

LOGLINE DISTANCE CALCULATION INSTRUCTIONS (01/2001)

The POP program is providing you with a methodology to calculate distances for three fields found on the Longline Gear Log. We recommend that the observer get an initial idea of the gear configuration from the captain (ie. number of hooks between floats, number of floats between sections, etc.) However, those fields asking for the distance between sections, hooks and drop floats need to make mathematical sense and should not be calculated until after the final set is made. The primary purpose of the Longline Gear Log is to provide an overview or average of the gear fished during a single trip.

Use the POP Distance Calculation Table and procedures to fill in the distance fields of the Longline Gear Log. Generally there is one Gear Log per trip. However, a change in TARGET SPECIES or when combinations of gangion lengths (2) and or dropline lengths (3) exceeds the number of spaces provided, an additional GEAR LOG and its corresponding STRING NUMBER (for HAUL LOG) should be used.

SET#: Record sets that have a common gear configuration. Draw a single line through blanks where another gear configuration was used. A separate calculation table should be used for each gear configuration or string described.

MAINLINE LENGTH: Record the length of mainline in nautical miles for each set. Compute the average mainline length and round to the **nearest tenth** of a nautical mile ($20.16 = 20.2$ nm).

SECTIONS/SET: Record the total number of sections deployed during each set. Compute the average sections and round to the **nearest whole number** ($3.8 = 4$ sections).

TOTAL HOOKS SET: Record the total number of hooks used during each set. Compute the average hooks set and round to the **nearest whole number** (368 hooks).

TOTAL POLYBALLS: Record the total number of polyballs. Do not include polyballs associated with high fliers and/or radio beepers. Compute the average polyballs and round to the **nearest whole number** (4 floats).

TOTAL DROP FLOATS: Record the total number of bullet/dobs deployed during each set. Compute the average floats and round to the **nearest whole number** (100 floats).

MAX HOOKS PER FLOAT: Record the total number of hooks placed between floats. Compute the average hooks between floats and round to the **nearest whole number** (4 hooks).

With these averages available, fields #20, #24, and #37 can be computed for the Longline Gear Log.

Distance Between Sections (field #20): Average mainline length (nautical miles) divided by the average number of sections fished (round to tenth of a nautical mile).

Distance Between Gangions (field #24): There are two cases that must be considered to accomplish this computation.

Case #1: The last of the series of hooks-between-floats is attached almost at the same time the dropline is attached.

or

Case #2: The dropline is attached at an interval equal to a hook placement following the last of the hooks-between-floats.

If Case #1 occurs, convert the average mainline length from nautical miles to feet by multiplying average mainline length by **6080** feet, then divide by the average of the total number of hooks set to determine the distance between gangions (round to whole feet).

Avg. Mainline Length (ft) ÷ Avg. Hooks set = Hook Distance

If Case #2 occurs, convert the average mainline length from nautical miles to feet by multiplying average mainline length by **6080** feet, then add the average values of total Sections, Hooks, Floats (includes bullet/daubs + Polyballs) and divide that value into the mainline length to determine the distance between hooks (round to whole feet).

Avg. Mainline Length (ft) ÷ (Sections+Hooks+Total Floats) = Hook Distance

Distance Between Floats (field #37): If Case #1 occurs, multiply the number hooks-between-floats by the hook distance to derive the float distance. Using the example from the previous page:

Hook Distance (ft) x 3 = Float Distance (ft)

If Case #2 occurs, multiply the number of hooks-between-floats plus 1 (this will accommodate the spacing of the float) by the distance between hooks to derive the float distance (round to whole feet). Using the example from above:

Hook Distance (ft) x 4 (3 hooks + 1 interval) = Float Distance (ft)

We realize that variability nearly always occurs at the beginning and end of each set and from set to set within a trip. There is no such thing as a "typical longline set". We have tried several different ways to compute this information; all yielding about the same results. However, this was by far the easiest method.

Include the POP Distance Calculation Table with your data. If you are uncertain about whether more than one GEAR LOG is needed, please contact the data coordinator.