

DVR Weight-Length Relation - Nunavut Exercise

1. Load the `PG008_original.xlsx` file into a `data.frame` object and restrict the data to only those fish captured in **freshwater** in **2010** for which a sex was or could be determined. 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 Arctic Charr. 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 between 2013 and 2014 for all Arctic Charr captured in **freshwater**.
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