

# Kelley Langhans

Conservation scientist

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## Profile

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Interdisciplinary conservation scientist. Research focus on socio-ecological systems and holistic conservation solutions that increase human and ecosystem well-being. Engages with government, NGOs, and communities to solve environmental problems.

Experienced in building partnerships and fostering community around science, nature, and research. Ecology mentor and educator. Skills in biodiversity monitoring, conservation social science methods, ecosystem services modeling, geospatial analysis, and landscape ecology. Dedicated to serving local and global communities and pursuing justice in academia and through research.

## 1. Education

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2018-2023      **Stanford University, PhD**  
Biology    Advisor: Gretchen Daily  
Dissertation: "Centering justice in conservation solutions for people and nature"  
Main dissertation research topics: Human-bird relationships in urban areas, justice & access to nature, riparian reforestation to improve water quality, new technologies for avian biodiversity monitoring  
GPA: 4.28

2012-2016      **Swarthmore College, BA**  
Biology    Advisor: Alex Baugh  
GPA 3.97    GRE 169 Verbal, 164 Quantitative, 5 Writing  
Advanced courses: Conservation Biology, Animal behavior, Hormones & Behavior, Environmental Justice  
Awards: Oak Leaf Award for senior strong in leadership, academics & community contribution; Leo M. Leva Prize for senior whose work in biology shows unusual promise; Sigma Xi; Phi Beta Kappa

## 2. Work Experience

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2023-present    **Postdoctoral Scholar**  
*Dayer Lab, Virginia Tech University*

- Project management and research for NSF grant on integrated socio-ecological systems centered on bird feeding
- Project management and research partnering with state Fish and Wildlife agencies to connect with wildlife viewers

- 2016-2018      **Integrative Ecology Research Assistant**  
*Helmus and Behm Lab, Temple University*
- Performed biodiversity surveys and reptile capture in Curaçao for 2 months
  - Led project on avian diversity in Curaçao, prepared manuscript
  - Analyzed and visualized biodiversity data in R
  - Set up and managed genetics program for lab, performed DNA sequencing
- 2016              **Dung Beetle Conservation Lab Technician**  
*Nichols Lab, Swarthmore College*
- Investigated how beetle biodiversity changes across a deforestation gradient, prepared manuscript
  - Manipulated, analyzed and visualized data in R and GIS, made trait database
  - Managed lab and cared for captive beetle colony
- 2014  
 May-August      **Dark-eyed Junco Field Assistant**  
*Lacey Lab, UC Berkeley*
- Collected bird recordings and life history data in Sierra Nevada mountains
  - Learned mist netting and banding, did independent song analysis project

### 3. Non-profit & Government Collaborations

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- 2022-present    **Florence Fang Community Garden, Sunset Community Garden, Fort Mason Community Garden, Argonne Community Garden, San Francisco Department of Recreation and Parks**
- Studying human/bird interactions across an income gradient
  - Exploring changes in bird diversity in 20 gardens in neighborhoods with different incomes
  - Surveying gardeners in person and electronically about attitudes towards nature and bird species
  - Nature education via public talks, outreach materials, and management recommendations
- 2021-2022      **Costa Rican Coffee Institute**
- Ecosystem service modeling of carbon and water quality to guide reforestation program in shade coffee

- 2018-2022 **Costa Rican Ministry of Environment and Energy, Central Bank**
- Modeled change in ecosystem services with riparian reforestation in Costa Rica
  - Partnered to develop project, advocate for policy
  - Partnership awarded GEO SDG Award for Academia in 2021 for applying Earth observations to achieve Sustainable Development Goals
- 2018-present **Natural Capital Project**
- Consulting and collaborating on ecosystem services modeling and science
- 2019 **Bay Area Conservation and Development Commission**
- Modeled carbon sequestration in tidal marshes under sea level rise scenarios to plan sustainable development in the Bay Area

#### **4. Service & Volunteer Work**

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- 2022 **Certificate in Critical Consciousness and Anti-Oppressive Praxis**  
Year-long DEI certification program with weekly workshops. Led community workshop on storytelling for student mental health
- 2021-2022 **Biology Department DEI Committee**  
Student representative on official department committee, improved recruitment and retention of diverse graduate students, created resources for student mental health support
- 2021-Present **BioJam Community Team Lead**  
Organized a summer program with year-long follow through on bioengineering and environmental justice for migrant & under-served Bay Area youth. Focus on creating community partnerships with emphasis on co-learning and co-development, convening advisory board, college preparation workshops. Led communications and regular meetings with diverse community advisory board. Organized team of volunteers focused on community partnerships
- 2020-2022 **Natural Capital Project DEI Coordinator**  
Organized DEI efforts at the Stanford branch of the Natural Capital Project, led team to plan curriculum for and facilitate monthly meetings on racial justice
- 2019-2021 **Jasper Ridge Bird Banding Volunteer**  
Assisted Julien Tattoni in bird banding research project at Jasper Ridge Biological preserve, training in extracting and banding birds

- 2019-2020 **Haas Center Graduate Public Service Fellowship**  
Trained in community-based research methods and theory, partnered with Osa Conservation in Costa Rica to explore how ecosystem service modeling could be used to advocate for a wildlife corridor.
- 2019-2020 **Biology Student DEI Committee**  
Worked to improve diversity, equity, and inclusion in the Stanford Biology Department, led a subgroup on creating anti-racist labs and created anti-racist lab toolkit
- 2020 **Stanford Mutual Aid**  
Worked to provide a flexible system for giving aid and meet the needs of the Stanford community during COVID-19
- 2019-2020 **Ecology and Evolution Lunch Committee**  
Hosted a weekly lunch seminar series for the Ecology and Evolution track at Stanford. Recruited speakers, coordinated meetings, departmental outreach
- 2019-2020 **Biology Mentorship Committee**  
Coordinated mentor/mentee program for first year biology students at Stanford. Planned events, facilitated regular check ins, served as mentor
- 2013-2016 **Green Advisor Coordinator**  
Leader of a group of 30 student peer-to-peer sustainability educators. Communicated to diverse audience, led weekly meetings, coordinated events

## 5. Publications

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**Langhans, K.,** Echeverri, A., ..., & Daily, G.C. (2023). Centering justice in conceptualizing and restoring access to urban nature. *People and Nature*, 5(3), 897-910. [Manuscript](#)

**Langhans, K.,** Chaplin-Kramer, R., ..., & Daily, G.C. (2022). Modeling multiple ecosystem services and beneficiaries of riparian reforestation in Costa Rica. *Ecosystem Services*, 57, 101470. [Manuscript](#)

**Langhans, K.,** Echeverri, A., ..., & Daily, G.C. (2023). Equity in access to positive human-bird interactions in community gardens in San Francisco. (In prep)

Chappell, C., Henry A.-A., ..., **Langhans, K.,** ...& Marrero Hope, J. (2023). BioJam Camp: toward justice through bioengineering and biodesign co-learning with youth. *Culture<sup>2</sup>* (In revision). [Preprint](#)

Hernandez, K., Andrade-Riveras, F., ..., **Langhans, K.**, ..., & Echeverri, A. (2023). Can't carve air, can't weave names: Colombian artisan crafts are made with plants not equally assessed for vulnerability at the international and national level. (In prep)

Phillips, P., **Langhans, K.**, ..., & Behm, J. (2023). Dispersal restriction and facilitation in species with differing tolerance to development: A landscape genetics study of native and introduced lizards. (In prep)

Liu, L., Smith, J., ..., **Langhans, K.**, ..., & Chaplin-Kramer, R. (2023). Influences of sensors, methods, and extent on extraction of ecosystem functional types and diversity using satellite data. (In prep)

LaBarbera, K., Hayes, K. R., **Langhans, K.**, & Lacey, E. A. (2019). Elevation affects extra-pair paternity but not a sexually selected plumage trait in dark-eyed juncos. *Behavioral Ecology and Sociobiology*, 73(6), 82.

Behm, J., van Buurt, G., ..., **Langhans, K.**, ..., Helmus, M. (2019). First records of the mourning gecko, common house gecko, and Tokay gecko on Curaçao, Dutch Antilles, and remarks on their Caribbean distributions. *BioInvasions Records*, 8(1), 34-44.

Roux, A. E., **Langhans, K.**, Huynh, W., Kenyon, C. (2016). Reversible age-related phenotypes induced during larval quiescence in *C. elegans*. *Cell Metabolism* 23(6), 1113-1126.

## 6. Presentations

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\* Indicates Invited Presentation

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| 2023 | <b>*Ecological Society of America.</b> Equity in access to positive human-bird interactions in community gardens in San Francisco. <i>Oral</i>   |
| 2023 | <b>American Conservation Interpreters.</b> Results from a national survey of wildlife viewers in the United States: Supporting a growing audience. <i>Oral</i>   |
| 2022 | <b>Ecological Society of America.</b> Centering justice in restoring access to urban nature. <i>Oral</i>   |
| 2022 | <b>*American Ornithological Society.</b> Centering justice in restoring access to urban nature: Equity in access to meaningful human-bird interactions in the San Francisco Bay Area. <i>Oral, bilingual English and Spanish</i> |
| 2021 | <b>International Congress for Conservation Biology.</b> Targeting Riparian Forest Restoration for Multiple Benefits: The Case of Costa Rica. <i>Oral</i>   |

- 2021 **\*Conversación de la Biodiversidad en Fincas de Café y su Impacto Sobre la Productividad (sponsored by Icafe, the Costa Rican coffee institute, for farmers and practitioners).** Los beneficios de la reforestación en las fincas de café en Costa Rica. *Oral, Spanish.*
- 2021 **\*Comité Técnico Interinstitucional Estadísticas de Agua (Costa Rican interinstitutional water statistics working group) Meeting.** Enfocando la reforestación en zonas riparias para mejorar la provision de los servicios ecosistémicos: el caso de Costa Rica. *Oral, Spanish*
- 2020 **\*Introducción a INVEST y los resultados del modelado de servicios ecosistémicos para Costa Rica.** Enfocando la reforestación en zonas riparias para mejorar la provision de los servicios ecosistémicos: el caso de Costa Rica. *Oral, bilingual English and Spanish, practitioner workshop*
- 2020 **\*Icafe (Costa Rican National Coffee Institute) Meeting.** Enfocando la reforestación en zonas riparias para mejorar la provision de los servicios ecosistémicos: el caso de Costa Rica. *Oral, Spanish*
- 2020 **\*PRIAS (Costa Rican National Geospatial Institute) and MINAE (Costa Rican Ministry of Environment and Energy) Meeting.** Costa Rica Landcover and Sediment Retention Model. *Oral*
- 2020 **American Geophysical Union.** Targeting Riparian Reforestation to Enhance Ecosystem Services: The Case of Costa Rica. *Poster*
- 2020 **Ecological Society of America.** Evaluating the importance of riparian reforestation for ecosystem service provision in Costa Rica. *Poster*
- 2017 **Student Conservation Conference, American Museum of Natural History.** Unraveling the independent drivers of biotic homogenization. *Oral*
- 2016 **Sigma Xi Poster Session, Thomas Jefferson University.** The effect of a competitive social context in unmasking differences in a measure of singing effort, duty cycle, in dark-eyed juncos (*Junco hyemalis*). *Poster*

## 7. Scholarships & Fellowships

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- 2023 **Rising Environmental Leaders Program** (*science policy training*)
- 2021, 2022 **Ward Wilson Woods, Jr. Fellowship in Environmental Studies** (\$96,000)
- 2019 **Haas Center Graduate Public Service Fellowship** (\$3,000)
- 2018 **NSF-GRFP** (\$138,000)
- 2014 **Lande Research Fellowship** (\$4,000)
- 2013 **NASA Delaware Space Grant Summer Research Fellowship** (\$2,000)
- 2013 **Surdna Summer Research Fellowship** (\$2,000)

## 8. Teaching & Mentorship

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- Fall 2019      **Introduction to Ecology** (BIO 81), Stanford University  
Guided students to learn how to ask scientific questions, conceive and carry out an ecological research project  
Introduced students to foundational concepts in ecology
- Spring 2019      **Extreme Life of the Sea** (BIO 140), Stanford University  
Created lesson plans and curriculum to teach creative science writing focused on marine biology, primarily to non-biology majors

### ***Undergraduate Students***

Mei Li Palmeri (Ecology, 2023)  
Valeria Vega Yanez (Earth Systems, 2023)  
Tuesday Utz (Environmental Justice, 2023)  
Maya Xu (Ecology, 2022-2023)  
Lexi Triantis (Ecology, 2023)  
Alexa Pollock (Ecology, 2022)  
Ruby Gates (Earth Systems, 2022)  
Jaehwan Jeong (Computer Science, 2021)  
Takao Yatagai (Computer Science, 2021)  
Leo Glikbarg (Computer Science, 2020)  
Amy Dunphy (Computer Science, 2020)

### ***Masters Students***

Julia Xu (Computer Science, 2022)  
Taylor Powell (Ecology, 2019-2020)

### ***High School Students***

Theodora Horangic (Ecology, 2019-2020)

## 9. Skills

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- Technical*      R, QGIS, InVEST, Qualtrics, Python, Ravenpro
- Languages*      English (native), Spanish (conversational), German (conversational),
- Molecular Ecology*      DNA extraction (fecal and muscle tissue), PCR, DNA sequence analysis, microsatellite multiplexing, aseptic technique, microscopy, imaging microscopes, plating, microbial metabolic tests, slide preparation
- Field Ecology*      Human attitude surveys, biodiversity surveys (bird, reptile, amphibian, vegetation), bird field techniques (banding, mist-netting, audio recording), reptile field techniques (hand-capture, noosing, Sherman-trapping), animal behavior recording, animal care and colony maintenance (hamster, *C. elegans*, *Scarabaeidae*)