

## Getting started hints - for students

This section provides a few brief hints for the student in how to begin thinking about analysing the data.

### Project 1 - Are beetles more stressed in connected freshwaters?

The dataset can be read in as follows:

```
beetles <- read.csv("beetles_project_data.csv")
```

This is a regression problem, where the (possibly nonlinear) relationships between covariates and the response variable are to be modelled. The third question considers interactions between some of the covariates.

The response variable is a count, which means that you will need to think of an appropriate model to account for this. There are many possible covariates and you will need to consider which should be considered in any model, including by investigating how they relate to each other. For all models, a linear relationship may not be enough and it may be necessary to consider modelling nonlinear relationships. For the third question, you will need to think of how to appropriately model any interactive effects of stressors and connectivity.

#### Reading material

Generalised linear models, flexible regression lecture materials.

Wood, Simon N. (2017) *Generalized Additive Models: An Introduction with R*. CRC/ Chapman and Hall. (suggested, if available to you)