1 Data Description

This data was collected on September 20, 2016 along 3 reaches of the Santa Ana River, with 9 observations per reach. Each observation contains the following variables:

1.1 Importing Data

```
file = "/home/CAMPUS/mwl04747/github/Santa-Ana-Sucker-Recovery/Data/Data_TUES_1/AllParamete
import <- read.csv(file)
```

1.2 Summary Statistics

```
summary(import)
```

```
##  Site      Algae           Sediment       Temperature        Canopy
##  A:9   Min.   :  0.00   Min.   :0.0000   Min.   :28.00   Min.   : 0.000
##  B:9   1st Qu.:  0.00   1st Qu.:0.0000   1st Qu.:29.00   1st Qu.: 3.000
##  C:9   Median : 50.00   Median :1.0000   Median :29.00   Median :11.000
##        Mean   : 48.52   Mean   :0.5926   Mean   :28.89   Mean   : 8.593
##        3rd Qu.:100.00   3rd Qu.:1.0000   3rd Qu.:29.00   3rd Qu.:14.000
##        Max.   :100.00   Max.   :1.0000   Max.   :30.00   Max.   :15.000
```

1.3 Distribution

Write some stuff about the summary here...

```
hist(import$Predictor)
```

```
## Error in hist.default(import$Predictor):  'x' must be numeric
```

ANOVA TESTS summary(results.aov)
Signif. codes: 0 *** 0.001 ** 0.01 * 0.05 . 0.1 1
Algae v Site: Pr(¿F) 7.19e-08 *** HIGHLY SIGNIFICANT — v Sediment Pr(¿F) Sediment 0.0643 . SIGNIFICANT
— v Temperature
Pr(¿F) Temperature 0.446 NOT SIGNIFICANT —- Canopy
Pr(¿F) Canopy 0.334 NOT SIG. SHOULD DO REGRESSION INSTEAD?
— Algae Site+Temperature
Pr(¿F) Site 2.53e-07 *** Temperature 0.0714 . SIG. SHOULD DO REGRESSION INSTEAD? — Algae Site+Sediment
Pr(¿F) Site 4.73e-07 *** Sediment 0.211
HIGHLY SIGNIFICANT (2nd in significance?)

— Algae Site+Sediment+Temperature

Df Sum Sq Mean Sq F value Pr(¿F) Site 2.95e-07 *** Sediment 0.1918 Temperature 0.0858 . MIXING CATEGORICAL AND CONT. PREDICTORS. NEED OTHER TEST? — Algae Site+Sediment+Temperature+Canopy

Pr(¿F) Site 5.43e-07 *** Sediment 0.2004 Temperature 0.0919 . Canopy 0.6591

MIXING CATEGORICAL AND CONT. PREDICTORS. NEED OTHER TEST?

—

```
hist(import$Response)

## Error in hist.default(import$Response):  'x' must be numeric
```

2 Bias and Data Limitations

All data collected on one day, Sept. 20, 2016.

Abnormal event (car accident) occurred a few ? days before data collection which caused the RIX treatment plant to temporarily shut off water outlet pipes, effectively draining the river and adeversely impacting algae populations to an unknown degree. Therefore our measurements likely reflect less-than-typical algae abundance. Our measuremnts were taken by undergraduate students without extensive algae fieldwork experience or training.