# Smith Fellows

## The David H. Smith Conservation Research Fellowship Program

2008–2009

The Smith Fellowship Program is a partnership between the Cedar Tree Foundation and the Society for Conservation Biology

# Brett Dickson

Ph.D. Colorado State University

## Project

Restoring native ecosystems on the Kaibab Plateau, Arizona: integrated models of fire, vegetation, plant invasion, and wildlife to guide science-based management and conservation

## Mentors

Ethan Aumack, Grand Canyon Trust; Dr. Thomas D. Sisk, Northern Arizona University

## Background

Brett's dissertation research quantified the response of bird communities to large-scale prescribed fire experiments in ponderosa pine forests of Arizona and New Mexico. Much of Brett's work involves providing data and scientific tools to broad communities of stakeholders to facilitate the restoration and conservation of threatened landscapes. His research interests include the use of spatial statistics and models in ecology, carnivore biology, and the effects of disturbance and fragmentation on wildlife and habitat connectivity.

# Holly Gibbs

Ph.D. University of Wisconsin-Madison

## Project

The implications of evolving U.S. energy policy for tropical conservation and climate change

## Mentors

Dr. Keith Alger, Conservation International; Dr. Peter Frumhoff, Union of Concerned Scientists; Dr. Rosamond Naylor, Stanford University; Dr. Daniel Nepstad, Woods Hole Research Center

## Background

Holly's dissertation research focused on the shifting patterns and drivers of tropical deforestation and the associated carbon emissions. Holly has worked closely with policy-makers and contributed to the U.N. climate policy dialogue on reducing emissions from deforestation and degradation. She aims to improve our understanding of the impacts of heightened U.S. biofuel demand on tropical ecosystems and net carbon emissions by documenting and quantifying the extent, locations and pathways of biofuel crop expansion today and in the future.

# Olaf Jensen

Ph.D. University of Wisconsin-Madison

## Project

Understanding fisheries collapse and recovery: biological, management, and economic correlates of failed fisheries

## Mentors

Dr. Timothy E. Essington and Dr. Ray Hilborn, University of Washington; Dr. Rod Fujita, Environmental Defense; Dr. Phillip Levin, National Marine Fisheries Service

## Background

Olaf's research interests include ecology and population dynamics of marine, estuarine, and freshwater fishes and fisheries management. His postdoctoral research focuses on improving the sustainable management of fish populations  His dissertation research topics included: the use of marine protected areas to protect striped marlin populations off of Baja California, Mexico; developing sustainable recreational fisheries for taimen (the world's largest salmonid) in Mongolia; and the behavioral ecology of predator-prey interactions in the Lake Superior pelagic community.

# Anne Salomon

Ph.D. University of Washington

## Project

Forecasting the ecological effects of  marine reserves to inform ecosystem-based management

## Mentors

Dr. Steve Gaines, Marine Science Institute, University of California Santa Barbara; Dr. Steve Katz and Mike Murray, Channel Islands National Marine Sanctuary

## Background

Anne's previous research focused on how the removal of major consumers from the sea have altered species interactions, diversity, and productivity of temperate nearshore marine food webs in Alaska and New Zealand. She is currently exploring the effects of fishing and oceanographic dynamics on the resilience of Californian kelp forest communities.  Anne is committed to integration and synthesis in applied problem solving, combining experimental field manipulations with natural stable isotope analyses, ecosystem modelling, satellite remote sensing, traditional knowledge and quantitative techniques.

# Sarah Keenan Jacobi

Ph.D. Johns Hopkins University

## Project

A framework for optimal spatial and temporal resource allocation for large scale consevation problems

## Mentors

Dr. Jeffrey Camm, University of Cincinnati School of Business; Dr. Eric Lonsdorf, Lincoln Park Zoo

## Background

Sarah's dissertation research developed decision analytic and optimization models for addressing environmental policy decisions, aiding the design of nature reserves for species preservation, and created a model to quantify and mitigate behavioral biases that occur when eliciting expert judgment. She also developed a framework for determining the research and management actions to reduce sediment loadings to the Minnesota River Basin. As a Smith Fellow, Sarah will transform models typically used to improve business efficiency to develop a framework for efficiently allocating resources for conservation over large spatial scales.

# Lekelia Jenkins

Ph.D. Duke University

## Project

Global oceans, global knowledge: Codifying approaches for successful cross-cultural adoption of marine conservation technologies

## Mentors

Dr. Patrick Christie, University of Washington; Dr. Martin Hall, Inter-American Tropical Tuna Commission; Dr. Wallace J. Nichols, California Academy of Sciences

## Background

Kiki pioneered a new field of study into the invention and adoption of marine conservation technology and she has worked as an environmental consultant. She helped implement new regulations to address bycatch and illegal, unregulated and unreported fishing by foreign nations. Kiki's research interests center on the rigorous, empirical study of the process of conservation in order to distill conservation theory and codify best practices, specifically exploring marine conservation, bycatch, conservation technology, invention, technology transfer, and diffusion of innovations.

# Raina Plowright

Ph.D. University of California, Davis

## Project

Climate change, wildlife corridors, and health consequences in the US Northern Rockies

## Mentors

Dr. Peter Daszak, Wildlife Trust; Dr. Andrew Dobson, Princeton University; Dr. Peter Hudson, Pennsylvania State University

## Background

Raina Plowright is an infectious disease ecologist with training in veterinary medicine, epidemiology and ecology. Raina's primary research focus is on how anthropogenic environmental change influences the dynamics and emergence of wildlife diseases. Her recent research examined the interrelationship between landscape change and emergence of Hendra virus, a highly virulent zoonotic disease that recently emerged from flying foxes into horses and humans in Australia. Raina has worked as a wildlife researcher and wildlife veterinarian on five continents, including Antarctica and Africa.

# Sarah Reed

Ph.D. University of California, Berkeley

## Project

Can conservation development conserve wildlife habitat connectivity?

## Mentors

Dr. Jodi Hilty, Wildlife Conservation Society; Dr. David Theobald, Colorado State University

## Background

Sarah currently studies human impacts on wildlife populations in the western United States. Working at the intersection of conservation biology and landscape ecology, Sarah is interested in the relationships among land development patterns, management practices, and the distributions and viability of wildlife populations. Sarah previously worked for a planning firm and non-profit affordable housing developer. In these positions, she observed a clear need for ecological information that is explicitly designed to support land use planning and management decisions.

# Staff

Executive Director, Dr. Michael Dombeck is one of the most renowned and respected contemporary conservationists. He dedicated a quarter of a century to managing federal lands and natural resources in the long-term public interest. His leadership in the Bureau of Land Management and as former chief of the Forest Service left a legacy of steadfast stewardship for the land. Dr. Dombeck now serves as University of Wisconsin System Fellow and Professor of Global Conservation at the University of Wisconsin - Stevens Point.

Program Coordinator, Shonda Gilliland Foster is a graduate of the Sustainable Development and Conservation Biology Master's program at the University of Maryland, College Park, where her research focused on the valuation of ecosystem services provided by the U.S. National Wildlife Refuge System. Prior to her graduate studies, Shonda worked in the congressional office of U.S. Senator Carl Levin. She also has experience with the North American Amphibian Monitoring Program at the Patuxent Wildlife Research Center in Laurel, Maryland where she assisted in the development of a web-based method to test volunteers' ability to accurately identify frog calls.

# About the David H
# Conservation Resear

This post-doctoral fellowship program identifies and supports early-career scientists who will shape the field of applied conservation biology. Smith Fellowships are available to post-doctoral researchers (of any nationality) affiliated with a United States institution, proposing research that addresses pressing conservation issues for the United States.

Conservation biology as a discipline experienced dramatic growth over the past two decades and a growing body of academic research focuses on conservation applications. Nonetheless, post-doctoral opportunities for conservation biology graduates have been very limited. In 1998, to help address this need, the foundation for David H. Smith (The Cedar Tree Foundation) and founding partner The Nature Conservancy established the David H. Smith Conservation Research Fellowship Program, devoted exclusively to applied conservation research problems. By fostering the development of promising conservation scientists, the Smith Fellowship Program helps encourage this rapidly expanding field of scientific inquiry and links it to the practice of conservation. In 2005, the Program moved to the Society for Conservation Biology. The Society for Conservation Biology's relationships with leaders from a diverse constituency of conservation organizations world-wide offers Smith Fellows a broad range of research, application, and policy experiences.

Smith Fellows are awarded two years of support for applied research in the field of biological conservation. Fellowship applicants must have received their doctorate within the last five years, demonstrate high potential for innovative research and leadership in their field, and propose a research plan that creatively and effectively addresses a pressing conservation question. Each Fellow is mentored by both an academic sponsor who encourages the Fellow's continued development as a conservation scientist, and a conservation practitioner who helps to connect the Fellow and her/his research to practical conservation challenges. We envision that the cadre of scientists supported by the Smith Fellows Program eventually will assume leadership positions across the field of conservation science.

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# ch Fellowship

## David H. Smith

Visionary. Conservationist. Leader.

These are some of the words used to describe Dr. David Hamilton Smith, founder and sole benefactor of the David H. Smith Conservation Research Fellowship Program. From the inception of his career, Dr. Smith did things differently. Beginning with his early days as a pediatrician and ending with his final days as an active member of The Nature Conservancy cadre, Dr. Smith was the epitome of quiet yet bold ambition in making positive changes. The changes for which he worked, in fields ranging from conservation to public health, are still present today. They are examples for all of us to follow. David Smith willed something even more valuable than his bequest - the legacy and example of himself.

## Contact

For questions, email **smithinfo@smithfellows.org**. For detailed proposal guidelines and current deadlines, please visit **www.smithfellows.org.**

The David H. Smith Conservation Research Fellowship is a partnership between the Cedar Tree Foundation and the Society for Conservation Biology, a global community of conservation professionals.

CEDAR TREE FOUNDATION

Society for Conservation Biology

# Science Advisory Board

Providing overall guidance for science, research, and training aspects of the program

Dr. Georgina Mace is Professor of Conservation Science at Imperial College London, Director of the NERC Centre for Population Biology, and President of the Society for Conservation Biology (2007-2009). Dr. Mace's research is on biodiversity and extinction risk, especially on the causes and consequences of species extinctions.

Dr. Louis Provencher is the Director of Conservation Ecology of The Nature Conservancy of Nevada. His training was in predator-prey theory, foraging theory, community ecology, fire ecology, individual-based modeling, and arachnology. Louis has interviewed every Smith Fellows finalist since the inception of the program.

Dr. Jake Vander Zanden is an associate professor at the Center for Limnology and the Department of Zoology at the University of Wisconsin, Madison. Jake is an aquatic ecologist with research interests including food webs, invasive species, salmonid ecology and conservation biology. He was a Smith Fellow at the University of California, Davis.

Dr. David Wilcove is a professor of ecology and evolutionary biology and public affairs at Princeton University. He is author of two books and many technical and popular articles in the fields of conservation biology, ornithology, and endangered species protection.

Dr. Erika Zavaleta is an assistant professor of Environmental Studies at University of California, Santa Cruz. Erika is interested foremost in narrowing the divide between conservation science and environmental problem-solving. She was a Smith Fellow at the University of California, Berkeley.

Smith Fellows

David H. Smith Conservation Research Fellowship

Smith Fellowships provide two years of postdoctoral support to outstanding early-career scientists (of any nationality) affiliated with a United States institution. Research approaches may include comparative studies, synthetic analyses across sites, experimental or observational studies, applied modeling, or any combination of these. Applications are due in late September of each year. The Smith Fellowship Program is a partnership between the Cedar Tree Foundation and the Society for Conservation Biology. For information about these organizations, visit: **www.cedartreefound.org** and **www.conservationbiology.org**.

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## Photography

Cover: Bighorn Sheep,Wild North Photography/www.wildnorthphoto.com;
Inside cover (right): Tropical deforestation (right), Marshall Burke;
Smith Fellows submitted all additional photographs.

## Design

Autumn-Lynn Harrison, Society for Conservation Biology

## Printing

Greener Printer on 100% Recycled, 50% Post-consumer Waste, FSC Certified paper