

# Candace Low

## Statistician/Scientist/Educator

### Contact

[www.linkedin.com/in/clowsf](http://www.linkedin.com/in/clowsf)

### Key Skills

**Statistical modeling:** descriptive statistics, hypothesis testing, analysis of variance (ANOVA) - parametric and non-parametric tests, correlation and regression (linear and nonlinear, multiple regression, polynomial), mixed-effects models, probability and data distributions, data wrangling and restructuring, report and grant writing, graphics, project management, liaison, communication, leadership

### Activities and Interests

Ashtanga yoga, surfing, art, photography, baking, traveling, road trips, camping, insects, wildlife, evolutionary game theory, economics, social justice, the environment

### SUMMARY

**A versatile scientist** and writer with 20 years of experience solving scientific problems with large data sets, especially those from non-experimental, uncontrolled, observational studies. Enjoys working with messy data that requires statistical manipulation to draw out patterns. Will borrow statistical methods and theory from across disciplines to answer questions. Looks for big picture and information gaps. Supporting DEI initiatives as a Financial Literacy Coach for the REACH program and teaching a graduate course in data science in the GOLD program at SF State University.

**PhD in Ecology and Evolutionary Biology**, with advanced technical training in statistical and theoretical modeling, and experimental design methods. Lead author of 11 peer-reviewed scientific articles reporting on analyses of time series, behavioral data, field studies, survivorship, and molecular genetics. Spearheaded 10 collaborative research projects and won 15+ competitive grants with awards totaling \$300K. Taught statistics, R programming, and data science to 800+ students since 2013.

### PROJECTS

*Mar 2020—Dec 2020*

#### **Statistician/Consultant • Santa Clara Valley Water District • Santa Clara, California**

Conducted survivorship analyses, estimated sample size requirements; generated descriptive statistics with supporting graphical figures for final reports. Entered hand-recorded data into Excel then read into R for analyses, which were primarily descriptive statistics and comparative analyses. Made recommendations for study design and types of metrics to use for statistical robustness and clarity in future work. Project was on restoration of native habitat in the Santa Clara Valley.

## Academic Positions

### Teaching Statistics

*Aug 2013—Aug 2025*

#### **Lecturer faculty**

Department of Biology  
San Francisco State University  
San Francisco, California

*Aug 2013—Dec 2014*

#### **Adjunct professor**

Department of Mathematics,  
Sciences & Technology  
UC Berkeley Extension Program  
San Francisco, California

## Education

*Dec 2007*

#### **PhD Ecology, Evolution, and Marine Biology**

UC Santa Barbara  
Santa Barbara, California

*Sep 2000*

#### **MA Conservation Biology**

San Francisco State University  
San Francisco, California

*Dec 1997*

#### **BA Integrative Biology**

UC Berkeley  
Berkeley, California

*Mar 2014—Dec 2017*

#### **Statistician/Consultant • The Nature Conservancy San Francisco, California**

Analyzed field data of ~150 species of migratory birds and waterfowl using wetlands in the California Central Valley from 4 years of study. Advised on sampling design, field protocol, metrics, wrote algorithms to handle uncontrolled visual point samples, generated figures, and conducted hypothesis tests. Analyses conducted using R packages: *vegan*, *reshape*, *ggplot*, and *descr*. Publications: [Reynolds et al. 2017](#) and [Golet et al. 2017](#)

*Jun 2013—Feb 2014*

#### **Data scientist/Consultant • Search Strategy Solutions San Francisco, California**

Developed sampling algorithm to choose search terms from corporate landing pages to then be used to evaluate accuracy of product matches and website marketing effectiveness.

*Sep 2009—May 2013*

#### **Theoretical ecologist • Department of Ecology & Evolutionary Biology • Cornell University • Ithaca, New York**

1) Applied optimal control and game theory to model the economics of defense strategies between a consumer (insect) and resource (plant) using parameter estimates from 10 years of field observations. Solved ordinary differential equations in simulations using R *deSolve*. Publication: [Low et al. 2013](#)

2) Determined hypotheses tests, partitioned variances, tested for correlations between nutrient cycling rates and environmental factors using stable isotope data. Designed and conducted field experiments. Publication: [Low and Sparks 2016](#)

*Jan 2008—Aug 2009*

#### **Molecular geneticist / Research associate • United States Department of Agriculture • Beltsville, Maryland**

Developed genetic barcode and used PCR to detect parasite DNA and identify cryptic (genetically novel) parasite species in host tissues. Publication: [Low et al. 2012](#)

*Sep 2002—Dec 2007*

#### **PhD candidate • University of California, Santa Barbara Santa Barbara, California**

Fit nonlinear mixed-effects models to data on growth rates and survivorship using *nlme* in R. Publication: [Low et al. 2008](#)