**Survey\_summary\_figures.r**

**Purpose**  This function is used to make the figures for survey summary presentations. This function automates the creation of 18 specific figures that may or may not be used in survey summary in a given year for whatever combination of banks you are interested in.. For this function to work you need to have the survey summary results processed and saved (using Survey\_summary\_data.r). The results can be saved to screen or as png files

**Version Control**  This is the original version Survey\_summary\_figures.r, it along with Survey\_summary\_data.r replace the annual survey summary r scripts.

Required packages viridis (the locally derived functions have their own package needs as well)

**Locally Derived Functions**

1. ScallopMap.r
2. stdts.plt.R
3. survey.ts.r
4. shf.plt.r
5. contour.gen.r
6. shwt.plt1.r
7. Clap3.plt.R
8. gridPlot.r
9. meat\_count\_shell\_height\_breakdown\_figure.r

**Section 1**

Numerous custom functions, a local csv, and the results of the survey year of interest are all required for this function to work. The first part of the function is getting the data and function loaded and organized into a consistent set up (for example adding NA’s to years we don’t have data in the survey). Next the spatial data are generated for abundances, biomasses, and clappers using the contour.gen function repeatedly. The plot titles are also set up at this time. From there is it “simply” a brute force effort to plot the requested plots for the requested banks in the requested year. Plots can be printed to the screen (don’t do that if making a bunch of plots for a bunch of banks, or saved as png’s. I probably should have made a pdf option as well but I didn’t so deal with it… The ganks and plots you can make are all listed below in the Arguments.

***Argument(s)***

1. plots: What plots do you want to make. Defaults to all plots options include
   1. PR-spatial Spatial Pre-recruits
   2. Rec-spatial Spatial Recruits
   3. FR-spatial Spatial fully recruited
   4. CF-spatial Spatial condition factor
   5. MC-spatial Spatial Meat count
   6. Clap-spatial Spatial clappers (%), Recruits + Fully recruited
   7. Survey Spatial survey tow locations + strata where applicable
   8. MW-SH Meat Weight Shell Height 2 panel plot, MW-SH by tow (left panel) +

Condition time series (right panel)

* 1. abund-ts Survey estimated abundance (#/tow) time series of Pre recruits, recruits

and fully recruited

* 1. biomass-ts Survey estimated biomass (kg/tow) time series of Pre recruits, recruits

and fully recruited

* 1. SHF Shell height frequency for the last 6 years
  2. SHF-large Shell height frequency for the last 6 years for SH bins > 70 mm.
  3. SHF-split Shell height frequency for the last 6 years, split at 60 mm to enable re-

scaling of large SHF size bins

* 1. clapper-abund-ts Clapper abundance (#/tow) time series of Pre recruits, recruits and fully

recruited

* 1. clapper-per-ts Average % clappers per tow time series all 3 size classes
  2. SH-MW-CF-ts Time series of average shell height, meat weight, and condition factor.
  3. breakdown Plot of biomass by shell height + meat count
  4. seedboxes Plot of the seedboxes, this includes several plots which will all be

produced if there is currently an open seedbox

1. banks The banks to create figures for. Option are "BBn" ,"BBs", "Ger", "Mid", "Sab", "GBb",

"GBa","GB" (note Banquereau is not supported yet and the GB is Georges Bank Spring

1. direct The working directory to put figures are from which to grab data. Default = "Y:/Offshore

scallop/Assessment/"

1. yr The survey year of interest. Default = as.numeric(format(Sys.time(), "%Y")) which

attempts to produce plots for the current year. NB: If trying to reproduce figures from previous years make sure the Rdata output from SurverySummary\_data.r for that year exists!

1. add.title Add titles to the figures; T/F. Default = T
2. fig Plot the figures to "screen" or to a "file". If fig = "file" figures are placed in the following

directory (which must exist!!) direct/yr/Presentations/Survey\_summary/bank) (e.g. ...Y:/Offshore scallop/Assessment/2015/Presentations/Survey\_summary/GBa/)

1. dat What output file do you want to load. If the entire survey summary isn't available yet

you'll need to load

1. season For the spring survey we need to identify that we don't have all the results in yet. When

running the scripts with only spring survey data set to "spring". If just running GBa and GBb you can set this to "summer" if you've already created the Rdata file. When summer survey is complete you can also set this to the default of "both". Used to determine name of saved results.