DVR Weight-Length Relation

Exercise - Walleye

Answer the following questions by creating an R script and iteratively running the code in RStudio.

1. Load the `WalleyeErie2.csv` file into a data.frame object and restrict the data to Walleye captured from location 1 in 2013. Use these data for the following questions.

    a. Plot the weight-length data separated by sex. Does there appear to be a difference in the weight-length relationship between the sexes?

    b. Fit an appropriate model for testing whether the weight-length relationship differs between female and male Walleye. Assess the assumptions of this model.

    c. Determine if the weight-length relationship differs between the sexes.

    d. *IF appropriate*, fit a reduced model.

    e. Provide a table of parameter estimates (and 95% confidence intervals) for the final weight-length relationship regression. Interpret each parameter estimate.

    f. Predict (with 95% prediction interval) the **weight** of fish from both sexes with a given length (i.e., choose a reasonable length)?

    g. Provide summary graphics of the weight-length relationship regression, separated by sex if appropriate, on two scales (i.e., two graphics).

2. [*Time Permitting*] Perform a similar analysis to above but for testing whether the weight-length relationship differs among the three sampling locations for **female** Walleye captured in 2008.