asar: :CHEATSHEET

Partially automate a U.S. fisheries stock assessment report.

⤓ Install

Install 4 R packages: pak, tinytex, asar, and stockplotr

```
install.packages("pak")
pak::pak("tinytex")
tinytex::install_tinytex(bundle = "TinyTeX-2")
pak::pak("nmfs-ost/asar")
pak::pak("nmfs-ost/stockplotr")
```
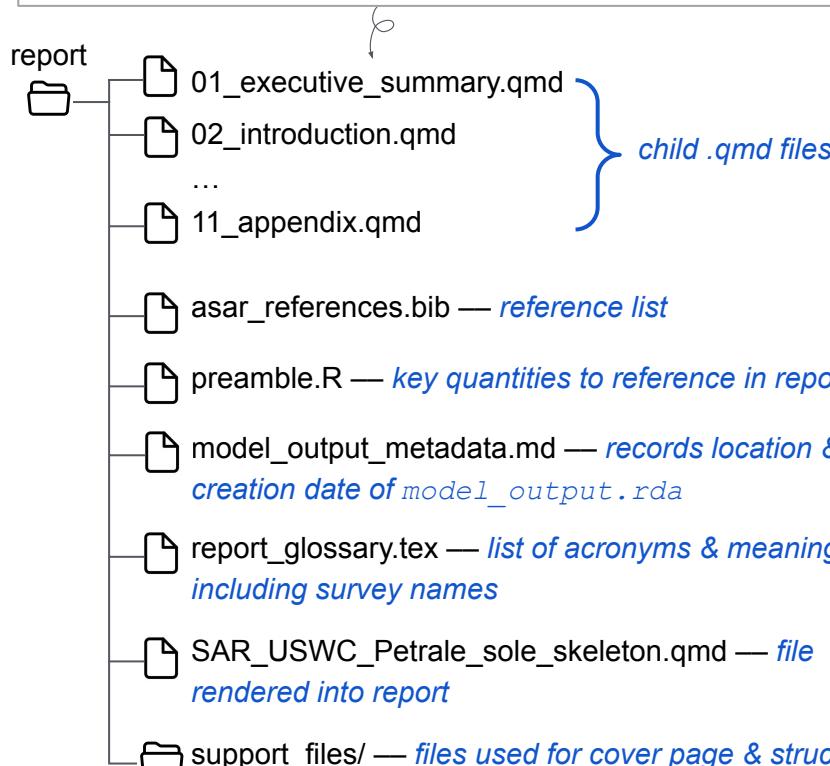
Ensure Quarto CLI v1.6+ is installed

```
quarto::quarto_version()
```

▣ Create report skeleton
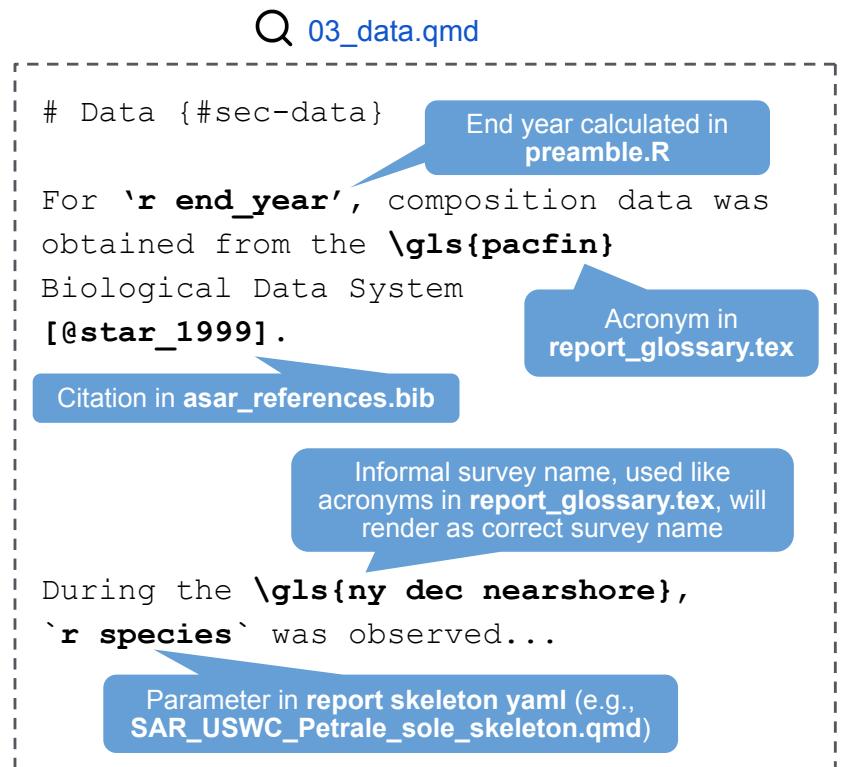
Make report with minimal recommended arguments

```
asar::create_template(
  office = "NWFSC",
  region = "U.S. West Coast",
  species = "Petrale sole",
  spp_latin = "Eopsetta jordani",
  year = 2023, # specify if past year
  author = c("John Snow" = "NWFSC"),
  model_results = here::here(" model_output.rda")
)
```

> Model output file converted with stockplotr:: convert_output()

```
report
├── 01_executive_summary.qmd
├── 02_introduction.qmd
├── ...                          } child .qmd files
├── 11_appendix.qmd
├── asar_references.bib — reference list
├── preamble.R — key quantities to reference in report
├── model_output_metadata.md — records location & creation date of model_output.rda
├── report_glossary.tex — list of acronyms & meanings, including survey names
├── SAR_USWC_Petrale_sole_skeleton.qmd — file rendered into report
└── support_files/ — files used for cover page & structure
```

⏱ Use time-saving shortcuts

Save time writing reports by using features including quantities, acronyms, citations, survey names, and parameters.

🔍 **03_data.qmd**

```
# Data {#sec-data}

For `r end_year`, composition data was
obtained from the \gls{pacfin}
Biological Data System
[@star_1999].
```

> End year calculated in **preamble.R**

> Acronym in **report_glossary.tex**

> Citation in **asar_references.bib**

```
During the \gls{ny dec nearshore},
`r species` was observed...
```

> Informal survey name, used like acronyms in **report_glossary.tex**, will render as correct survey name

> Parameter in **report skeleton yaml** (e.g., SAR_USWC_Petrale_sole_skeleton.qmd)

▦🖾 Add tables & figures

Steps:

1. Create tables, figures with `stockplotr` or other method
2. Place table .rda files in "tables" folder
3. Place figure .png, .jpg, or .rda files in "figures" folder
4. Add code chunks to `report/08_tables.qmd` that import and display tables in "tables" folder:

```
asar::create_tables_doc(
  subdir = here::here("report"),
  tables_dir = here::here()
)
```

> "tables" folder location

5. Update `09_figures.qmd` with similar workflow:

```
asar::create_figures_doc(
  subdir = here::here("report"),
  figures_dir = here::here()
)
```

> Location to save 09_figures.qmd

🪄 Render report

Options:

- Use R console

```
quarto::quarto_render(
  here::here("report",
  "SAR_USWC_Petrale_sole_skeleton.qmd")
)
```

> Report skeleton

- RStudio "render" button in program pane ⇨ **Render**
- Use terminal: `quarto render report/skeleton.qmd`

👤 Add accessibility features

For PDFs: Add tags & alternative text for figures

```
path <- getwd()

withr::with_dir(
  file.path(path, "report"),
  add_accessibility(
    x = "SAR_USWC_Petrale_sole_skeleton.tex",
    dir = getwd(),
    alttext_csv = file.path(getwd(),
"captions_alt_text.csv"),
    compile = TRUE
  )
)
```

> LaTeX-based version of report

> File with templates for captions and alternative text. Templates must be reviewed and expanded by user

Captions/alternative text file format *(captions_alt_text.csv)*

label	type	caption	alt_text
example_fig	figure	Example caption for figure.	Example alternative text for figure.
example_tab	table	Example caption for table.	
...	...	...	...

ℹ See "Increasing Report Accessibility" vignette

☆ Tip

Use relative filepaths

- Saves time and effort
- Facilitates collaboration

Recommended tool: `here` R package

```
absolute_path <- "C:/docs/file"
relative_path <- here::here("file")
```