Back-Calculation Assignment

The file `MNBCData98.csv` contains radial measurements from scales for a variety of species captured in 1998 from a variety of lakes in southern Minnesota. Use these data to answer the questions below.

1. Choose a lake and species to examine. You may find it useful to use the following code, which assumes that you named the data frame as `mn` in R and you are interested in Lake Shetek Walleye.

```
> table(mn$lake,mn$species)
> df <- Subset(mn,species=="WAE" & lake=="Lake Shetek")
```

2. Is "plus-growth" recorded for your chosen data? Explain.
3. Fit the regression required for use with the scale-proportional-hypothesis model. Save the intercept and slope for use below. Comment on the fit of this model.
4. Use the scale-proportional-hypothesis method to back-calculate length-at-age for your data.
5. Compute the mean "back-calculated" length-at-age.
6. Compute the mean "back-calculated" length-at-age for different ages-at-capture (and, perhaps, construct a plot). Any interesting observations from this summary?
7. (*Time Permitting*) Repeat the previous questions but using the body-proportional-hypothesis. How different are the summary results?
8. (*Time Permitting*) Repeat the previous questions but use a different species and lake combination.