

Melissa R. Price

1910 East-West Rd., Sherman 118
Honolulu, HI 96822
Follow on Twitter @HiWildlife

Office phone: 1-808-956-7774
Email: pricemel@hawaii.edu
Personal website: melissarprice.weebly.com
Lab website: hawaiiwildlifelab.wixsite.com/hawaiiwildlife

EDUCATION

Doctorate, Biology, 2011, *summa cum laude*

Loma Linda University, Loma Linda, CA

Dissertation: Behavioral Ecology, Taxonomy, and Conservation Genetics of the Bahama Oriole (*Icterus northropi*)

Bachelor of Science, Biology, 2002, *cum laude*

Walla Walla University, College Place, WA

Minor in Chemistry, Certificate in Secondary Education

EXPERIENCE IN TEACHING & RESEARCH

Assistant Professor, Department of Natural Resources & Environmental Management

January 2015 – present (tenure-track since August 2017: 65% Instruction, 35% Research)

Natural Resources & Environmental Management Graduate Faculty since 2016

Evolution, Ecology & Conservation Biology Graduate Faculty since 2017

Instruction:

Undergraduate Courses: Wildlife Ecology & Management, Environmental Problem Solving, Methods in Population Management & Conservation

Graduate Courses: Restoration Ecology, Advanced Methods in Population Management & Conservation, Graduate Seminar

- Collaborated in re-designing core undergraduate courses (NREM194, NREM301, NREM494).
- Advised undergraduate students in course selection and career development.
- Mentored 13 undergraduate students in independent research projects.
- From 2017 to present, member of 12 graduate thesis committees, 7 as chair.
- From 2017 to present, chair of 3 graduate non-thesis committees.

Research: Developed a research program focused on Wildlife Ecology and Management, drawing from disciplines including behavioral ecology, molecular ecology, and decision analysis.

- Ecological modeling of pig management strategies for recreational hunting & conservation
- Vulnerability of Hawaiian tree snails to climate change, and the potential for adaptation
- Waterbird ecology & human water use: economic opportunities & ecological trade-offs
- Population genetics & nesting ecology of seabirds in Hawaii
- Population size, distribution, and habitat use of the Hawaiian Short-eared Owl

Selected Service:

- Faculty mentor for Hawai'i chapter of the Society for Conservation Biology
- Co-creator and coordinator of Symphony of the Hawaiian Birds
- Guest editor, Pacific Science Special Collection: *Scaling Up Restoration Efforts in the Pacific Region*
- TA, National Conservation Training Center, *Introduction to Structured Decision Making*
- Member of NREM department curriculum committee
- Chair of college sustainability committee and designated college leader on sustainability
- Member of Hawaii Conservation Alliance Nāhululehiwakuipapa Next-Generation Subcommittee

Postdoctoral Research Fellow, Dr. Michael Hadfield Laboratory

August 2012 – 2017 (0.5FTE 2015–2017)

Pacific Biosciences Research Center, University of Hawai'i at Mānoa

Conservation and Population Genetics of Endangered Hawaiian Tree Snails (Achatinellinae)

Investigated causes of declines in captive-bred and wild populations of federally listed Hawaiian tree snails, quantifying inbreeding and gene flow both temporally and spatially using molecular techniques and geographic information systems (GIS). Developed and coordinated collaborations with additional laboratories. Provided technical expertise regarding management of endangered island species to federal and state managing agencies. Supervised and trained international and local interns in field data collection techniques, molecular techniques, and data analysis, and preparation of reports and manuscripts for publication. Prepared grant proposals and successfully obtained funding for research and salaries. Published papers in peer-reviewed journals, and assisted in preparation of annual reports for funding agencies (Oahu Army Natural Resources Program, US Fish and Wildlife Service). Participated in professional meetings and presented research to professional, collegiate, and community audiences. Prioritized research objectives and coordinated with principal investigators and fiscal officers to establish project goals, optimize project efficiency, and maximize fiscal activities within the allotted budgets.

Course Instructor

Spring Semester, 2012

Department of Biology, La Sierra University, Riverside, CA

Courses Taught: Biostatistics (BIOL376); Senior Capstone (UNST404)

Biostatistics: trained students in biostatistical analysis techniques using software such as SPSS, designed and implemented course content, created and proctored exams.

Senior Capstone: coordinated guest seminar speakers.

Course Instructor

Fall Semester, 2010 & 2011

Department of Earth and Biological Sciences, Loma Linda University, Loma Linda, CA

Course Taught: Geographic Information Systems (GIS) for the Natural Sciences (BIOL/GEOL588)

Developed course design and content for inaugural GIS course within Biology and Geology departments. Trained students in GIS skills and facilitated integration of GIS data and analysis with Master's and PhD thesis research projects.

Research Assistant, Population genetics & field studies in avian behavioral ecology

June 2008 – June 2011

Department of Earth and Biological Sciences, Loma Linda University

Collaborated with international partners at the Bahamas National Trust to conduct research, analyze and publish data, and recommend conservation actions. Coordinated international research teams for work in remote tropical island setting. Based on research, proposed and gained upgraded taxonomic status, and later IUCN designation as critically endangered, for the Bahama Oriole (*Icterus northropi*), a single-island endemic bird.

High School Science Teacher

July 2002 – June 2008

Science Department, Redlands Academy, Redlands, CA

Courses Taught: Biology, Chemistry, Environmental Science, Advanced Placement Biology

Equipped and organized newly built science laboratory and assisted in its design. Established Advanced Placement and accelerated science programs at Redlands Academy. Coordinated student involvement in science advancement programs at nearby universities. Contributing member of Education Curriculum Committee from 2004–2008.

RESEARCH INTERESTS

Wildlife Management, Structured Decision-Making, Behavioral Ecology, Population Genetics & Genomics, Ecosystem Restoration & Resilience

PUBLICATIONS (available via links at melissarprice.weebly.com)

**Indicates inclusion of graduate or undergraduate student authorship.*

†Indicates inclusion of authorship by a federal, state, or nonprofit management agency employee.

Submitted

1. Antaky, C.*, L. Young†, J. Ringma, **M. R. Price**. Dispersal under the seabird paradox: Probability, foraging strategy, or spatial attributes? *Re-submitted and under review* Diversity and Distributions.
2. Risch, D*., J. Ringma, S. Honarvart, **M. R. Price**. Do different sources of occurrence data affect occupancy modelling predictions for feral pigs (*Sus scrofa*)? *Submitted to* Journal of Wildlife Management.
3. Rivera, S. N.*, L. B. Fortini†, S. Plentovicht†, S. Conant, **M. R. Price**. Nowhere to go: Perceived barriers to the use of assisted colonization for climate sensitive species. *Submitted to* Pacific Conservation Biology.

Accepted, In-press, or Published

1. Antaky, C.*, P. Kitamura*, I. Knapp, R. Toonen, **M. R. Price**. The complete mitochondrial genome of the Band-rumped Storm Petrel (*Oceanodroma castro*). Mitochondrial DNA Part B. (Accepted 3/1/18)
2. Antaky, C.*, N. Galase†, **M. R. Price**. Nesting ecology in the Hawaiian population of an endangered seabird, the Band-rumped Storm Petrel (*Oceanodroma castro*). Wilson Journal of Ornithology. (Accepted 9/29/18)
3. **Price, M. R.**, Z. H. Forsman, I. Knapp, R. J. Toonen, M. G. Hadfield (2018) A comparison of mitochondrial genomes from five species in three genera suggests polyphyly in the subfamily Achatinellinae (Gastropoda: Pulmonata: Stylommatophora: Achatinellidae). Mitochondrial DNA Part B 3:611-612. DOI: 10.1080/23802359.2018.1473737.
4. Sato, A. Y.*†, Blach Vaughan, M., **M. R. Price** (2018) Kāhuli: Uncovering Indigenous Ecological Knowledge to Conserve Endangered Hawaiian Land Snails. Society & Natural Resources 31(3):320-334.
5. Sandlin, M., **M. R. Price**, K. Perez* (2018) A Capstone Experience: Impacts of a Behavioral Style Learning Unit on Soft Skill Development and Team Dynamics. Journal of Agricultural Education, 59(1):21-34. <https://doi.org/10.5032/jae.2018.01021>.

6. **Price, M. R.**, R. J. Toonen. (2017) Scaling up restoration efforts in the Pacific Islands: A call for clear management objectives, targeted research to minimize uncertainty, and innovative solutions to a wicked problem. *Pacific Science* 71(4): 391–399.
7. **Price, M. R.**, and W. K. Hayes. (2017) Diverse habitat use during two life stages of the critically Endangered Bahama Oriole (*Icterus northropi*): Community structure, foraging, and social interactions. *PeerJ* 5:e3500. <https://doi.org/10.7717/peerj.3500>.
8. **Price, M. R.**, R. O’Rorke, A. S. Amend, and M. G. Hadfield (2017) Diet selection at three spatial scales: Implications for conservation of an endangered Hawaiian tree snail. *Biotropica* 49:130–136. DOI: 10.1111/btp.12339.
9. **Price, M. R.**, Z. H. Forsman, I. Knapp, R. J. Toonen, M. G. Hadfield (2016) The complete mitochondrial genome of *Achatinella sowerbyana* (Gastropoda: Pulmonata: Stylommatophora). *Mitochondrial DNA Part B* 1:666–668.
10. Sischo, D.*†, **M. R. Price**, and M. G. Hadfield. (2016) Ex situ population genetics of the endangered Hawaiian tree snail species *Achatinella fuscobasis*: Demographic and genetic insights into a captive population decline. *Pacific Science* 70:133–141. DOI 10.2984/70.2.1.
11. **Price, M. R.**, Z. H. Forsman, I. Knapp, M. G. Hadfield, R. J. Toonen (2016) The complete mitochondrial genome of *Achatinella mustelina* (Gastropoda: Pulmonata: Stylommatophora). *Mitochondrial DNA: Resources* 1:183–185. DOI: 10.1080/23802359.2016.1149787.
12. O’Rorke, R., G. Cobian*, B. S. Holland, **M. R. Price**, V. Costello†, and A. S. Amend (2015) Dining local: the microbial diet of a snail that grazes microbial communities is geographically structured. *Environmental Microbiology* 17(5):1753–1764. DOI: 10.1111/1462-2920.12630.
13. **Price, M. R.**, D. Sischo*†, M. A. Pascua*, and M. G. Hadfield (2015) Demographic and genetic factors in the recovery of *ex situ* populations following a severe bottleneck in fifteen species of Hawaiian tree snails. *PeerJ* 3:e1406 DOI.org/10.7717/peerj.1406.
14. **Price M. R.**, C. Person*, W. K. Hayes (2015) Geographic variation and genetic structure in the Bahama Oriole (*Icterus northropi*), a critically endangered synanthropic species. *PeerJ* 3:e1421. DOI: 10.7717/peerj.1421.
15. **Price, M. R.** and M. G. Hadfield. (2014) Population genetics and the effects of a severe bottleneck in an *ex situ* population of critically endangered Hawaiian tree snails. *PLoS ONE* 9(12):e114377. DOI: 10.1371/journal.pone.0114377.
16. **Price, M. R.**, V. A. Lee*, and W. K. Hayes (2011) Population status, habitat dependence, and reproductive ecology of Bahama Orioles: a critically endangered synanthropic species. *Journal of Field Ornithology* 82(4):366–378.
17. Hayes, W. K., E. D. Bracey, **M. R. Price**, V. Robinette*, E. Gren*, and C. Stahala* (2010) Population status of the Chuck-will’s-widow (*Caprimulgus carolinensis*) in the Bahamas. *Wilson Journal of Ornithology* 122(2):381–384.
18. **Price, M. R.** and W. K. Hayes (2009) Conservation taxonomy of the Greater Antillean Oriole (*Icterus dominicensis*): diagnosable plumage variation among allopatric populations supports species status. *Caribbean Ornithology* 22:19–25.

TECHNICAL PAPERS & REPORTS

1. Cotin, J., K. E. Davis†, A. Siddiqi†, **M. R. Price**. 2018. Breeding phenology and daily activity of the Hawaiian Short-eared Owl (*Asio flammeus sandwichensis*) on O’ahu. *Department of Land and Natural Resources, Division of Forestry & Wildlife*.

2. Ringma, J., D. Risch*, **M. R. Price**. 2018. Ecological Modelling of Optimal Pig Management Strategies for Recreational Hunting and Conservation Purposes on O'ahu: Feral Pig Impacts to Endangered and Protected Species. *Department of Land and Natural Resources, Division of Forestry & Wildlife*.
3. Cotin, J., A. Siddiqi†, J. Misaki†, **M. R. Price**. 2018. Population size, distribution and habitat use of the Hawaiian Short-eared Owl (*Asio flammeus sandwichensis*) on O'ahu. *Department of Land and Natural Resources, Division of Forestry & Wildlife*.
4. Ringma, J., D. Risch*, **M. R. Price**. 2017. Ecological Modeling of Optimal Pig Management Strategies for Recreational Hunting and Conservation Purposes: Feral Pig Distribution Models. *Department of Land and Natural Resources, Division of Forestry & Wildlife*.

PROFESSIONAL WORKSHOPS

2018. **Workshop Co-Coordinator**, *Structured Decision-Making in the Hawaiian Islands*

2017. **Workshop Lead Coordinator**, *Conservation Genetics*

2017. **Workshop Coordinator Mentor**, *Assisted Colonization*

SELECTED FIRST-AUTHOR PROFESSIONAL PRESENTATIONS (2013-PRESENT)

1. January, 2018. *Hawaiian Short-eared Owls and Potential Land Use Conflicts*. Environment, Energy, and Natural Resources Section of the Hawaii Bar Association. Honolulu, HI, USA.
2. November, 2018. *Conservation Beyond the Science: Symphony of the Hawaiian Birds*. Pacific Birds Partners Quarterly Meeting. National Tropical Botanical Garden, Kalaheo, Kaua'i, HI, USA.
3. November, 2018. *Hawaiian Tree Snails: Current & Future Threats*. NOAA Symposium on Science in Support of Archipelagic Management. Honolulu, HI, USA.
4. July, 2018. *Predators, Genetics, Climate Change & Extinction*. Society for Conservation Biology-Oceania, Wellington, New Zealand.
5. June, 2018. *Predators, Genetics, Climate Change & Extinction*. American Malacological Society, Honolulu, HI, USA.
6. June, 2017. *Predators, Genetics, Climate Change & Extinction*. Evolution Annual Meetings, Portland, OR, USA.
7. August, 2015. *Hawaiian Tree Snails in a Hot, Dry World*. Hawaii Conservation Conference, Hilo, HI, USA.
8. July, 2015. *Hawaiian Tree Snails in a Hot, Dry World*. International Association of Landscape Ecology, Portland, OR, USA.
9. July, 2014. *Bottleneck Effects In Remnant Populations of Endangered Species May Inhibit Success of Ex Situ Conservation*. Hawaii Conservation Conference, Honolulu, HI, USA.
10. July, 2014. *Bottleneck Effects In Remnant Populations of Endangered Species May Inhibit Success of Ex Situ Conservation*. North American Society for Conservation Biology, Missoula, MT, USA.
11. July, 2013. *Low Heterozygosity Suggests Inbreeding Depression in Declining Populations of Wild and Captive-Bred Hawaiian Tree Snails*. Hawaii Conservation Conference, Honolulu, HI, USA.
12. July, 2013. Price, M. R., and M. Hadfield. *Effects of a Severe Bottleneck and Fragmentation in Captive-Bred and Wild Populations of Endangered Hawaiian Tree Snails Achatinella lila and Achatinella sowerbyana*. Evolution Joint Annual Meeting of the Society for the Study of Evolution, the Society of Systematic Biologists, and the American Society of Naturalists, Snowbird, UT, USA.

13. April, 2013. **Plenary Presentation.** *Population Status, Habitat Dependence, Reproductive Ecology, and Population Genetics of the Bahama Oriole: A Critically Endangered Synanthropic Species.* Annual Meeting of the Association of Field Ornithologists, Lake Placid, FL, USA.
14. February, 2013. *Behavioral Ecology of the Bahama Oriole: A Critically Endangered Synanthropic Species.* University of Hawaii at Mānoa Joint Botany/Zoology Seminar Series, Honolulu, HI, USA.

CONSERVATION EDUCATION PROGRAMS

2018. **Symphony of the Hawaiian Birds.** Performed May 9, October 31, November 1 & 14, 2018 at the Blaisdell Concert Hall for a total of ~8000 students and community members.
- 2016-2018. **Kawainui Marsh Outreach Project.** A partnership between the Hawaii Wildlife Ecology Lab (HWEL) at the University of Hawaii, Manoa and Hawaiian Mission Academy, Windward (HMAW). Grades 7-8 field research educates youth about the importance of wetlands and provide them with hands on wetland restoration experience. Impacts of soil amendments on competitive interactions between native Hawaiian sedges and invasive wetland plant species.
- 2010 & 2017. **It's YOUR Bird! Saving the Bahama Oriole.** Victoria Point Pre-School, Burnt Rock Elementary School, Mangrove Cay High School, Mangrove Cay, The Bahamas.