

Marissa L. Baskett

CONTACT INFORMATION

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RESEARCH INTERESTS

My research connects theoretical evolutionary ecology and conservation biology: I use mathematical models and simulations to investigate how anthropogenic impacts cause rapid evolution and community change. While researching a wide range of topics from life history evolution to ecosystem resilience, I develop theory relevant to conservation management decisions.

EDUCATION

Princeton University, Princeton, New Jersey USA
Ph.D., Ecology and Evolutionary Biology, September 2006
M.A., Ecology and Evolutionary Biology, November 2003
Dissertation Topic: Marine Reserve Design and Life History Variation (Advisor: Simon A. Levin)

Stanford University, Stanford, California USA
B.S., Biological Sciences (minor: Mathematics) with Distinction, June, 2001
Honors Thesis: A Polygenic Model of Genomic Imprinting Evolution (Advisor: Marcus W. Feldman)

PROFESSIONAL EXPERIENCE

University of California, Davis
Assistant Professor, Department of Environmental Science and Policy 2008 - present

University of California, Santa Barbara
Postdoctoral Associate, National Center for Ecological Analysis and Synthesis 2006 - 2008

TEACHING EXPERIENCE

Environmental Science and Policy, University of California, Davis
Co-instructor, Environmental Analysis Spring 2009

Ecology and Evolutionary Biology, Princeton University
Teaching Assistant, Conservation Biology Fall 2004
Teaching Assistant, Theoretical Ecology Spring 2004

PUBLICATIONS

M.L. Baskett, R.M. Nisbet, C.V. Kappel, P.J. Mumby, and S.D. Gaines. Conservation management approaches to protecting the capacity for corals to respond to climate change: a theoretical comparison. In press, *Global Change Biology*.

M.L. Baskett and A.K. Salomon. Recruitment facilitation can drive alternative states on temperate reefs. In press, *Ecology*.

R.A. Pelc, **M.L. Baskett**, T. Tranci, S.D. Gaines, and R.R. Warner. Quantifying larval export from South African marine reserves. In press, *Marine Ecology Progress Series*.

E.S. Dunlop, **M.L. Baskett**, M. Heino, and U. Dieckmann. 2009. The propensity of marine reserves to reduce the evolutionary effects of fishing in a migratory species. *Evolutionary Applications* 2:371-393.

M.L. Baskett, S.D. Gaines, and R.M. Nisbet. 2009. Symbiont diversity may help coral reefs survive moderate climate change. *Ecological Applications* 19(1):3-17.

M.L. Baskett and B.S. Halpern. 2009. Marine Ecosystem Services. In: *Guide to Ecology* (S.A.

Levin, ed.), Princeton University Press, Princeton, NJ, pp. 619-624.

M.L. Baskett. 2007. Simple fisheries and marine reserve models of interacting species: an overview and example with facilitation. *CalCOFI Reports* 48:71-81.

M.L. Baskett, J.S. Weitz, and S.A. Levin. 2007. The evolution of dispersal in reserve networks. *American Naturalist* 170(1):5978.

M.L. Baskett, F. Micheli, and S.A. Levin. 2007. Designing marine reserves for interacting species: Insights from theory. *Biological Conservation* 137(2):163-179.

M.L. Baskett. 2006. Prey size refugia and trophic cascades in marine reserves. *Marine Ecology Progress Series* 328:285-293.

M.L. Baskett, M. Yoklavich, and M.S. Love. 2006. Predation, competition, and the recovery of overexploited fish stocks in marine reserves. *Canadian Journal of Fisheries and Aquatic Sciences* 63(6):1214-1229.

M.L. Baskett, S.A. Levin, S.D. Gaines, and J. Dushoff. 2005. Marine reserve design and the evolution of size at maturation in harvested fish. *Ecological Applications* 15(3):882-901.

L. Jin, **M.L. Baskett**, L.L. Cavalli-Sforza, L.A. Zhivotovsky, M.W. Feldman and N.A. Rosenberg. 2000. Microsatellite evolution in modern humans: a comparison of two data sets from the same populations. *Annals of Human Genetics* 64:117-134.

PUBLICATIONS IN
REVIEW

J.L. Orrock, R.D. Holt, and **M.L. Baskett**. Refuge-mediated apparent competition in plant-consumer interactions.

J.L. Orrock, **M.L. Baskett**, and R.D. Holt. Spatial coincidence of consumer foraging and plant competition determine the strength of refuge-mediated apparent competition and drive the invasion ratchet.

INVITED
PRESENTATIONS

2009 Aquatic Ecology Seminar Series, University of California, Berkeley
International Temperate Reef Symposium, Adelaide, Australia

2008 International Symposium on the Effects of Climate Change on the World's Oceans, Gijon, Spain
Ecology and Evolutionary Biology, Brown University, Providence, RI
Bodega Marine Laboratory, University of California, Davis

2007 American Fisheries Society Annual Meeting, San Francisco, CA

2006 College of Agricultural and Environmental Sciences, University of California, Davis
California Cooperative Oceanic Fisheries Investigations Annual Conference, Pacific Grove, CA
Department of Ecology, Evolution and Marine Biology, University of California, Santa Barbara
Section of Evolution and Ecology, University of California, Davis

2004 Ecological and Environmental Economics workshop on Spatial Aspects of Reserve Design
Optimization under Economic Constraints, Abdus Salam International Centre for Theoretical
Physics, Trieste, Italy

AWARDS AND
GRANTS

The interaction between spatially and temporally heterogeneous selection: Salmon as a model system, National Science Foundation, 8/1/09-7/31/11, \$132,691 (PI)

National Science Foundation Graduate Research Fellowship, 2003-2006

Burroughs Wellcome Program in Biological Dynamics Training Grant Recipient, 2001-2006

PROFESSIONAL
MEMBERSHIPS AND
SERVICE

Steering Committee member, Comparative Analysis of Marine Ecosystem Organization, 2009-2010
Member, Ecological Society of America, 2004-present

REFEREE
ACTIVITIES

Aquatic Living Resources, Canadian Journal of Fisheries and Aquatic Sciences, Conservation Biology, Ecology, Ecology Letters, Environmental Conservation, Fisheries Research, Journal of Theoretical Biology, Oikos, Proceedings of the National Academy of Sciences, Proceedings of the Royal Society B: Biological Sciences, Public Library of Science ONE, Theoretical Ecology, Theoretical Population Biology

COMMUNITY
SERVICE

Volunteer, <i>Kids Do Ecology</i>	2007-2008
Member, <i>Greening Princeton</i>	2002-2006
Participant, <i>Scholars in the Schools</i>	2003-2004
Volunteer, <i>Students for Environmental Education</i>	1998-2001