

## PETER D. SMALLWOOD

### **Contact information:**

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### **Education:**

Ph.D. Ecology & Evolutionary Biology, University of Arizona 1992  
M.S. Biology, University of North Carolina 1985  
B.S. Zoology (Minor in Statistics), Ohio State University 1983

### **Experience:**

Consultant for Senate Homeland Security/Gov. Affairs Committee Sept 2011  
Director, Wildlife Conservation Society-Afghanistan Jan 2008-July 2009  
Consultant for Wildlife Conservation Society-Afghanistan, work in Kabul July-Aug 2006  
Consultant for the Nonproliferation and Disarmament Fund July-Aug 2005  
Executive Director, Redirection for WMD experts in Iraq 2004-05  
AAAS Congressional Science Fellow 2003-04  
Associate Professor, Department of Biology, University of Richmond 2003-Present  
Assistant Professor, Department of Biology, University of Richmond 1997-2003  
Lecturer in Biology, University of Pennsylvania 1995-97  
Visiting Assistant Professor, Department of Biology, Bryn Mawr College 1994-95  
Lecturer, Kennedy Institute of Philosophy and Ethics, Georgetown University 1995  
Postdoctoral Fellow in Integrative Biology, Bryn Mawr College 1992-94

### **Publications:**

Steele, M., T. Contreras, L. Hadj-Chikh, S. Agosta, P.D. **Smallwood**, and C. Tomlinson. 2014. Do scatter-hoarders trade off increased predation risks for lower rates of cache pilferage? *Behavioral Ecology* 25:206-215.

Mitchell, J.C., and **P.D. Smallwood**. 2013. Field Notes: *Lampropeltis getula* (Eastern Kingsnake) and *Chelydra serpentina* (Snapping Turtle). *Catesbeiana*. 33: 25

**Smallwood**, P.D. 2013. The Risks of Greening in the Red Zone: Creating Afghanistan's First National Park in the Midst of Conflict. Chapter 21 in (Tidball and Krasny, Editors), *Greening in the Red Zone: Disaster, Resilience and Community Greening*. Springer Press.

Johnson, M.F., Kandarian, N, Shank, C.C., Rahmani, H., Lawson, D., and **Smallwood**, P.D. 2012. Setting priorities for protected area planning in a conflict zone – Afghanistan's National Protected Area System Plan. *Biological Conservation* 148:146-155.

**Smallwood**, P.D., Shank, C, Dehgan, A. and Zahler, P. 2011. Wildlife Conservation in Afghanistan. *BioScience* 61:506-511.

*Publications, continued:*

**Smallwood, P.D.** and Liimaitenen, W.T. 2011. Safeguarding WMD Expertise: Lessons Learned From Iraq. *Arms Control Today* 41: 8-14.

Ostrowski, S., Zahler, P., Dehgan, A., Stevens, K., Karlstetter, M., and **Smallwood, P.D.** 2009. Asiatic Black Bear still survives in Nuristan, Afghanistan. *International Bear News*, 18:14-15.

Steele, M.A., Halkin, S.L., **Smallwood, P.D.**, McKenna, T.J., Mitsopoulos, K, and Beam, M. (2008). Cache protection strategies of a scatter-hoarding rodent: do tree squirrels engage in behavioural deception? *Animal Behaviour*. **75: 705-714**

Steele, M.A., John E. Carlson, **Peter D. Smallwood**, Amy B. McEuen, Thomas A. Contreras, and William B. Terzaghi (2007) Linking seed and seedling shadows: A case study in the oaks (*Quercus*) in: **Seed dispersal: Theory and its application in a changing world.** (Dennis, A. J., Schupp, E. W., Green, R. and Westcott, D. W., eds) CAB International, Wallingford, U.K. {invited chapter, peer reviewed}.

Steele, M.A., Manierre, S., Genna, T., Contreras, T.A., **Smallwood, P.D.**, & Pereira, M.E. (2006) The innate basis of food-hoarding decisions in grey squirrels: evidence for behavioural adaptations to the oaks. *Animal Behaviour* 71: 155-160.

Steele, Micheal A., and **Peter D. Smallwood**. 2002. Acorn dispersal by birds and mammals. Chapt 12 in **Ecology and Management of Oaks for Wildlife.** (W. McShea and W. M. Healy, eds.) Johns Hopkins University Press. {invited chapter, peer reviewed}.

Danielson-Francois, A., C. Fetterer, and **P.D. Smallwood**. (2001) Body condition and mate choice in *Tetragnatha elongata*. *Journal of Arachnology* 30:20-30.

**Smallwood, P.D.**, Steele, M.A., and Faeth, S. H. (2001) The ultimate basis of the caching preferences of rodents, and the oak-dispersal syndrome: tannins, insects, and seed germination. *American Zoologist* 41: 840-851.

Steele, M.A., **P.D. Smallwood**, A. Spunar, and E. Nelsen. (2001) Proximate cues influencing caching decisions: Can grey squirrels detect seed dormancy? *American Zoologist* 41: 852-864.

**Smallwood, P. D.** (2001) An integrative approach to the study of plant-animal interactions. *American Zoologist* 41:807-809. (Invited overview)

Steele, M. A., G. Turner, **P.D. Smallwood**, J.O. Wolff, and J. Radillo. 2001. Cache management by small mammals: Experimental evidence for the significance of acorn embryo excision. *Journal of Mammalogy* 82:35-42

**Smallwood, P.D.**, and J.A. Smallwood. (1998) Seasonal shifts in the sex ratios of fledgling American kestrels: The early bird hypothesis. *Evolutionary Ecology* 12:839-853.

**Smallwood, P.D.**, M.A. Steele, E. Ribbens, and William F. McShea (1998). The effects of seed hoarders on the distribution of tree species. pp. 211-222 *in* (M.A. Steele, D. Zegers, and J. Merritt, eds), **Ecology and Evolutionary Biology of Tree Squirrels**. Virginia Museum of Natural History, special publication #6, 320pp. (invited chapter, peer reviewed).

Hadj-Chikh, L.Z., M.A. Steele, and **P.D. Smallwood** (1996) Caching decisions by Grey Squirrels: A test of the handling time and perishability hypotheses. *Animal Behavior* 52:941-8.

**Smallwood, P.D.** (1996) An introduction to risk sensitivity: The use of Jensen's inequality to clarify evolutionary arguments of adaptation and constraint. *American Zoologist* 36:392-401.

**Smallwood, P.D.**, and R.V. Cartar (1996) Risk sensitivity in behavior: Where are we now? *American Zoologist* 36:389-391 (Invited overview).

Steele, M.A., and **P.D. Smallwood** (1994) What are squirrels hiding? *Natural History* 10/94: 40-45.

**Smallwood, P.D.** (1993) Web-site tenure in the Long-Jawed Spider: Is it risk-sensitive foraging, or conspecific interactions? *Ecology* 74: 1826-1835.

**Smallwood, P.D.**, and W.D. Peters (1986) Grey squirrel food preferences: The effects of tannin and fat concentration. *Ecology* 67:168-174.

#### **Recent Grants:**

USAID Higher Education for Development/Initiative for Conservation in the Amazon and Andes: Building Conservation Capacity for a Changing Amazonia. D. Salisbury, M. Finley-Brook, R. de Sá, **P.D. Smallwood**, & Peruvian Consortium. Submitted June 28, 2012. Final Agreement signed 12/20/2012. US \$750,000 over 2.5 years, to June 30, 2015.

Mellon Foundation, Support Course Development for Cross-School Seminars. *Civilians Who Serve: The Privatization of Warfare*. **Smallwood, P.D.** (Biology), Jones, J.P (Law), and Browder, L (American Studies) Funded, 8 December 2011 for Summer 2012: \$4500.

#### **Recent Presentations to Scientific meetings:**

**Smallwood, P.D.** 2013. Current Efforts in Cooperative Scientific Engagement and Mechanisms for Sustainability of the Programs and Relationships. Presentation to invitation-only conference, "International Biosecurity: Engagement between American and MENA Scientists" Hosted by the American Association of the Advancement of Science and the Moroccan Biosafety Association. Casablanca, Morocco. 18-19 May, 2013.

**Smallwood, P.D.** 2012. Protecting Natural Areas in Afghanistan – Conservation in a Conflict Zone. **Plenary Presentation** to the Annual meetings of the Natural Areas Association, 9-12 October 2012.

*Presentations, continued.*

Johnson, MF, N Kanderian, CC Shank, H Rahmani, D Lawson and **PD Smallwood**. 2012. Setting priorities for protected area planning in a conflict zone: Afghanistan's National Protected Area System Plan. Contributed paper to the Annual Meetings of the Ecological Society of America. Portland, Oregon, USA. 5-10 August, 2012. (I delivered the presentation)

**Smallwood**, P.D. 2011. Challenges and opportunities for global biosurveillance from conservation programs. Presentation to the 2nd Biothreat Nonproliferation Conference: Global Biosurveillance. 19-21 January 2011, Santa Fe, New Mexico. Sponsored by DoE, DoD, and DoS.

Participant in AAAS program, International Engagement: Responsible Bioscience for a Safe and Secure Society. 3-6 October 2010, Amman, Jordan.

**Smallwood**, P.D. Warfare Ecology: Lessons from Afghanistan. Annual meeting of the Ecological Society of America. Austin, TX, USA, 1-6 August, 2011. (Invited symposium speaker).

**Smallwood, P.D.**, M. Johnson, D. Salisbury, and S. Nash. Educating Undergraduates and addressing ecological problems at the same time: two case studies. Contributed paper in Session #7: Education and Pedagogy. Annual meeting of the **Ecological Society of America**. Pittsburgh, USA, 1-6 August, 2010.

**Smallwood, P.D.**, D. Lawson, and P. Zahler. Conserving Wildlife and Wild lands in conflict zones: Afghanistan. Invited paper in Session #36: The Evolving Role of Ecologists in the Development of Environmental Public Policy. Annual meeting of the **Ecological Society of America**. Pittsburgh, USA, 1-6 August, 2010.

**Smallwood, P.D.**, D. Lawson, and P. Zahler. Afghanistan: Conservation in a country in conflict. Contributed paper in session #5: Community-based Conservation. Annual meeting, **International Congress for Conservation Biology**, Edmonton, Alberta, Canada. 3-7 July 2010.

**Smallwood, P. D.** Strategies for Conservation in high-profile conflict zones. Contributed paper in session "Conservation Strategies." Annual meetings of the **Association for Environmental Studies and Sciences**, Madison, Wisconsin, USA. 8-11 October, 2009.

**Recent Invited Seminars:**

Berglund Seminar Speaker, Honors College, Virginia Commonwealth University. 7 February 2011.

Senior Symposium Speaker, Lynchburg College. 28 February 2011.

Gettysburg College, Seminar to Depts of Biology, Environmental Sciences. 11 Nov 2009.

Virginia Commonwealth University. Seminar to Environmental Studies. 18 Nov 2009.

Bryn Mawr College, Seminar to Depts. of Biology, Environmental Studies. 23 Oct 2009.

Oklahoma University, Seminar to graduate group in Ecology. 15 Oct 2009.

Central Connecticut State University, Seminar to Political Science/International Studies on Science and Foreign Policy in Iraq and Afghanistan. 9 April 2010.

Central Connecticut State University, Seminar to Biology and Environmental Studies on Conservation in Afghanistan. 8 April 2010.

Lynchburg College, Senior Seminar (attended by the graduating class of 2007) 5 February 2007

Old Dominion University: Biology and Political Science Department, 20 February 2007

Center for Civic Engagement, Richmond, VA, 1 March 2006.

Annual Meeting of the Virginia Political Science Association, 16 November 2006

Millersville University: Wierich Humanist/Scientist award and lecture, 11 October 2006

**Recent Service for the University of Richmond:**

Member, Planning and Priorities committee: University-wide (Fall 2012-spring 2014)

Member, Dean's Advisory committee: School of Arts & Sciences (2012-2014)

Chair, Search Committee for Physiologist for Dept. of Biology (Fall, 2013)

Chair, Committee to design new core course for the Biology major (summer/fall 2013)

Member, FYS Committee. University-wide committee, (fall 2010—spring 2012)

Chair of Search Committee for an Epidemiologist for the Department of Biology (Fall, 2009: successful search).

Member, Assessment Committee, Department of Biology. (fall 2009—spring 2012)

Smart-Dickenson Awards Committee (selecting students for awards) Department of Biology (fall 2009—spring 2012)

Member, Committee on Hiring Faculty with Tenure, School of Arts and Sciences (2009-2010)

Member, Committee on Faculty Status, University Committee (fall 2009—spring 2012)

Member, Administration Subgroup for the Committee on the President's Climate Action Plan University Committee ((fall 2009—spring 2012)

Member, Promotion and Tenure Committee, School of Arts and Sciences (2005-2008)  
Chair of the Committee, 2007-08.

Member, Search Committee for the President of the University of Richmond (2006)

**Recent Courses Taught:**

Science of Conservation Biology (upper level elective for Biology and Environmental Studies majors); First Year Seminar (Conservation and Development); Introductory Ecology; Behavioral Ecology; Introductory Biology; Genetics; Philosophical Issues in Evolutionary Biology; Science and Leadership in Public Policy (co-taught with a political scientist); Senior Seminar in Environmental Studies (co-taught with a professor of journalism).

**Refereed for:**

Papers: BioSecurity, Bioterrorism, and BioDefense Strategy; Journal of Ecology; Evolution; Journal of Mammalogy; Behavioral Ecology; Oecologia, Acta Theriologica. Israeli Journal of Ecology and Evolution. Grant proposals: National Science Foundation; Israeli National Science Foundation; M.J. Murdock Charitable Trust; American Philosophical Society.

## **Management and Policy Experience outside of Academia:**

- **Country Director/Chief of Party, Wildlife Conservation Society-Afghanistan.**

International NGO project, based in Afghanistan. January 2008 to July 2009

I took of leave from the University of Richmond to serve as Director of the Afghanistan program for the Wildlife Conservation Society (WCS) in Afghanistan. The WCS is a non-profit NGO with conservation projects in over 50 countries. The Afghanistan project, funded primarily by the US AID, is their largest and most challenging project so far. I supervised a staff of approximately 70 Afghans and 20 international experts, and managed a budget of approximately \$11.1 million USD over 4 years. The project involves work in 3 provinces in Afghanistan, and the projects span a large range of conceptual areas. These began with basic science, estimating the size and health of populations of wildlife species (e.g., snow leopards, Marco Polo sheep, Markhor goat) and the ranges that they –and livestock—depend on. We worked with local and provincial organizations to develop institutions for the local people to manage their natural resources (CMNRM), and benefit economically from conservation (e.g., ecotourism). We worked with the central government in Kabul, helping them develop and laws and regulations to facilitate conservation, development, and local CBNRM. We created education modules for primary and secondary schools that were adopted in most of Afghanistan’s provinces, and provided training and capacity building to educators and government officials. Finally, we worked in an international context, as many of Afghanistan’s key wildlife species move freely between Afghanistan and its neighbors. In short, we did a lot, contributing to USAID objectives in many areas. I took over as COP for the 3<sup>rd</sup> year of a 3 year, \$6.9M project, and brought in more than \$4M in additional funds to expand activities of the third year, and extend the project for an additional year. We helped them establish their [first National Park](#), and their first list of legally [protected species](#), both vital steps towards sustainable use of the natural resources.

- **Executive Director, Iraqi International Center for Science and Industry.**

US Department of State, Office of Proliferation Threat Reduction (PTR). Aug. 2004 - July 2005

I became familiar with this program while serving as a Congressional Science Fellow (AAAS) for the 2003-04 academic year (see below). PTR recruited me to be the director of the program. The purpose of this program is to help Iraqi scientists and engineers with WMD expertise redirect their talents towards productive civilian projects, most often in the environmental sector. I worked in the US Embassy in Baghdad, with offices in the Political-Military section of the Embassy and in the Ministerial Advisors Group (under the Iraq Reconstruction Management Organization). My responsibilities included: establishing policy for the redirection effort in Iraq; recruiting WMD experts to join the program; developing and executing projects that allow us to provide financial support to the experts, and programs to help the experts develop their capacity for civilian employment; working with Iraqi ministries and private employers to find jobs for the experts; and advising the US Embassy on matters relating to potential proliferation of WMD expertise.

- **AAAS Congressional Science Fellow.** 2003-2004 academic year.

Legislative Assistant for Environment and Energy issues, Senator Joseph Lieberman.

I took leave from the University of Richmond to accept this position. The American Association for the Advancement of Science (AAAS) selects 2 scientists each year as Congressional Science Fellows (AAAS also coordinates and provides training for congressional fellows selected by many other scientific societies). I worked for Senators Wyden and Lieberman, drafting legislation on environmental stewardship of Long Island Sound (eventually signed into law, 2006), and assisted in the development of other legislation to reform the National Parks system, reduce greenhouse gas emissions, and reform the National Forests system. I also researched and provided advice on a wide range of environmental and scientific issues.

- **Legislative experience in Virginia.**

In the spring of 2003, I co-led the first senior seminar for Environmental Studies majors at the University of Richmond. As a class project, we drafted legislation for a comprehensive plan to deal with invasive species in the Commonwealth of Virginia, and lobbied for its passage. The resulting bill was signed into law by the Governor of Virginia in April of 2003. In the fall of 2007, I led a team of 5 Environmental Studies students to research early detection programs, pursuant to a revision of Virginia's Comprehensive Management Plan for Invasive Species. Working with Prof. Noah Sachs, I brought in law students to help review the legal tools available to Virginia, as well as best practices of other states.

#### **Work with popular media:**

My work has been reported in the New York Times, Nature, CNN, the Philadelphia Inquirer, the Richmond Times-Dispatch (with several other newspapers around the country reprinting these stories), National Geographic Magazine, Natural History, and BBC's Wildlife Magazine. I have also been quoted providing commentary and/or explanation in articles in the news section of the journal Science, the New York Times, and several other newspapers. Sir David Attenborough brought his film crew to the University of Richmond to film a segment on squirrels for his series, The Life of Mammals. The episode on rodents "the chiselers" made extensive use of our research on how squirrels distinguish between acorns from different species of oak. It was a great experience to be involved with this kind of film journalism. I worked successfully with print and radio journalists for coverage of our work with the US Department of State in Iraq. I have worked successfully with western and Afghan journalists, resulting in positive coverage of WCS work on American and Afghan radio programs as well as print media.