

LISA M. KOMOROSKE

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APPOINTMENTS

- 2017-present Assistant Professor of Conservation Genomics & Ecological Physiology
Department of Environmental Conservation, University of Massachusetts Amherst
- 2015-2017 National Research Council post-doctoral research fellow
NOAA-Southwest Fisheries Science Center

EDUCATION

- 2015 Ph.D. Ecology, University of California, Davis.
- 2009 M.S. Biology, San Diego State University.
- 2004 B.S. Ecology & Evolutionary Biology, *cum laude* with honors, Tulane University.

PEER REVIEWED PUBLICATIONS

1. **Komoroske LM**, MR Miller, SM O'Rourke, KR Stewart, MP Jensen and PH Dutton. A Versatile Rapture (RAD-Capture) Platform for Genotyping Marine Turtles. *Molecular Ecology Resources* *In press*.
2. Davis B, **LM Komoroske**, M Hansen, J Poletto, E Perry, N Miller, S Ehlman, SG Wheeler, A Sih, A Todgham and NA Fangue. 2018. Juvenile rockfish show resilience to CO₂-acidification and hypoxia across multiple biological scales. *Conservation Physiology* 6 (1): coy038.
3. Connon RE, KM Jeffries, **LM Komoroske**, AE Todgham and NA Fangue. 2018. The utility of transcriptomics in fish conservation. *Journal of Experimental Biology*, 221: jeb148833.
4. **Komoroske LM**, MP Jensen, KR Stewart, BM Shamblin, and PH Dutton. 2017. Advances in the application of genetics in marine turtle biology and conservation. *Frontiers in Marine Science, Marine Conservation & Sustainability* 4:156.
5. Cheng BS, **LM Komoroske**, Grosholz ED. 2017. Trophic sensitivity and the ecological context of invasive predator and native prey interactions. *Functional Ecology* 31(3): 642–652. *Featured on [Capital Public Radio](#) & [UC Davis News](#)*.
6. **Komoroske LM**, KM Jeffries, RE Connon, J Dexter*, M Hasenbein, C Verhille, and NA Fangue. 2016. Sublethal salinity stress contributes to habitat limitation in an endangered estuarine fish. *Evolutionary Applications* 9 (8): 963-981. **undergraduate co-author*
7. Jeffries KM, RE Connon, BE Davis, **LM Komoroske**, MT Britton, T Sommer, AE Todgham and NA Fangue. 2016. The effects of high temperatures on threatened estuarine fishes. *Journal of Experimental Biology* 219: 1705-1716. *Selected as ['Inside JEB' featured article with press summary](#)*.
8. Brown LR, **LM Komoroske**, RW Wagner, T Morgan-King, NA Fangue, RE Connon and JT May. 2016. Coupled downscaled climate models and ecophysiological metrics forecast habitat compression for an endangered estuarine fish. *PloSOne* 11(1): e0146724.
9. Hasenbein M, NA Fangue, J Geist, **LM Komoroske**, J Truong, R McPherson, and RE Connon. 2016. Assessments at multiple levels of biological organization allow for an integrative determination of physiological tolerances to turbidity in an endangered fish species. *Conservation Physiology* 4 (1): cow004.

10. **Komoroske LM**, RL Lewison. 2015. Addressing fisheries bycatch in a changing world. *Frontiers in Marine Science*, section Global Change and the Future Ocean 2 (83): 1-11. *Selected as featured article on Frontiers webpage, and one of the highest viewed and downloaded articles in 2015.*
11. **Komoroske LM**, RE Connon, KM Jeffries, and NA Fangue. 2015. Linking transcriptional responses to organismal tolerance reveals mechanisms of thermal sensitivity in a mesothermal endangered fish. *Molecular Ecology* 24 (19): 4960–4981.
12. Hasenbein M, NA Fangue, J Geist, **LM Komoroske**, RE Connon. 2016. Physiological stress biomarkers reveal stocking density effects in late larval delta smelt (*Hypomesus transpacificus*). *Aquaculture* 450: 108-115.
13. Jeffries KM, **LM Komoroske**, J Truong, I Werner, S Hasenbein, M Hasenbein, NA Fangue, and RE Connon. 2015. The transcriptome-wide effects of exposure to a pyrethroid pesticide on the critically endangered delta smelt (*Hypomesus transpacificus*). *Endangered Species Research* 28: 43-60.
14. **Komoroske LM**, SO Hameed, AI Szoboszlai, AJ Newsom, and SL Williams. A Scientist's Guide to Achieve Broader Impacts through K-12 STEM Collaboration. 2015. *BioScience* 65 (3): 313-322.
15. **Komoroske LM**, RE Connon, J Lindberg, BS Cheng, G Castillo, M Hasenbein and NA Fangue. 2014. Ontogeny influences sensitivity to climate change stressors in an endangered fish. *Conservation Physiology* 2:cou008-cou008.
16. Hasenbein M*, **LM Komoroske***, RE Connon, J Geist and NA Fangue. 2013. Turbidity and salinity affect feeding performance and physiological stress in the endangered delta smelt. *Integrative and Comparative Biology* 53 (4): 620-634. (*equal contribution of authors). *Featured as journal cover page.*
17. **Komoroske LM**, RL Lewison, JA Seminoff, DH Deustchman and DD Deheyn. 2012. Trace metals in an urbanized estuarine sea turtle food web. *Science of the Total Environment* 417-418: 108-116.
18. **Komoroske LM**, RL Lewison, DD Deheyn, JA Seminoff, and PH Dutton. 2011. Pollutants and the health of sea turtles resident to an urbanized estuary. *Chemosphere* 84: 544-552.
19. Lemons G, RL Lewison, **LM Komoroske**, A Gaos, C Lai, and JA Seminoff. 2011. Trophic ecology of green sea turtles in a highly urbanized bay: insights from stable isotopes and mixing models. *Journal of Experimental Marine Biology and Ecology* 405: 25-32.

PUBLICATIONS IN REVIEW & PREPARATION (*Abstracts available upon request*)

20. Barraza A, **LM Komoroske**, CD Allen, T Eguchi, R Gossett, E Holland, DD Lawson, RA LeRoux, A Long, JA Seminoff and CG Lowe. Trace metals in green sea turtles (*Chelonia mydas*) inhabiting two southern California Coastal Estuaries. *In revision.*
21. Banerjee SM, CD Allen, T Schmitt, BS Cheng, T Eguchi, JA Seminoff and **LM Komoroske**. Baseline health parameters of eastern Pacific green turtles at Southern California foraging grounds. *In revision.*
22. **Komoroske LM**, KM Jeffries, A Whitehead, J Roach, RE Connon, C Verhille, S Brander, and NA Fangue. Mechanisms of thermal plasticity and adaptation in native and invasive fishes. *In preparation.*

SELECTED SCIENCE COMMUNICATION & ADDITIONAL PUBLICATIONS

1. Co-Editor of journal special issue topic, *Frontiers in Marine Science*: [Integrating Emerging Technologies into Marine Megafauna Conservation Management](#) *Impact: 17 contributed articles, >4,000 article downloads.*
2. **Komoroske, LM**. 2018. The future is female. Is that a problem for sea turtle conservation? *Conservation Physiology* 6 (1): coy009. **Invited commentary on [Jensen et al. \(2018\)](#) for 'Conservation Physiology in Action' section.*
3. **Komoroske LM**. The costs of being big in a warmer world*. 2017. *Conservation Physiology*. 5 (1): cox022. **Invited commentary on [Messmer et al. \(2016\)](#) for 'Conservation Physiology in Action' section.*

4. **Komoroske LM.** [From Sky to Sea: Studying sea turtles amid warming waters.](#) NOAA Fisheries West Coast Region news website featured article, December 2015. *Featured on the *Ocean Connectors* website.
5. **Komoroske LM.** Ocean Week Invited Keynote Speaker, Solana Beach School District, May 2015.
6. **Komoroske LM,** RL Lewison, C Mull and AZ Mason. 2009. Contaminants and protein regulation in green turtles in San Diego Bay. IIRMES Annual Report, pp. 40-42.
7. Lewison RL, CT Lai, JA Seminoff, DD Deheyn, J Fournier, A Gaos, E Hoh, **LM Komoroske,** G Lemons. 2011. Chemical analysis of threatened and endangered species in San Diego: The San Diego Bay trophic transfer project. Final Report to the Port of San Diego, 28 pp.

CURRENT & PENDING RESEARCH FUNDING

NSF FSML Program, Co-PI: *Developing a Strategic Plan for Coastal Resilience and Sustainable Fisheries at the Gloucester Marine Station* (\$24,986)

Bonefish & Tarpon Trust, PI: *Bonefish Cryptic Species Genetic Identification* (\$5,000)

Vertebrate Genome Project, Genome 10K Consortium, PI: *Leatherback Turtle Genome* (\$40,000)

North Carolina Aquarium, Co-PI: *Habitat Use Patterns and Migratory Connectivity of Cownose Rays (*Rhinoptera bonasus*) in Pamlico Sound* (\$16,870)

US Fish & Wildlife Service and the Passamaquoddy Tribe, PI: *Effects of barrier removal on gene flow between landlocked and searun alewife* (\$18,500)

CA SeaGrant, PI: *Understanding ocean warming impacts on shrinking body sizes of California fishes* (\$225,690)

NSF IOS, Co-PI: *Mating systems as mechanisms for resilience of species with temperature-dependent sex determination under environmental change* (PENDING \$544,737; UMass Amherst budget for collaborative proposal)

Waitt Foundation, PI: Using genomic tools to inform fisheries management of cownose rays (*Rhinoptera bonasus*) (PENDING \$10,000)

TEACHING

Marine Conservation & Policy, upper div. undergraduate course, Instructor, Fall 2019 (UMass Amherst)

Evolution and Conservation, upper div. undergraduate course, Instructor, Spring 2018/19 (UMass Amherst)

Landscape Genetics Distributed Graduate Seminar, Local Instructor, Spring 2018 (UMass Amherst)

Transcriptomics in non-model organisms RNA-Seq workshop, Instructor, Fall 2017 (UC San Diego)

Introduction to R workshop, Instructor, Spring 2015 & 2016 (San Diego State U. & NOAA SWFSC)

Wildlife Ecology & Conservation, introductory undergraduate course, Instructor, Spring 2014 (UC Davis)

NSF Graduate Teaching Fellow CAMEOS GK-12 program, Fall 2011- Spring 2013 (UC Davis)

Teaching Assistant: Biostatistics, Physiology of Wildlife, Field Methods in Ecology, Zoology, and Conservation Ecology courses, 2006-2010 (UC Davis & San Diego State U.)

SERVICE

University

Organismic and Evolutionary Biology Graduate Program Admissions Committee, 2017-present

Organismic and Evolutionary Biology Graduate Program Steering Committee, 2017-present

Five College Coastal and Marine Sciences Program Steering Committee, 2018-present

Gloucester Marine Station Steering Committee, 2017-present

UMass ECo Teaching Evaluation Committee, 2018-present

UMass Big Data Working Group (Co-lead), 2018-present

Marine, Aquatic & Fisheries Ecology Curriculum Committee, 2018-present

Quantitative Sciences Group (Ad Hoc consultation), 2018-present

Guest Lecturer (Ecological Physiology), Applied Ecology undergraduate course, 2018
Guest Lecturer/Outreach coordinator (Wildlife Genetics), Research Methods in Biology course, Springfield
Technical Community College, 2018
External Reviewer for Promotion Evaluation, UC Davis Department of Animal Science, 2017
Awards Committee, UC Davis Graduate Group in Ecology, 2012-2014
Admissions Committee, UC Davis Graduate Group in Ecology, 2010 - 2012

Professional

Co-chair, Genome 10K Community of Scientists Annual Meeting, Conservation Genomics Session, 2018
Working group, G10K Vertebrate Genome Project Sample Collection & Preparation Group, 2017-present
Working group, G10K Vertebrate Genome Project, Conservation Group, 2018-present
Co-chair, Conservation Genomics Symposium, International Sea Turtle Symposium, 2019
Ad Hoc Genomics Analysis Consultation for NOAA-SWFSC staff
Editor: *Frontiers in Marine Science*
Ad Hoc Reviewer: *Molecular Ecology*, *J Experimental Biology*, *Evolutionary Applications*, *BioScience*,
Frontiers in Ecology & the Env't, *Ecology & Evolution*, *Comparative Biochemistry & Physiology*,
PLoSOne, *Env'tl. Biology of Fishes*, *J Veterinary Medical Science*, *Science Total Env't*, *Marine Biology*,
Chelonian Conservation & Biology, *Orynx*, *Marine Turtle Newsletter*, *Env'tl. Science & Pollution*
Research, *Marine Env'tl. Research & Marine Pollut Bulletin*, *Archives of Env'tl. Contamination &*
Toxicology, *Ecotoxicology & Env'tl. Safety*
Leader, Genomics Analysis Working Group, NOAA-Southwest Fisheries Science Center, 2015-2017
Poster Judge, Ocean Sciences, Session: *Impacts of multiple stressors in coastal ecosystems on organism health*, 2018
External research report reviewer, Bonefish and Tarpon Trust, 2018-present
External grant reviewer: National Institute of Science and Techn., CA State Water Resources Control Board
Chair, International Sea Turtle Society Student Committee, 2009 – 2011

MENTORING

Graduate students

John Swenson (2018-present): Major advisor, Organismic and Evolutionary Biology PhD student, UMass
Amherst. *Research Project: Using genomic tools to assess connectivity and population abundance of cownose rays in*
Eastern United States estuaries
Nadia Fernandez (2018-present): Major advisor, Environmental Conservation PhD student, UMass
Amherst. *Research Project: Examining population structure and demographic history of golden dorado (Salminus*
brasiliensis) within and across Bolivian watersheds
Jamie Adkins (2018-present): Major advisor, Intercampus Marine Science MS student, UMass Amherst.
Research Project: Comparing immune gene diversity and disease susceptibility in marine turtles.
Arthur Barraza (2015-2017): Thesis committee member, Ecology MS student, CSU Long Beach. *Research*
Project: Comparing contaminant and health profiles among California sub-populations of Eastern Pacific green turtles.

Undergraduate & Professional Interns

Frederick Meyer (2018-present): Advisor, UMass Amherst Five Colleges Marine Science senior research
project: *Quantifying effects of habitat barrier removal on restoring gene flow in the slimy sculpin.*
Abigail Thomas (2017-2018): Advisor, UMass Amherst independent study: *Differential gene expression analysis in*
green sea turtles.

James Bengé (2016-2017): Advisor, UC San Diego Faculty Mentor Program undergraduate research project: *Investigating gene expression responses to fibropapillomatosis in green turtles.*

Lesley Anderson & Sarina Fernandez (2015 & 2016): Supervisor, Cal Poly STAR* intern research projects: *RNA extraction and bioinformatics analyses in green turtles.* *STEM Teacher & Researcher Program pairs aspiring teachers with scientists to conduct research and translate their inquiry-based experience into classroom practice

Jason Dexter (2012-2014): Graduate mentor, UC Davis undergraduate senior research project: *Delta smelt physiological responses to salinity fluctuations (plasma osmolality, Na⁺/K⁺ ATPase enzyme activity and gene expression)*; entered Marine Biology and Conservation M.S. program, Fall 2014

Bethany DeCourten (2012-2013): Graduate mentor, UC Davis Junior Specialist research trainee: *Assisted in experimental setup, fish dissections, sampling, fish husbandry & transcriptomic analyses*; entered Marine Biology Ph.D. program, Fall 2013.

Irvin Huang (2012-2013): Graduate mentor, UC Davis Junior Specialist research trainee: *Assisted in sampling & transcriptomic analyses*; entered Environmental Toxicology Ph.D. program, Fall 2013.

Garrett Lemons (2009-2012): Graduate mentor, San Diego State U. Ecology MS student research trainee: *Investigating marine turtle trophic ecology using stable isotopes; trained and assisted with marine turtle blood sampling and health assessments*; currently Researcher and Marine Turtle Ecology Lab Manager at NOAA SWFSC.

ADDITIONAL PROFESSIONAL EXPERIENCE

Aerial Pacific leatherback and loggerhead turtle population assessment teams, NOAA SWFSC, 2015-2017

In-water Pacific leatherback field research team, veterinary assistant, NOAA SWFSC, 2011-2017

San Diego Bay green turtle ecology field research team, NOAA SWFSC, 2006-2010, 2015-2017

West Coast sea turtle stranding response & necropsy team, NOAA SWFSC, 2012-2017

Indonesia seagrass & coral reef conservation ecology field research, UC Davis-Hasanuddin U., 2013-2014

Environmental Consultant, Phuket Marine Biology Center, coastal conservation program, 2005

Certifications: AAUS Research Diver; NAUI CPR, O₂ & First Aid Certification; MOCC & NOAA certified small boat operator; NOAA aviation safety and water ditching & survival (A100 & A312).

SELECTED PREVIOUS RESEARCH AWARDS AND HONORS

National Research Council of the National Academies Research Associateship Award, 2015	\$100,000
CA Sea Grant, Ocean Acidification & Hypoxia (Co-I), 2015	\$97,149
NSF Doctoral Dissertation Improvement Grant, 2014	\$20,215
UC Davis WFCB Department Graduate Student Award, 2014	\$1,000
UC Davis Genome Center Bioinformatics & DNA Core Grants, 2013	\$4,000
Delta Science & California Sea Grant Doctoral Fellow, 2012-2014	\$102,874
Achievement Rewards for College Students (ARCS) Scholar 2012-2014	\$20,000
NSF GK-12 Fellow 2011-2012, 2012-2013	\$90,000
UC MRPI-Ocean Acidification Consortium Graduate Research Fellowship	\$6,000
UC Davis Jastro Shields Research Fellowship, 2011	\$3,000
Northern CA Society of Environmental Toxicology & Chemistry Research Grant, 2010	\$2,000
Society for Integrative & Comparative Biology Research Grant, 2010	\$1,000
UC Davis Consortium for Women and Research Grant, 2010	\$800
UC Davis Ecology Graduate Fellowship, 2010	\$5,400
UC Davis & Humanities Graduate Research Fellowship, 2010	\$1,500
UC Davis Jastro Shields Summer Research Fellowship, 2010	\$1,500
Edna Bailey Sussman Foundation Research Grant, 2008	\$5,880
PADI Foundation Research Grant, 2008	\$4,000

Mabel Myers Memorial Scholarship, 2008	\$2,000
Southern California Academy of Sciences Student Research Grant, 2008	\$1,500
Environmental Committee Grant, Port of San Diego 2007	\$10,000
Gerald E. Gunning Memorial Award for excellence in Ecol. & Evol. Biology, Tulane University, 2004	

SELECTED PRESENTATIONS & SEMINARS

- Komoroske LM** and P Morin. 2018. Successes and outstanding challenges for sample collection in the marine environment. **Oral**, Genome 10K Community of Scientists Annual Meeting, New York City, NY.
- Komoroske LM**. 2018. Conservation applications for high quality reference genomes in marine turtles. **Oral**, Genome 10K Community of Scientists Annual Meeting, New York City, NY.
- Komoroske LM**. 2018. Molecular Tools for Marine Turtle Conservation Ecology. **Invited Seminar**. NOAA Pacific Islands Fisheries Science Center, Honolulu, HI.
- Davis B, **LM Komoroske***, M Hansen, J Poletto, E Perry, S Wheeler, N Miller, A Sih, AE Todgham, NA Fangue. 2018. Juvenile rockfish show resilience to CO₂-acidification and hypoxia across multiple biological scales. **Oral**, Ocean Sciences, Portland, OR. **presenting author*
- Komoroske LM**. 2018. Integrating across biological levels to inform conservation. **Invited Seminar**. Organismic and Evolutionary Biology Spring Seminar Series, University of Massachusetts Amherst.
- Komoroske LM**. 2017. Innovating marine conservation with next generation genomics & physiology. **Invited Seminar**. Biology Fall Seminar Series, Scripps Institution of Oceanography (UCSD).
- Komoroske LM**. 2017. Molecular Tools for Marine Turtle Conservation Ecology. **Guest Seminar**. Shoals Marine Laboratory Summer Seminar Series.
- Komoroske LM**. 2017. Finding the Needle in the Genomic Haystack. **Oral**. NOAA-Southwest Fisheries Science Center Lightning Talk Ignite Series.
- Komoroske LM**, LR Brown, KM Jeffries, RW Wagner, NA Fangue. 2016. Forecasting impacts and habitat suitability for threatened estuarine fishes under climate change. **Invited Seminar**, NOAA Science Series, Silver Spring, MD.
- Komoroske LM**. 2016. Integrating physiological and genomic tools into conservation management for California fishes and marine turtles. **Invited Seminar**, Smithsonian Environmental Research Center.
- Komoroske LM**, A Frey, B Hancock-Hanser, P Morin, FI Archer, S Roden, A Gaos, PH Dutton. 2016. Targeted next generation sequencing approaches for genotyping marine turtles. **Oral**. The 36th International Sea Turtle Symposium. Lima, Peru.
- Komoroske LM**, RE Connon, J Lindberg, BS Cheng, G Castillo, M Hasenbein, NA Fangue. 2014. Linking climate change stressor impacts across biological levels in Delta Smelt. **Oral**. California Estuarine Research Society bi-annual conference. Bodega Bay, CA. **Best Paper, 2nd place*.
- Komoroske LM**, RE Connon, J Lindberg, BS Cheng, G Castillo, M Hasenbein, NA Fangue. 2014. Sensitivity to climate change stressors in an endangered fish strongly tied to California conservation. **Oral**. Ecological Society of America Annual Conference. Sacramento, CA.
- Komoroske LM**. 2010, 2014. Physiology and the “-Omics,” A multidisciplinary approach to understanding adaptations. **Invited Lecture**. Wildlife Physiology course, UC Davis.

- Komoroske LM**, RE Connon, J Lindberg, BS Cheng, G Castillo, M Hasenbein, NA Fangue. 2014. Ontogeny influences Delta Smelt sensitivity to climate change stressors. **Invited Oral**. Interagency Ecological Program annual meeting. Folsom, CA. **Bruce Herbold award for excellence in science communication, Runner-up.*
- Komoroske LM**, RE Connon, J Lindberg, G Castillo, M Hasenbein, NA Fangue. 2013. Delta Smelt tolerance of climate change stressors differs between ontogenetic stage. 11th Biennial State of the San Francisco Estuary Conference. **Poster**. Oakland, CA. **Best Poster Presentation, 2nd place.*
- Komoroske LM**, L Bowen, AK Miles and NA Fangue. 2012. Biomarker development to examine sublethal impacts of stressors in marine turtles. International Sea Turtle Society 32nd annual symposium. **Invited Oral, Focal Symposium**. Oaxaca, MX.
- Komoroske LM**, RL Lewison. 2009. Contaminants and health effects in green turtles in San Diego Bay, CA. **Invited Talk**. Unified Port of San Diego Board of Directors Meeting. San Diego, CA.

PROFESSIONAL AFFILIATIONS

Genome 10K Community of Scientists & Vertebrate Genome Project, NOAA Southwest Fisheries Science Center (research affiliate), Smithsonian Environmental Research Center (visiting scientist), Coastal and Estuarine Research Federation, Bodega Marine Sciences Association, Society for Integrative & Comparative Biology, Western Society of Naturalists, International Sea Turtle Society.