - 1"x6" stock

Lift pads in center

Bonded and bolted

Doors have 23-1/2" bridle (tow point to door face)

Tickler Chain Specifications:

Type - Standard free tickler

Size - 1/4" galvanized chain

Length - 42" shorter than the footrope including the leglines = 58.6' = 41.6 lb.

Bridle Specifications:

Wire Type - 6x19 strand marine lube

Diameter - 9/16"

Length - 30 fathoms

Total Trawl Twine Area:

240.2794 sq. ft.

Total Door Surface Area:

53.2 sq. ft. (per set)

Recommended Towing Speed:

2.5 - 3 knots