**Purpose:** This function is used to calculate the numbers and biomass of scallops from each tow. These data are subset into Pre-recruits, recruits, and commercial sized scallops. There is also an option to calculate the meat weights but it is not clear whether we still use this option. Several of the calculations within this function are relatively complex to tease apart and there may be troublesome assumptions within we need to re-consider (see note for 1 example).

Note:

* For the meat weight calculations, If we don't assume the allometric relationship (i.e. CF = W/H^3) I’m not sure that part of the code holds up. I believe we could just change the 3 to whatver the real B paramter is and do it that way, need to think more about it. See my comments in the if(type=”B” section)

**Version Control:** Multiple versions exist, usually duplicates of each other but no guarantees.

Required packages:

**Function Arguments Summary**

1. **shf.dat**: The data of interest
2. **years**: The years of interest
3. **type**: The type of results of interest. 'N' = default and returns numbers. 'B' returns biomass. 'MC

returns the meat count. DK added an argument type=”ALL” which calculates N, B and

MC, where the MC is calculated as , this ignores the type=”MC” section.

1. **pre.ht**: Maximum size of pre-recruits. Default = 80
2. **rec.ht**: Maximum size of recruits. Default = 100
3. **htwt.fit**: Height/weight model fit. Default = NULL
4. **A**: 'A' coefficent of Height/weight model. Default = htwt.fit$A
5. **B**: 'B' coefficient of Height/weight model. Default = htwt.fit$B
6. **mw.par**: Meat weight parameter. Default ='fixed'. 'annual' is a second options, other options are

allowed (e.g. 'CF') and must match a column name in shf.dat.

1. **bar.ht**: Height range of scallops. Default ='com' which selects the size range of commerical

scallops

1. **mc**: Meat count , this needs to be carefully specified if type = “MC”. Default = 33

**Section 1**

This function has 3 main options. The first option is to calculate the Abundance in numbers of the Pre-recruits, recruit, and commercial scallops in our survey data. The second option is very similar but calculates the biomass, within this option we are relying somewhat on the allometric relationship which may be questionable so we need to be careful here if we remove the allometry assumption, see note above. Finally the Meat Count can be calculated, this section seems a bit odd as we need to specify the “mc” before running the code here, I’m not sure this is used any longer so I have avoided any in depth analyses of this section as we can get meat count from a combination of the biomass and abundance data.

**Function Index**

as.numeric

c

ceiling

else

function

if

is.na

for

length

list

matrix

missing

merge

names

nrow

rep

rowSums

subset

substr

sum

sweep

unique

which