Testing {asar} and {stockplotr}

Directions:

We have prepared a workflow for writing a stock assessment report using the `asar` and `stockplotr` R packages. Run code step-by-step, in the activity section. Open a new script when indicated. A stock synthesis output file is provided in the repository for use during this workflow. The example provided is for the 2024 yelloweye rockfish (*Sebastes rubberimus*) update on the U.S. West Coast. All materials to complete this activity can be found in the Workflows Workthrough repo.

Please consider the following questions as you work through the exercise. We welcome your answers at the next steering committee meeting.

- How would this template work based on your current guidelines?
- How easy was the template to make?
- How similar was this to your current workflow?
- Did you encounter any issues or errors?
- Could you see the future of its use into your workflow?
- What improvements would you make to the process as a whole or individual parts of the workflow?

If you need help along the way, the "check" folder in the repository provides some guidance if you get stuck.

Activity:

Initialize your workflow

1. Create a repository from the template repo in GitHub.
2. Identify where you want the folder containing your report files as well as the figures and tables files to be placed*. We recommend putting it in a folder containing the rest of your materials for a particular assessment species and year.

**{asar} defaults to your working directory; however, you are able to tell it where to place the files through the `file_dir` argument.*

3. Open a new script that will be the basis for creating the reproducible workflow.

4. Install the most recent version of {asar} and {stockplotr}

```
install.packages(
  "asar",
  repos = c("https://nmfs-ost.r-universe.dev",
  "https://cloud.r-project.org"))
install.packages(
  "stockplotr",
  repos = c("https://nmfs-ost.r-universe.dev",
  "https://cloud.r-project.org"))
```

   Alternative methods for installation, can be found on the package's respective GitHub Pages, asar and stockplotr.

5. If you haven't already, install tinytex expanded version:

```
install.packages("tinytex")
tinytex::install.tinytex(bundle = "TinyTeX-1")
```

   If you want to go above and beyond, download the TinyTeX bundle 2 instead of the above option which might be necessary for later process (WARNING: this will take upwards of ~30-45 minutes).

```
tinytex::install.tinytex(bundle = "TinyTeX-2")
```

Automation

1. Create a blank report template using the following arguments (or a region/species of your choice):
   a. region = "U.S. West Coast"
   b. species = "Yelloweye rockfish"
   c. spp_latin = "Sebastes rubberimus"
   d. year = 2024
   e. Author (use your name)
   f. Office (use your office)

Render the skeleton file and see what it looks like blank!

2. Convert the report.sso file in the repo to a standard dataframe. Load it into your environment.

Note: An example Report.sso file has been provided for you. If you work with BAM or SS3, feel free to use your own model output for this exercise.

3. Create all of the tables and figures from `stockplotr`

   Hint: you might need to add specific arguments to render some tables and figures (`ref_line`, `ref_line_sb`, and `indices_unit_label`)

4. Add the tables and figures into your outline.

5. Update your preamble so it includes the converted output file.

> ***Re-render your quarto file to check on your progress!*** 🙂

Alterations to the template

1. Woops! You forgot to add an author to the outline. Please add “Patrick Star” as an additional author into your report.

2. Of course…The SSC requested a new section be added to the report for this species. Please add the section “Ecosystem Indicators” to your outline in the data section then add another section, “Management”, to your outline after the assessment sections.

3. You need to generate a plot that is not currently in stockplotr. Add the provided image (SPRratio.png) from the repo into the figures doc.
   Hint: make sure to incorporate a caption and alternative text in their proper location.
   Hint #2: Check out the Custom Figures & Tables vignette for more help.

4. Check the captions and alternative text for your other figures and tables. Find the line associated with the biomass figure and remove the sentence in the caption about the limit reference point, since it doesn’t appear in the figure.
   Hint: Check out the Accessibility vignette for more help.

Final Actions

1. Remove draft watermark.

2. Add alternative text and PDF tagging.

Reflection

Congratulations, you've learned most of the workflow needed to render a stock assessment report with asar! If you have 5 more minutes, we'd greatly appreciate hearing your answers to these questions so that we can improve `asar` for everyone. (Feel free to post your responses in discussions on the GitHub page)

- How would this template work based on your current guidelines?
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