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 *2007-2011*

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, phylogentics, 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.

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

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

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 Musuem 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) *Talk* *2019*

The Evolution Conference (Provdience, RI) *Talk* *2019*

103rd Ecological Scoiety of America Meeting (New Orleans, LA) *Talk* *2018*

Mountain Yellow Legged Frog Interagency Meeting (Sacramento, CA) *Talk* *2017*

Mountain Yellow Legged Frog Interagency Meeting (Burlingame, CA) *Talk* *2016*

Sequoia-Kings Canyon NP Science Symposium (Three Rivers, CA) *Poster* *2016*

Thesis seminar, WWU Department of Biology (Bellingham, WA) *Talk* *2015*

WWU Graduate Research Conference (Bellingham, WA) *Talk* *2014*

18th NW Student Chapter Meeting - Society of Marine Mammalogy (Bellingham, WA) *Talk* *2014*

2nd North American Congress for Conservation Biology meeting (Missoula, MT) *Poster* *2014*

17th Northwest Student Chapter Meeting of the Society of Marine Mammalogy (Seattle, WA) *Poster* *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

Mentor 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 indepedent 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 annaual event for local elementary students consisting of hands-on presenations 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 Wooly Adelgid throughout the Northeastern US

References

Available upon request