6. Exporting data • narwind

Exporting data

There are two ways to save the results of an analysis conducted in `narwind`.

The first is to save the R objects returned by the model as an `.rda` (or 'R data') file using the save() command. **This is essential** as running the agent-based model can be time-consuming and repeat analyses should therefore be avoided. To do this, execute the following line of code, making sure to replace the path and fine name with appropriate values:

```
save(model_base, file = "path/to/a/folder/of/choice/filename.rda")
```

During package testing, a typical `.rda` file containing outputs from a run of the agent-based model with `nsim = 1000` was between 500 Mb and 1 Gb in size.

In addition to the above, the `export()` function can be used to save model outputs as a Microsoft Excel spreadsheet (.xlsx), stored in the user's current working directory. `export()` can be used with both outputs from the agent-based model and the population model. In the former case, a separate file will be produced for each cohort in `cohort`, so we recommend using this option only for short simulation runs (`nsim = 100`), or using the `cohort` and `whale` arguments to extract data for specific individuals/cohorts.

Note that if the simulation run was given a label when using narw(), then this label is appended to the output file name.

In the below example, the first line of code exports data from the agent-based model for the first 10 females in the lactating cohort (ID = 5). The second line of code exports population projection data.

```
export(model_base, whale = 1:10, cohort = 5)
export(proj_base, prefix = "NARW_abundance")
```

All arguments to `export()` are listed below.

Object class	Argument	Default value	Description
narwsim	obj	–	Input model object, as returned by narw().
	prefix	"narwsim"	Character string. Prefix appended to the output file name.

Object class	Argument	Default value	Description
	whale	1:nsim	Positive integer indicating the individual(s) for which data should be extracted. By default, all individuals are included.
	cohort	1:6	Positive integer or vector of positive integers indicating which cohort(s) should be considered. Defaults to all cohorts.
narwproj	obj	-	Input projection object, as returned by predict().
	prefix	"narwproj"	Character string. Prefix appended to the output file name.
	...		Additional arguments passed to write.xlsx

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