

**Abbreviated Curriculum Vitae**  
**MARGARET DALZELL LOWMAN**  
**Director of Global Initiatives**  
**Lindsay Chair of Botany, Senior Scientist in Plant Conservation**  
The Institute for Biodiversity Science and Sustainability  
California Academy of Sciences  
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### EDUCATION

2006 Aldo Leopold Leadership Fellowship Program  
2004 Disney Leadership Institute for Biodiversity  
2002 Tuck School of Business, Dartmouth College, Executive Management certificate  
1983 University of Sydney, Australia. Ph.D. Botany  
1978 University of Aberdeen, Scotland. M.Sc. Ecology  
1976 Williams College, MA. B.A. Biology, cum laude

### EMPLOYMENT

2016 – on **Director of Global Initiatives and Lindsay Chair of Botany**, California Academy of Sciences to create a global strategy for the Academy’s biodiversity science and sustainability, and promote it to local and international audiences  
2014 - 16 **Chief of Science and Sustainability**, California Academy of Sciences, includes oversight to ~100 curators, collections staff, and students; stewardship of 45+ million collections; create sustainable initiatives throughout all research programs and prioritize relevant science and sustainability by restructuring internal operations  
2010 - 2014 **Director**, Nature Research Center, NC Museum of Natural Sciences (including director of global initiatives and academic partnerships); and **Research Professor**, College of Sciences, NC State University  
2003 - 15 **Science columnist**, News & Observer, Charlotte Tribune, NC; Herald Tribune, FL  
2003 - 2010 **Director of Environmental Initiatives**, and **Professor of Biology and Environmental Studies**, New College of Florida and Sarasota County Regional Government Science Outreach Partnership  
1999 - 2003 **Chief Executive Officer**, Selby Botanical Gardens, FL  
1992 - 1999 **Director of Research & Conservation** and **Jessie Cox Chair in Tropical Botany**, Selby Botanical Gardens, FL  
1989 - 1992 **Visiting Professor of Biology & Environmental Studies**, Williams College, MA  
1988 - 1989 **Lecturer in Botany**, University of New England, Australia  
1983 - 1989 **Co-manager**, Ruby Hills Pastoral Company, Walcha NSW Australia

### PROFESSIONAL HONORS

2015 Honorary Doctorate in Science & commencement speaker, Elmira College  
2014 Honorary Doctorate in Science & commencement speaker, Wilson College  
2014 Roy Chapman Andrews Distinguished Explorer Award  
2014 Selected as one of San Francisco’s “50 Distinguished Women Business Leaders”

2014 Invited keynote speaker, EO Wilson Biodiversity Symposium, to honor EO Wilson, University of Alabama

2013 Rolex Foundation invited juror to select youth award finalists

2013 Appointed Fulbright Senior Specialist Scholar to Ethiopia

2012 Rolex invited Forum speaker, Rolex Awards Ceremony, New Delhi India

2012 Appalachian State University, NC, commencement speaker

2012 Invited to serve, White House Women and the Environment Summit

2011 Appointed Fulbright Senior Specialist Scholar to India

2010 Research Fellow, Environmental Change Institute, Oxford University, UK

2010 Dictor-Martin Civic Award, Year of Biodiversity Leadership, Sarasota

2009 ACE (Achievements in Canopy Ecology) international award, Bangalore, India

2009 Selected as Florida Trend Business Magazine “Icon” for February 2009

2009 Tampa FL Women’s history month honoree for "conservation of the planet”

2008 - on Elected to Earthwatch Board of Directors

2008 Elected Fellow of Wings WorldQuest, honoring women in exploration

2007 - 2009 Science Advisor for Climate Change to Florida CFO, Alex Sink

2007 Mendel Medal for achievement in science & spirit, Villanova University

2006 - 2012 Elected Vice President for Education & Human Resources, Ecological Society of America (and re-elected)

2006 Lowell Thomas Medal for Biodiversity Exploration, The Explorers Club

2005 - 2011 Elected to the Board of Directors, The Explorers Club (and re-elected)

2005 - 2008 NEON senior design team (to write ~ \$400 mil grant for ecological observatories)

2004 Chief Scientist, The Jason Project in Science Education w/Bob Ballard - Panama: Rain Forests at the Crossroads

2003 Woman in Power Award, National Council of Jewish Women (NCJW)

2003 Certificate of Honor, Sarasota County Commission on the Status of Women

2003 Asteroid (10739) Lowman named by Carolyn Shoemaker, US Dept. of Interior

2002 Kilby Laureate Medalist honoring work as a rainforest canopy expert

2002 Ecological Society of America, Eugene P Odum Award for Excellence in Ecology Education

2001 Florida Gubernatorial appointment to Board of Directors, New College of Florida

2001 AABGA Award for Program Excellence for creating two elevated canopy walkways, one at Selby Gardens and one at Myakka State Park

2000 Girls, Inc. Visionary Award for Public Science & Education Outreach

2000 Williams College Bicentennial Medal for achievements in tropical botany

2000 Phi Delta Gamma Educators’ Award for book, Life in the Treetops

1999 Margaret Douglas Medal from National Garden Club of America for Conservation Education

1999 Chief Scientist, The Jason Project in Education w/Bob Ballard in the Amazon, Peru

1999 Board of Scientific Advisors, Amazon Center for Education & Environmental Research

1998 Selection to Leadership Florida, Class XVI

1997 Elected Fellow of The Explorers Club

1995 - on Board of Scientific Advisors, Intl. Center for Tropical Biology, University of Missouri

1994 Chief Scientist, The Jason Project in Science Education w/Bob Ballard in Belize

1994 Girl’s Incorporated “She Knows Where She’s Going” Award for mentoring girls in science

## **BUSINESS EXPERIENCE**

2014 – 16 Chief of Science & Sustainability, California Academy of Sciences, with ~\$ 7 mil

- operating budget and ~ \$12 mil grants for the Academy's mission of "Explore, Explain, and Sustain Life"
- 2010 - 2014 Director, Nature Research Center, NC Museum of Natural Sciences, a \$65 million science research and education technology wing of the state museum. My direct staff (all new hires) received \$11.7 million in grants during their first year
- 2008 Sustainability consultant to Tommy Hilfiger Foundation
- 2008 Chair, Mission/Vision committee, The Explorers Club (1<sup>st</sup> mission revision after 101 years, which required more business than science-savvy!)
- 1999 - on Co-Founder/Director, TREE Foundation, a 501(c)(3) organization dedicated to tree research, exploration, and education (<http://treefoundation.org>)
- 1999 - 2003 CEO of Marie Selby Botanical Gardens, Sarasota, day-to-day operations of botanical garden (budget \$3.4 million) including strategic planning, programs, fundraising and staffing, with highlights:
- Budget up 25% over 4 years; membership up 46%
  - Budget deficit (of prior administration) moved to figures in the black
  - Implemented ongoing training and professional development for staff
  - Initiated global partnerships including Sister Garden relationships w/ Jardín Botánico Lankester, Cartago Costa Rica; Fundación Jardín Botánico de Orinoco, Ciudad Bolívar Venezuela and Cienfuegos Botanical Gardens, Cienfuegos Cuba
  - Named one of America's Top Ten Botanical Gardens in 2003
  - Donor levels and annual appeals up over four-fold; first half-million dollar gifts in the history of the Gardens; raised \$2.2 million in 3 yrs. for Capital Campaign, most by direct solicitation; over 900 volunteers/yr. whose hours represented > \$1.5 million value-added
- 1994 - 2010 Treasurer, Association for Tropical Biology: created annual budgets, initiated computerized accounting and set up the Society's first endowment
- 1992 - 10 Co-founder, Canopy Construction Associates, a company that specializes construction of canopy walkways for research and education institutions worldwide; continued volunteer advisor on selection of canopy walkway sites from a biodiversity perspective ([www.canopyconstruction.com](http://www.canopyconstruction.com))
- 1983 - 1990 Managed family agricultural operation, "Ruby Hills" merino fine wool sheep and Poll Hereford stud cattle operation in outback Australia: budgeting, oversight to genetics and breeding, agricultural research, record-keeping, maintenance of extensive property, shearing operations, bed-and-breakfast, and other revenue operations of a weather-related, market-driven operation

## TEACHING OUTREACH & INNOVATIVE EDUCATION

- 2014 TEDx Livermore, CA invited speaker: "How to Raise a Girl Scientist"
- 2014 Various innovative outreach activities for the Academy: featured in Google Hangout, Huffington Post, Scientific American Forum, distance learning "meet-a-scientist" to middle schools in NY, MI, OH (who study my canopy research as statewide Science Next Generation Standards), CBS news interview on canopy access for mobility-limited
- 2014 Featured in National Geographic TV show, How to Climb a Tree (host: David Rees)
- 2012 - 2013 Created virtual "meet-the-scientist" programs in NC Museum of Natural Sciences' Daily Planet technology theater; hosted EO Wilson & others in "global town halls"; gave > 100 public talks to communicate and inspire fundraising for Museum's Nature Research Center; trained new staff to develop visual lab programs/grants/communication

- 2012 Featured by National Geographic as their “real-life Lorax”; called “Einstein of the treetops” by Wall Street Journal
- 2012 Invited delegate to the White House Summit on Women and the Environment
- 2010 - on Science columnist for News and Observer (Raleigh) and Charlotte newspapers, NC
- 2010 Co-chair, National Summit in Ecology Education entitled: Environmental Education for a Sustainable World in Washington DC
- 2010 Featured in Popular Science Magazine college issue: Top Ten Cool College Labs
- 2010 Featured in Oprah Magazine: Women Taking Risks
- 2010 Funded and hosted Rapid Response Training for Invasive Pythons in SW Florida
- 2009 Press (& Florida cabinet) delegate to UNFCCC (climate change meetings, Copenhagen)
- 2009 Florida Trend Magazine - Icon for February issue (audience mainly business leaders)
- 2008 - on Meg Lowman Treetops Camp - science mentor to at-risk teenage girls, annual camp
- 2008 Funded and hosted Invasive Reptile workshop for state of Florida
- 2008 PASI - National Science Foundation graduate workshop, taught canopy ecology in Peru
- 2008 Pierian Academy teaching adult ecology education
- 2007 Featured in National Geographic Explorer, Natural History, and Smithsonian magazines for canopy exploration
- 2007 “No Child Left Indoors” proclamation to city and county of Sarasota; charter for Ecological Society of America and other environmental groups
- 2006 - on Website: [www.canopymeg.com](http://www.canopymeg.com) (> 1 million hits per year)
- 2006 Interview featured in Smithsonian Magazine
- 2005 - on Science columnist *Nature's Secrets*: North Carolina's News & Observer and Charlotte Tribune, Sarasota Herald Tribune newspaper
- 2004 - on Tutoring New College of Florida students in environmental outreach: leading hikes in local parks and creating hands-on science activities in local middle schools; 53 students participated and earned County Environmental Education Award in 2006
- 2004 Jason XV Project for youth education in the rain forests of Panama (over 50 broadcasts for schools and museums during January 2004, 3 million students) and co-authored curricula
- 2002 HGTV host for two botanical shows
- 2001 New York Times/National Geographic Profile TV Series
- 1999 Jason X Project in Science Education, Chief Scientist - international K-12 science education in forest canopies of Amazonian Peru
- 1999 Scientist featured in National Geographic TV special, *Heroes of the High Frontier*
- 1999 Cover review on Sunday NY Times Book Review for **Life in the Treetops**
- 1995 - on Led Citizen Science Workshops about tropical ecology research in Peruvian Amazon
- 1994 Jason V Project, Chief Scientist - international K-12 science education program with satellite linkage between classrooms and scientist at field sites; completed 61 live classes from the rain forest, Belize; wrote curriculum with National Science Teachers Assoc.
- 1993 Produced Reading Rainbow feature film about trees w/ Lavar Burton (Star Trek), a national series to educate K-9 about science and reading

#### **SELECTED RESEARCH EXPERIENCE & GRANTS (from 2000 onwards)**

- 2015-8 REU NSF grant – Undergraduate research in the cultural, economic, and ecological significance of church forests in South Gondar, Ethiopia (with Colby College, \$391,470)
- 2015-8 NSF REU - Wheelchairs and Waterbears: 3D Access to survey forest canopy biodiversity, with special emphasis on inspiring mobility-limited students to seek careers in field biology \$189,251.

- 2013-7 NSF MSP grant - Students Discover: Improving middle school STEM outcomes through scaling citizen science projects. (Co-PI for \$4,286,777.00 mil with NCSU and NC public schools)
- 2013 North Carolina university partnerships for Museum (~ \$430,000 per year)
- 2010 National Geographic - Conservation of Church Forests in Ethiopia (\$24,000)
- 2008 Sarasota County - Invasive species ecology and ecology education (\$50,000)
- 2007 Canopy Ecology - regional and international (Triad, \$25,000)
- 2006 National Science Foundation, informal science education, rain forest exhibit (\$75,000)
- 2006 Student Outreach in Science (SOS) - Environmental education grant (Community Foundation, \$11,000 grant co-written with youth)
- 2005 Economic Development Corporation - Field station green design (\$5,000)
- 2004 - 2007 Sarasota County, environmental services to regional government (\$200,000)
- 2004 Jason X Project for Education, ACEER, Peru (~\$25,000)
- 2002 The Venice Foundation - Botanical collections (\$200,000)
- 2002 Phase I - Capital Campaign private donor acquisitions (\$1.3 million)
- 2002 Selby Foundation - Memorial for botanical philanthropist, Marie Selby (\$75,000)
- 2001 Bank of America education grant for children's garden exhibits (\$25,000)
- 2000 State of Florida - Division of Historical Resources - Botanical Collections Security (\$1.5 million)
- 1999 - 2003 National Science Foundation, Links between the canopy and the forest floor (\$419,976) plus student participation: Ecological Circuitry Collaboratory (\$59,932)

## EXAMPLES OF PUBLICATIONS

### Books:

**Lowman MD** and W Mulat. 2014. Beza - Who Saved the Forests of Ethiopia, One Church at a Time. Peppertree Press (children's book), both English and Amharic versions.

**Lowman MD**, S Devy, and T Ganesh (eds.). 2013. Treetops at Risk. Springer, 444 pp.

**Lowman MD**, T Schowalter, and J Franklin. 2012. Methods in Forest Canopy Research. University of California Press.

**Lowman MD**, E Burgess, and J Burgess. 2006. It's A Jungle Up There - More Tales from the Treetops. Yale University Press, 291 pp. (Paperback, 2008; reprinted in Korean, 2009.)

**Lowman MD** and HB Rinker (eds.). 2004. Forest Canopies. Elsevier Academic Press.

**Lowman MD**. 1999. Life in the Treetops: Adventures of a Woman in Field Biology. Yale University Press. (Editions in German, Chinese and Korean; paperback in 2002.)

**Lowman MD** and NM Nadkarni (eds.). 1995. Forest Canopies. Academic Press, 624 pp. (Second edition in paperback, 1996.)

Heatwole H and **MD Lowman**. 1986. Dieback: Death of an Australian Landscape. Reed & Co, 150 pp.

## **Selected Scientific Publications:**

Tallis H, J Lubchenco, **M Lowman** et al. 2014. A call for inclusive conservation. *Nature* 515: 27-31.

Haefke, BJ, A Spiers, WR Miller & **MD Lowman**. 2014. Tardigrades of the canopy: *Doryphoribius elleneddiei* nov. sp. (Eutardigrada, Parachela, Hypsibiidae), a new species from eastern Kansas. *Transactions Kansas Academy of Sciences* 117: 299-304.

**Lowman MD**. 2014. Ecoliteracy in informal science education settings. *Frontiers in Ecology and the Environment* 12: 474-5.

**Lowman MD**. 2014. Put the Muse Back in Museums - Science museums should recruit the public in confronting the planet's toughest challenges. *Scientific American Forum*.

Rocha LA, ... **M Lowman**... et al. 2014. Specimen collection: an essential tool. *Science* 344: 814-5.

Haefke BJ, AI Spiers., WR Miller & **MD Lowman**, M.D. 2013. Tardigrades in the Canopy: Using double rope techniques to conduct sampling along vertical transects. *Transactions of the Kansas Academy of Science*, 116(3-4):119-124.

Cardelús CL, P Scull, J Hair, M Baimas-George, **MD Lowman**, and A Wassie Eshete. 2013. A preliminary assessment of Ethiopian sacred grove status at the landscape and ecosystem scales. *Diversity* 5(2): 320-334.

Lewis OT, RM Ewers, **MD Lowman**, and Y Malhi. 2013. Conservation of tropical forests: maintaining ecological integrity and resilience. IN: *Key Topics in Conservation Biology 2*. DW Macdonald & KJ Willis (eds). John Wiley & Sons: 222-235.

**Lowman MD**. 2013. Exploring the rain forest canopy by balloon. IN: *The Modern Explorers*. R Hanbury-Tenison & R Twigger, (eds). Thames and Hudson.

Reynolds J and **M Lowman**. 2013. Promoting ecoliteracy through research service-learning and citizen science. *Frontiers in Ecology and the Environment* 11(10): 565-566.

Voirin B, R Kays, M Wikelski, and **M Lowman**. 2013. Why do sloths poop on the ground? IN: *Treetops at Risk*. Springer: 195-199.

Beck C, K Klemow, J Paulson, A Bernstein, M Lam, G Middendorf, J Reynolds, K Belanger, C Cardelús, C Cid, S Doshi, N Gerardo, L Jablonski, H Kimmel, **M Lowman**, A MacRae-Crerar, B Pohlrad, J De Roode, and C Thomas. 2012. Add ecology to the pre-medical curriculum. *Science* 335: 1301.

Cardelús C, **MD Lowman**, and A Wassie. 2012. Uniting church and science for conservation. *Science* 335: 915-917.

Chandler M, D Bebbler, S Castro, **MD Lowman**, P Muoria, N Oguge, and D Rubenstein. 2012. International citizen science: making the local global. *Frontiers in Ecology and the Environment* 10(6): 328-331.

Hulcr J, A Latimer, J Henley, N Rountree, N Fierer, A Lucky, **M Lowman**, and R Dunn. 2012. A jungle in there: bacteria in belly buttons are highly diverse, but predictable. Plos One 7(11): e47712, pp. 1-6.

**Lowman MD**. 2012. Science Statesmanship. Science Magazine 336: 157.

**Lowman MD** and T Mourad. 2010. Bridging the divide between virtual and real nature. Frontiers in Ecology and the Environment 8(7): 339.

Heatwole H, S Unsicker, LP Andriamiarisoa, and **MD Lowman**. 2009. Vicissitudes of leaves in a tropical rain forest in Madagascar. J. Tropical Ecology 25(6): 615-624.

**Lowman MD**. 2009. A blueprint for Florida's clean-energy future - case study of a regional government's environmental strategy. Oxford University. Sustainability 1(2): 97-103.

**Lowman MD**. 2009. Canopy research in the twenty-first century: a review of arboreal ecology. Tropical Ecology 50(1): 125-136.

**Lowman MD**. 2009. Canopy walkways for conservation - a tropical biologist's panacea or fuzzy metrics to justify ecotourism? Biotropica 41(5): 545-548.

**Lowman MD** and DC Randle. 2009. Ecological mentoring: inspiring future scientists. Frontiers in Ecology and the Environment 7: 119.

**Lowman MD**, C D'Avanzo, and C Brewer. 2009. NEON - a national ecological network for research and education. Science 323(5918): 1172-1173.

Voirin B, R Kayes, **MD Lowman**, and M Wikelski. 2009. Evidence for three-toed sloth (*Bradypus variegatus*) predation by spectacled owl (*Pulsatrix perspicillata*). Edentata 8: 15-20.

Newspaper column **Nature's Secrets**, Sarasota Herald Tribune (March 2005 - 2015); over 200 public science newspaper feature articles on subjects ranging from climate change to local ecosystems. <http://www.heraldtribune.com/apps/pbcs.dll/article?AID=/20050410/COLUMNIST18/504100972/-1/COLUMNIST>

Energy Tips published weekly in the E-column of state cabinet Chief Financial Officer, Alex Sink (2008 - on).

Newspaper fortnightly Science Column, Raleigh News and Observer/Charlotte News (2011- 2014).

(> 100 additional publications; 21 peer-reviewed publications were co-authored with undergraduate students, as a result of teaching and outreach.)