* R Basics:

1. Capitalization, format consistency, and spelling are very important!!!!!!!!!!
2. shinyapps will not upload the app without current, up-to-date packages

* Length-Weight:

1. Open data/WB\_lw.csv
2. Open western basin trawl length weight file for the desired year
3. Copy the appropriate columns into the bottom of data/WB\_lw.csv
4. Use the Proper() function to capitalize the species names
5. Make sure species names are completely spelt out (no shorthand)
6. Fill in the appropriate year and season columns for the new data
7. Save and close file

Troubleshoot: Make sure NA values are blank in the data file. An NA value will be read into R as a character and change the structure of the variable. A blank value will get read into R as an NA and maintain the integrity of the variable structure. NA values are filtered out in the global.r script.

* Catch:

1. Open data/WB\_catch.csv
2. Open western basin trawl catch faile for the desired year
3. Copy the appropriate columns into the bottom of data/WB\_catch.csv
4. Use the Proper() function to capitalize the species names
5. Make sure species names are completely spelt out (no shorthand)
6. Make sure size classes follow the same format (All Capital Letters)
   1. Use find and replace with match case selected
7. Fill in the appropriate year and season columns for the new data
8. Save and close file

* Standardized Catch Effort (CPH and NPH):

1. Open data\_prep/WB\_CatchperHA\_raw.csv
2. Open western basin CPH file for the desired year
3. Copy the appropriate columns into the bottom of data\_prep/WB\_CatchperHA\_raw.csv
4. Use the Proper() function to capitalize the species names
5. Make sure species names are completely spelt out (no shorthand)
6. Change the life stages so that they are spelt out (a1 = Age\_1, etc)
   1. Use find and replace with match case selected
7. Fill in the appropriate year and season columns for the new data
8. Save and close file

R Data Manipulation

1. Open data\_prep/shiny\_catch\_lifestages.R
2. Run code
3. A new file will automatically be saved as data/WB\_CatchperHA\_All\_LS.csv

NOTE: If preparing Spring data, zeros for all species/serials need to be entered for Autumn (Paste the data from data\_prep/WB\_CatchperHA\_zero\_autumn.xlsx into data/WB\_CatchperHA.csv). The data being copied will work without errors as long as no new species have been added. If preparing Autumn data, delete the zero values pasted during zero prep.

* Expanded Length Frequency (Bootstrap):

1. Make sure to have LW data input completed
2. Begin by running data\_prep/shiny\_lw\_catch\_QAQC.R to check for errors
3. Proceed only if no errors are found or after all errors are corrected
4. Open data\_prep/shiny\_lw\_bootstrap.R
5. Change year and season variables (lines 11 & 12)
6. Run code
7. If an error occurs, try traceback() to find out more info
8. A new file will automatically be saved as data/WB\_expLengths.csv

Water Quality:

1. Make sure to have the exported, raw YSI file
2. Open data\_prep/shiny\_water\_quality.R
3. Change the inputs for lines 15, 16, 19, & 22 to current year, season, and files
4. Run code
5. A new file will be automatically be saved as data\_prep/WB\_”season”\_”year”\_WQ\_SUMMARY.xlsx
6. Copy the appropriate columns into the bottom of data/WB\_WaterQuality.csv
7. Fill in the appropriate year and season columns for the new data
8. Save and close file