**meat\_count\_shell\_height\_breakdown\_figure.r**

**Purpose:** This function is used to make a figure which breakdowns the meat count, biomass, and shell height of the scallop in each 5 mm size bin for a given bank/year combination. This function can run stand-alone, but is integrated into the “Survey\_summary\_figures.r” file and calling that function with the “breakdown” option with the appropriate bank/year is likely the easiest way to get this function to work.

**Version Control:** This is the original and hopefully only version of this file

Required packages: None

**Locally Derived Functions**

1. **None**

**Section 1**

This function pulls in the survey estimated biomass and abundance for each size class and uses this information to display the biomass of each 5mm size bin for a given bank/year combination. Additionally the meat count (# of meats it takes to produce 500 grams of scallop) for each bin is plotted as a continuous line in the figure and this is used to show both the decline (a good thing) in meat count at higher size classes, and gives an estimate of the size of scallop that will meet a particular banks meat count regulation.

***Arguments***

1. surv.obj The processed survey results, particularly the shell height frequency data
2. yr The year of interest
3. CS The minimum size of commercial scallop. Default is NULL and gets

extracted from the surv.obj

1. RS The maximum size of commercial scallop Default is NULL and gets

extracted from the surv.obj

1. xlim The x axis limits. Default is NULL and lower bound is set as 15 mm

smaller than RS, upper bound = 160 mm

1. y1max The maximum for the BM axis. Default is NULL and is 10% above

maximum biomass for a bin

1. y2max The maximum for the MC axis. Default is based on MC.
2. co Color of the histogram
3. mc Meat count regulation for the bank. Default = 40.
4. title Figure title. Default is blank
5. cx.axs Axis number size magnification
6. cx.lab Axis label size magnification
7. cx.mn Title size magnification
8. add.title Add a title to the figure. T/F, default = T.