# Statistics in Aquaculture Workshop:

## The General Linear Model - a Unifying and Simplifying Theme of Statistics

February 19, 2018 — 8:30 - 4:30

**Aquaculture America Conference 2018**

Sponsored by

USAS & AFS-FCS

## Workshop Content

***"The focus will be on applied statistics with very little theory or equations"***

Most people in scientific fields like aquaculture have heard the litany of statistical terms: regression, t-test, ANOVA, ANCOVA, mixed-effects, multi-factor ANOVA, multiple regression, repeated measures, nested effects, logistic regression, and so on. With so many different statistical tests taught, it's no wonder that students and scientists alike can be overwhelmed and confused by even relatively basic statistics. However, all these tests are just different forms and extensions of the general linear model, a fact that is rarely taught in statistics classes. Yet by learning all these statistical tests from the unifying framework of the general linear model, understanding – and more importantly utilizing – those statistics becomes infinitely easier. **The current workshop will teach all of the basic and advanced statistics listed above from the perspective of the general (and generalized) linear model.** As such, it should be of use to a wide-ranging audience, from those who have little understanding of statistics to those who have a fairly firm grasp of the basics, but want to know more. **The focus will be on applied statistics, with very little theory or equations (other than the linear model itself).** Lots of examples will be used to enhance understanding, and examples will focus on topics from aquaculture and other biological and natural resource fields. Finally, analyses will be demonstrated using the statistical package R, which is extremely powerful, widely popular, and best-of-all, free.

**Morning Session:**

- Regression
- ANOVA
- T-Test
- Non-linearity
- Multivariable models
- Interactions
- Collinearity

**Afternoon Session:**

- Mixed effects models
- Repeated measures
- Nested effects
- Pseudoreplication
- Poisson regression
- Logistic regression
- Model building

## Instructor

**Todd Steury**

Auburn University School of Forestry and Wildlife Sciences

**Todd Steury** is Associate Professor of Wildlife Ecology at Auburn University. For the past 10 years, he has been **teaching applied statistics** at the basic and advanced levels to undergraduate and graduate students, post-docs, and professors in natural resources fields.

**Todd is widely known for his ability to explain statistics in a straightforward and easy-to-understand manner**, and he regularly wins awards for his teaching, including the "Harold E. Christen Award for Service to Teaching" from the School of Forestry and Wildlife Sciences, "Outstanding Faculty Member Award" from the Auburn University Student Government Association, and "Teacher of the Year", which he has received 5 times from the Auburn University Chapter of The Wildlife Society.

Todd's research expertise is in carnivore ecology and conservation, quantitative ecology, and statistics. In his publications, he has used an incredibly diverse array of statistical and quantitative methods such as bootstrapping, Kalman filters, Fourier transforms, and simulation modeling. His favorite statistical method, however, is linearized models. Todd collaborates with and provides statistical consultations to other researchers in a variety of biological fields.

## Pricing Information

- Base Price - $300
- USAS or AFS-FCS Member - $150**
- USAS or AFS-FCS Student Member - $75

**WAS members can join USAS—only $5.00

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OR email John Cooksey (admin@was.org) for stand alone workshop registration