

# 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>
)
```

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

Create customizable plots.

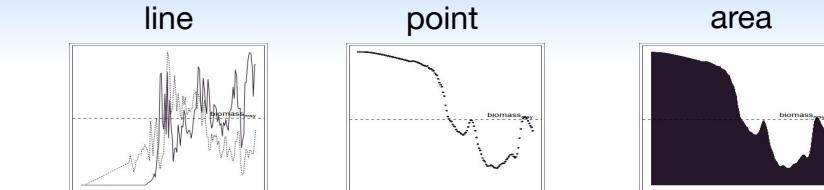
```
plot_biomass(
  <DATA>,
  geom = <GEOM>,
  group = "<COLUMN_NAME>",
  facet = "<COLUMN_NAME>",
  ref_line = "msy",
  unit_label = "metric tons",
  module = "MODULE NAME",
  scale_amount = 1,
  relative = FALSE,
  make_rda = FALSE,
  figures_dir = <FILE PATH>,
  interactive = TRUE,
  ...
)
```

### 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



`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.

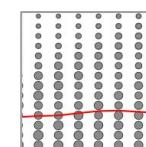
`plot_fishing_mortality(dat, ...)`

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.

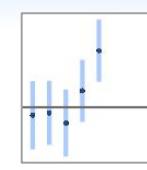
`plot_catch_comp(dat, ...)`

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, Fttarget, 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](#)! Be on the lookout for future releases including more tables and figures!