Biology 4605/7220

30 Oct 2019 Worksheet for Exam 2 Part 2

For the following analyses construct a variable table

Two or more explanatory

Name Symbol. Units Response or Factor or Random Crossed

Explanatory Covariate or Fixed or Nested

Then write a GLM with df below each term.

1. Heart rate of 30 marathon runners compared to 20 sprint runners, controlled for bodysize (weight)

GLM: =

df:

2. Regression analysis of number of babies delivered per year in 17 European countries,

as a function of number of storks and land area (Matthews A.J. 2000. Storks deliver babies p = 0.008. *Teaching Statistics* 2:36-38).

GLM: =

df:

3. Hierarchical ANOVA of wheat yield (tonnes/ha) in two fields on each of 3 farms.

Number of observations per field: Farm1 (n=3, 3) Farm2 (n = 3, 4) Farm3 (n = 3,3)

GLM: =

df:

4. Power laws are used to describe the relation of lobster egg number to size (carapace length in mm). Compare power laws for lobsters from Virginia (n=10) , Maine (n = 11),

Nova Scotia (n = 10), and Newfoundland (n =10).

GLM: =

df:

5. With the bicycle ECG stress test, does maximum power output by male and female patients depend on whether the investigator is male or female? ntotal = 27

GLM: =

df:

6. Do the results for the analysis above differ among cardiac units (different hospitals)?

ntotal = 81 [challenging!]

GLM: =

df: