Hi Beth,

this is a good start. Some comments:

-Instead of storing the number of animals in each weekly age class for each simulated week, you could just keep track of your population with vectors (eg a vector of size 260 for females), and compute at each timestep the summary stats you want to extract, without storing all the data. Especially as you will run a model for a lot more than 52 weeks, so you would be storing very large matrices. Having said that, fine if the model is fast enough.

-the model is in discrete time, so you are not working with rates but risks. You need to consider how events should be combined. For instance: fIm\_new <- fIm\_mat[,w\_prev]\*(immunity\_F - (net\_off\_F+mort\_F)) can become negative if immunity\_F < net\_off\_F+mort\_F. Instead, I would write this as: fIm\_mat[,w\_prev]\*immunity\_F \*(1-net\_off\_F)\*(1-mort\_F): animals in fIm at the next timestep are those that did not die, were not part of the offtake, and for which immunity did not wane

-You may need to consider longer max life expectancies, it would be nicer to have the immunity waning at each timestep rather than abruptly at the end of each period. Fine if you are planning to modify this later.

Guillaume