

# Andrew Peter Rothstein

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## Education

*Ph.D, Department of Environmental Science, Policy and Management, UC Berkeley* 2016-2020

PI: Dr. Erica Bree Rosenblum

Dissertation: Managing disease-related amphibian declines using genomics

*M.Sc, Department of Biology, Western Washington University* 2012-2015

PI: Dr. Dietmar Schwarz

Thesis: Non-invasive genetic tracking of harbor seals (*Phoca vitulina*)

*B.S., Rubenstein School of the Environment and Natural Resources, University of Vermont*

Major: Natural Resources - Resource Ecology

## Professional Positions

**Postdoctoral Scholar** 2021-present

Department of Environmental & Occupational Health, School of Public Health

University of Washington

PI: Dr. Karen Levy

## Relevant Skills

**WetLab:** DNA/RNA extraction, PCR, qPCR, Illumina library prep, amplicon sequencing prep.

**Code:** R, python, bash.

**Bioinformatics:** Illumina amplicon sequencing, bait capture design, multiplex design, assembly, annotation, alignments, phylogenetics, and experience SNP calling with GATK, FreeBayes, samtools, bamtools, and ANGSD.

**Computing:** SLURM, Unix tools, git, GitHub.

**Statistics:** Linear models, mixed models, classical statistics.

**Geospatial:** Analysis & visualization in R (raster, sp, ggplot2). Experience with ArcGIS.

## Publications

[Google Scholar](#)

**Rothstein A.P.**, Byrne A.Q., Knapp R.A., Briggs C.J., Voyles J., Richards-Zawacki C.L. and Rosenblum E.B. *Proc. R. Soc. B.* 2021. Divergent regional evolutionary histories of a devastating global amphibian pathogen.2882021078220210782. <http://doi.org/10.1098/rspb.2021.0782>

**Rothstein, A.P.**, Knapp, R., Bradburd, G., Boiano, D., Rosenblum, E.B. *Molecular Ecology*. 2020. Stepping into the past to conserve the future: archived skin swabs from extant and extinct populations inform genetic management of an endangered amphibian. <https://doi.org/10.1111/mec.15515>

Lambert, M.R., Womack, M.C., Byrne, A.Q., Hernández-Gómez, O., Noss, C.F., **Rothstein, A.P.**, Blackburn, D.C., Collins, J.P., Crump, M.L., Koo, M.S. and Nanjappa, P. *Science*. 2020. Comment on “Amphibian

fungal panzootic causes catastrophic and ongoing loss of biodiversity". <https://doi.org/10.1126/science.aay1838>

Hernández-Gómez O., Byrne A.Q., Gunderson A.R., Jenkinson T.S., Noss C.F., **Rothstein, A.P.**, Womack MC, Rosenblum EB. 2020. Invasive vegetation affects amphibian skin microbiota and body condition. *PeerJ* 8:e8549 <https://doi.org/10.7717/peerj.8549>

Byrne, A.Q., **Rothstein, A.P.**, Poorten, T.J., Erens, J., Settles, M.L., & Rosenblum, E.B. 2017. Unlocking the story in the swab: A new genotyping assay for the amphibian chytrid fungus *Batrachochytrium dendrobatidis*. *Molecular Ecology Resources*. [doi:10.1111/1755-0998.12675](https://doi.org/10.1111/1755-0998.12675).

Des Roches, S., Sollmann, R., Calhoun, K., **Rothstein, A.P.** & Rosenblum, E.B. 2017. Survival by genotype: patterns at Mc1r are not black and white at the White Sands ecotone. *Molecular Ecology*. [doi:10.1111/mec.13894](https://doi.org/10.1111/mec.13894)

**Rothstein, A.P.**, McLaughlin, R., Acevedo-Gutiérrez, A. & Schwarz, D. 2016. WisePair: a computer program for individual matching in genetic tracking studies. *Molecular Ecology Resources*. [doi:10.1111/1755-0998.12590](https://doi.org/10.1111/1755-0998.12590)

**Rothstein, A.P.** 2015. [Non-invasive genetic tracking of harbor seals \(\*Phoca vitulina\*\)](#). M.Sc. thesis, Department of Biology, Western Washington University, Bellingham, WA.

## Grants & Awards

UC Berkeley Wildlife and Fisheries Program, Lyman Oliver Award (\$1,200)	2020
UC Berkeley Wildlife and Fisheries Program, Lyman Oliver Award (\$900)	2019
UC Berkeley Museum of Vertebrate Zoology, Wilhelm F. Martens Fund (\$2,000)	2019
UC Berkeley Graduate School Travel Grant (\$800)	2019
Sequoia Science Learning Center Research Grants Program (\$5,000)	2018
UC Berkeley ESPM Cohort Starter Grant (\$1,000)	2016
Sequoia Parks Conservancy Travel Grant (\$350)	2016
Western Washington University Ross Travel Grant (\$350)	2014
Western Washington University Fund for the Enhancement of Graduate Research (\$900)	2013
Best Student Poster Presentation at 17th NW Student Ch. Marine Mammalogy	2013

## Presentations

Joint Meeting of Ichthyologists and Herpetologists (Snowbird, UT) <i>Talk</i>	2019
The Evolution Conference (Providence, RI) <i>Talk</i>	2019
103rd Ecological Society of America Meeting (New Orleans, LA) <i>Talk</i>	2018
Mountain Yellow Legged Frog Interagency Meeting (Sacramento, CA) <i>Talk</i>	2017
Mountain Yellow Legged Frog Interagency Meeting (Burlingame, CA) <i>Talk</i>	2016
Sequoia-Kings Canyon NP Science Symposium (Three Rivers, CA) <i>Poster</i>	2016
Thesis seminar, WWU Department of Biology (Bellingham, WA) <i>Talk</i>	2015
WWU Graduate Research Conference (Bellingham, WA) <i>Talk</i>	2014
18th NW Student Chapter Meeting - Society of Marine Mammalogy (Bellingham, WA) <i>Talk</i>	2014
2nd North American Congress for Conservation Biology meeting (Missoula, MT) <i>Poster</i>	2014
17th Northwest Student Chapter Meeting of the Society of Marine Mammalogy (Seattle, WA) <i>Poster</i>	2013

## Teaching Experience

**Graduate Student Instructor** 2020

*Fung Fellowship GSI Fung Fellowship for Undergraduates: Conservation and Technology Track*

**Transfer Connect Fellow** 2020

*Mentor Fellow ESPM Berkeley Connect Program*

**Berkeley Connect Fellow** 2019-2020

*Mentor Fellow ESPM Berkeley Connect Program*

**Graduate Student Instructor** 2018

*Lecture & Lab Lead Data Science in Global Change Biology (ESPM157)*

**Graduate Student Instructor** 2018

*Discussion Lead Global Change Biology (ESPM152)*

**Graduate Student Instructor** 2012-2014

*Lecture & Lab Lead Introduction to Cell and Molecular Biology (BIO205)*

## Outreach & Mentoring

**Mentee of undergraduate research assistants** 2012-present

Total of fifteen undergraduates during MS.c. and Ph.D programs in both field, lab, and coding work. Mentored URAP student to support both current research and developing independent studies.

**Bay Area Science in Schools Volunteer** 2016-2018

Volunteer outreach program in East Bay, CA with elementary schools consisting of hour-long, hands-on presentations that align with current elementary science standards

**Volunteer, Save the Frogs Day** 2017-present

Rosenblum Lab annual event for local elementary students consisting of hands-on presentations about frog conservation and vertebrate biology

**Schwarz Lab Science Outreach Lead Coordinator** 2014-2015

Developed educational activity with 5th grade students at Happy Valley Elementary, Bellingham, WA that highlighted the methods and goals of my graduate research at Western Washington University. Coordinated activities and assigned roles for undergraduates and other graduate students Schwarz lab. Lead sessions that included teaching topics of sampling design, data analysis, and ecological system dynamics

**WWU Biology Graduate Program Committee Member** 2013-2014

Elected position to represent current graduate students for faculty members

**Co-coordinator of 18th NW Student Meeting of The Soc. of Marine Mammalogy** 2013-2014

Responsibilities include planning conference, inviting keynote speaker, and delegating associated tasks to undergraduates in Dr. Acevedo-Gutiérrez lab

## Work Experience

**GIS and Stewardship Intern** 2011

*Trust for Public Land Vermont Office (Montpelier, Vermont)*

Compiled and wrote baseline documents summarizing the natural, cultural, and historical features for properties secured by land trust. Responsibilities included creating maps on natural resources and public use trails through ArcGIS and spatial tools. Wrote project stewardship management plans with county

foresters, state biologists, and community members which are used to guide management, on local, state, and federal levels

**Research Assistant**

*2010-2011*

*University of Vermont and Zambian Carnivore Program*

Organized a literature review of study species such as African Lion, African Wild Dog, Cheetah, and Brown Hyena

Created animal movement maps (ArcGIS) using GPS locations of collared individuals to be used in governmental management of species

**Forestry Research Assistant**

*2010*

University of Maine CFRU Summer Field Crew

**Independent Research**

*2009-2010*

Nitrogen deposition's influence on HWA infestation spread rate with Dr. Jennifer Pontius

Independent study on the effects of temperature and nitrogen deposition in spread of Hemlock Woolly Adelgid throughout the Northeastern US

**References**

Available upon request