

# stockplotr: :CHEATSHEET

Create report-ready tables and figures for stock assessments.



## The Basics

Convert output file to a standardized framework.

```
data <- convert_output(  
  file = <FILE_PATH> ,  
  model = "MODEL ACRONYM" ,  
  fleet_names = c("FLEET_NAMES") ,  
  save_dir = <FILE_PATH>  
)
```

Optional

label	estimate	year	fleet	sex	...
spawning_biomass	2017090	2016	NA	NA	...
spawning_biomass	2286740	2017	NA	NA	...
...	...	...	...	...	...

Create customizable plots.

```
plot_biomass(  
  <DATA> ,  
  geom = <GEOM> ,  
  group = "<COLUMN_NAME>" ,  
  facet = "<COLUMN_NAME>" ,  
  ref_line = "msy" ,  
  unit_label = "metric tons" ,  
  module = "MODULE_NAME" ,  
  scale_amount = 1 ,  
  relative = FALSE ,  
  make_rda = FALSE ,  
  figures_dir = <FILE_PATH> ,  
  interactive = TRUE ,  
  ...  
)
```

"line",  
"point" or  
"area"

Export  
object as  
an .rda

Additional  
ggplot2  
arguments

### Example

```
plot_biomass(example_data, unit_label = "mt", ref_line = "target",  
  scale_amount = 100, module = "TIME_SERIES",  
  make_rda = TRUE, figures_dir = getwd())
```

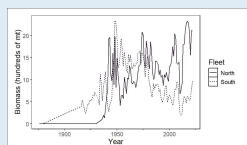
```
load(biomass_figure.rda)
```

```
rda$figure  
rda$caption
```

```
> "Biomass (B) time series. The horizontal dashed line  
represents the limit reference point (msy mt)."
```

```
rda$alt_text
```

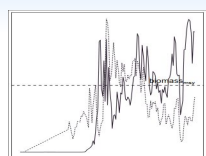
```
> "Line graph showing biomass time series. The x axis  
shows the year, which spans from 1874 to 2022. The y  
axis shows biomass in hundreds of mt, which spans from  
54.2 to 426.49."
```



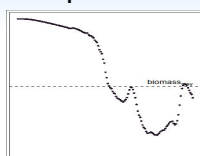
## Figures

### time series

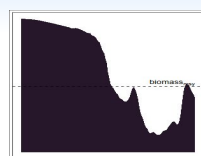
line



point



area



**plot\_spawning\_biomass(dat, geom, ...)**

Line, point, or area over time with error where applicable.

**plot\_biomass(dat, ...)**

Total biomass of line, point, or area over time with error where applicable.

**plot\_recruitment(dat, ...)**

Observed and expected recruitment over time with error where applicable.

**plot\_spawn\_recruitment(dat, ...)**

Stock recruitment relationship with fitted line.

**plot\_fishing\_mortality(dat, ...)**

Line or points of fishing mortality over time.

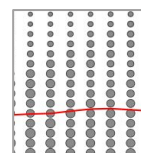
### age series

**plot\_abundance\_at\_age(dat, z, proportional, ...)**

Bubble plot depicting abundance at age over time with trend lines across the x and y axes.

**plot\_biomass\_at\_age(dat, ...)**

Bubble plot representing biomass at age over time.



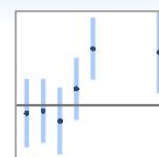
**plot\_catch\_comp(dat, ...)**

Bubble plot representing catch at age over time with trend lines of top 5% strongest cohorts.

### miscellaneous

**plot\_recruitment\_deviations(dat, ...)**

Scatter plot of points with line segments depicting error.



**plot\_indices(dat, ...)**

Observed vs. estimated indices of abundance by fleet with error where applicable.

## Tables

Tables follow the same format and conventions of figures with the exception of facetting.

**table\_landings(dat, ...)**

Total or indexed landings over time including error.

**table\_indices(dat, ...)**

Indices of abundance by fleet over time.

**table\_derived\_quantities(dat, ...)**

Specified derived quantities for management purposes. Default includes: SBmsy, Ftarget, R0, steepness.

## Theming

1. Apply NOAA Fisheries themes to both figures and tables. Applies to objects made from **ggplot2**, **flextable**, and **gt**.

```
library(ggplot2)
```

```
plot <- ggplot(cars) + geom_line(aes(x = speed, y = dist))  
add_theme(plot)
```

2. Add theme onto **ggplot2** object using (+) operator

```
library(ggplot2)
```

```
ggplot(cars) +  
  geom_line(aes(x = speed, y = dist)) +  
  theme_noaa()
```

## Exporting

**save\_all\_plots(dat, ...)**

Save each available plot and table in stockplotr as an rda in a folder called "figures".

**html\_all\_figs\_tables(figures\_tables\_dir)**

Create an html file containing all plots and tables from stockplotr to view together. Requires a folder containing rda files made from either **save\_all\_plots()** or individual plots and tables.

Follow along with our planning and development on our [GitHub project](https://github.com/nmfs-ost/stockplotr)! Be on the lookout for future releases including more tables and figures!