

Natalie Love, PhD



ASSISTANT CONSERVATION SCIENTIST
Negaunee Institute for Plant Conservation Science and Action
Chicago Botanic Garden

Affiliations: Assistant Adjunct Professor at Northwestern University, Assistant Adjunct Professor at University of Illinois, Chicago

Research Interests: urban forestry, urban ecology, tree conservation, urban forest stability and resilience, remote sensing, acclimation of urban landscapes to climate change, ecological responses to climate change, phenology



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Education

- | | |
|-----------|---|
| 2015-2020 | PhD
University of California, Santa Barbara
Ecology, Evolution, and Marine Biology
Certificate in College and Undergraduate Teaching (CCUT)
Advisor: Dr. Susan Mazer |
| 2013-2015 | MS
Cal Poly, San Luis Obispo
Biology
Advisor: Dr. Matt Ritter |
| 2008-2013 | BS
Cal Poly, San Luis Obispo
Soil Science, <i>magna cum laude</i> |

Positions

- | | |
|--------------|--|
| 2024-present | Assistant Conservation Scientist
Negaunee Institute for Plant Science Conservation and Action
Chicago Botanic Garden |
| 2023-2024 | Postdoctoral Researcher
Community Research on Climate and Urban Science (CROCUS) Project
University of Illinois, Chicago (UIC)
PI: Dr. Gabriela Nunez Mir (MEC Lab) |
| 2021-2023 | Frost Postdoctoral Teaching and Research Fellow
Urban Forest Ecosystems Institute (UFEI)
Cal Poly, San Luis Obispo, CA
PI: Dr. Matt Ritter |
| 2021-2023 | Part-time Lecturer in Biology
Cal Poly, San Luis Obispo, CA |

Select Publications (underline indicates undergraduate/graduate student mentee, *co-first author)

Arreguin, S., J.F. Walker, and **N.L.R. Love**. 2025. Leveraging public data to facilitate urban eco-evo research. *EcoEvoRxiv*.

- <https://doi.org/10.32942/X2CS9C>

Love, N.L.R., K. Althaus, M. Esperon-Rodriguez, A. Ossola, J. Johns, C. Pawlak, B. Igić, M. Ritter, and J. Yost. 2025. Genetic diversity in urban forests and their potential role in conserving the world's threatened tree species. *Annals of Botany* (Special Issue: Plant Conservation Genetics) 1-14.

- <https://doi.org/10.1093/aob/mcaf238>

Love, N.L.R., M. Berkelhammer, E. Tovar, S. Romy, M.D. Wilson, and G.C. Nunez Mir. 2025. Not all green is equal: Growth form is a key driver of urban vegetation sensitivity to climate in Chicago. *Remote Sensing* (Special issue: Remote Sensing of Climate Change Influences on Urban Ecology) 17: 2919.

- <https://doi.org/10.3390/rs17172919>

Cho, A, **N.L.R. Love**, R. Cintron, J. Nicholson, L. Xu, G.C. Nunez Mir, J. Lee, M. Berkelhammer, and M.A. Gonzalez-Meler. 2025. Plant species selection and participatory community co-design are essential in balancing ecosystem services and disservices in urban areas. *Environmental Research Letters* 20(5): 051003.

- <https://doi.org/10.1088/1748-9326/adc944>

Lee, J., M. Berkelhammer, M. Wilson, **N.L.R. Love**, and R. Cintron. 2024. Urban land surface temperature downscaling in Chicago: Addressing ethnic inequality and gentrification. *Remote Sensing*. 16: 1639.

- <https://doi.org/10.3390/rs16091639>

Ventura, J., C. Pawlak, M. Honsberger, C. Gonsalves, J. Rice, **N.L.R. Love**, S. Han, V. Nguyen, K. Sugano, J. Doremus, G. Andrew Fricker, J. Yost, and M. Ritter. 2024. Individual tree detection in large-scale urban environments using high-resolution multispectral imagery. *International Journal of Applied Earth Observation and Geoinformation*.

- <https://doi.org/10.1016/j.jag.2024.103848>

Rendon, P., **N.L.R. Love**, C. Pawlak, J. Yost, M. Ritter, and J.M. Doremus. 2024. Street tree diversity and urban heat. *Urban Forestry & Urban Greening* 91: 128180.
<https://doi.org/10.1016/j.ufug.2023.128180>

Love, N.L.R.*, C. Pawlak*, J. Yost, G.A. Fricker, J. Ventura, J. Doremus, and M. Ritter. 2023. California's native trees and their use in the urban forest. *Urban Forestry & Urban Greening* 89:128125.

- <https://doi.org/10.1016/j.ufug.2023.128125>

Love, N.L.R., V. Nguyen, C. Pawlak, A. Pineda, J.L. Reimer, J.M. Yost, G.A. Fricker, et al. 2022. Diversity and structure in California's urban forest. What over six million datapoints tell us about one of the world's largest urban forests. *Urban Forestry & Urban Greening* 74: 127679.

- <https://doi.org/10.1016/j.ufug.2022.127679>

Love, N.L.R., and S.J. Mazer. 2022. Long-term mean and inter-annual climatic conditions both affect mean seed mass among congeneric populations. *Ecology* 103: e3698.

- <https://doi.org/10.1002/ecy.3698>

Love, N.L.R., P. Bonnet, H. Goëau, A. Joly, and S.J. Mazer. 2021. Machine learning undercounts reproductive organs on herbarium specimens but accurately derives their quantitative phenological status: A case study of *Streptanthus tortuosus*. *Plants* (Special Issue: Machine Learning in Plant Identification and Phenological, Anatomical, and Morphological Research) 10:2471.

- <https://doi.org/10.3390/plants10112471>

Yost, J.M., S.L. Wise, **N.L.R. Love**, D.A. Steane, R.C. Jones, M. Ritter, and B.M. Potts. 2021. Origins, diversity, and naturalization of *Eucalyptus globulus*. *Forests* (Special Issue: Ecology of Eucalypts in the Introduced Range) 12: 1129.

- <https://doi.org/10.3390/f12081129>

N.L.R. Love and S.J. Mazer. 2021. Region-specific phenological sensitivities and rates of climate warming generate divergent temporal shifts in flowering date across a species' range. *American Journal of Botany* 108: 1873-1888.

- <https://doi.org/10.1002/ajb2.1748>

Love, N.L.R., I.W. Park, and S.J. Mazer. 2019. A new phenological metric for use in phenoclimatic models: A case study using herbarium specimens of *Streptanthus tortuosus*. *Applications in Plant Sciences*. 7(7): e11276.

- <https://doi.org/10.1002/aps3.11276>

Love (published as Rossington), **N.L.**, J.M. Yost, and M. Ritter. 2018. Water availability influences species distributions on serpentine soils. *Madroño* 65(2): 68-79.

- <https://doi.org/10.3120/0024-9637-65.2.68>

Gerst, K.L, **N.L. Love** (published as Rossington), S.J. Mazer. 2017. Phenological responsiveness to climate differs among four species of *Quercus* in North America. *Journal of Ecology* 105(6): 1610-1622.

- <https://doi.org/10.1111/1365-2745.12774>

Willis, C.G., E.R. Ellwood, R.B. Primack, C.C. Davis, K.D. Pearson, A.S. Gallinat, J.M. Yost, G. Nelson, S.J. Mazer, **N.L. Love** (published as Rossington), T.H. Sparks, and P.S. Soltis. 2017. Old plants, new tricks: Phenological research using herbarium specimens. *Trends in Ecology and Evolution* 32(7): 531-546.

- <https://doi.org/10.1016/j.tree.2017.03.015>

In preparation

Love, N.L.R., E.L. Grady, C. Pawlak, J. Yost, J. Ventura, G.A. Fricker, J. Doremus, and M. Ritter. In prep. Patterns in the distribution of public vs. private urban trees: Implications for tree equity in one of the world's largest urban forests. Target journal: *Urban Forestry & Urban Greening*.

Research Grants and Awards

\$1,660	Northwestern Undergraduate Research Assistant Program (URAP; #OUR-URAP-26986)
\$1,174,091	NSF Partnership to Advance Conservation Science and Practice – Key personnel
\$500	University of Illinois Postdoc Travel Award
\$850	NASA-MSU Professional Enhancement Award
\$3,773,164	USFS Urban and Community Forestry Grant, Inflation Reduction Act Funds (IRA) 2023, awarded to the Urban Forest Institute (501(c)(3)) <ul style="list-style-type: none">• <i>Climate adapted trees for California's disadvantaged communities: closing the loop from seed to sustainable canopy</i>

	Lead grant writer along with Cal Poly professors Dr. Matt Ritter and Dr. Jenn Yost
\$662,230	CAL FIRE Urban and Community Forestry Grant, 2022 <ul style="list-style-type: none"> <i>Urban and community forestry assessment tool</i> Lead grant writer along with Cal Poly professors Dr. Matt Ritter (Biology), Dr. Jenn Yost (Biology), Dr. G. Andrew Fricker (Geography), Dr. Jon Ventura (Computer Science), and Dr. Alex Dekhtyar (Computer Science)
\$18,917	CAL FIRE Urban and Community Forestry Grant via California ReLeaf, 2021 <ul style="list-style-type: none"> <i>Economic contribution of urban and community forestry in California in 2019</i> PI: Dr. Natalie Love via subaward with Dr. Rajan Parajuli (North Carolina State University)
\$2,700	Worster Family Research and Undergraduate Mentorship Grant, 2019
\$1,000	UCSB Individualized Professional Skills Grant, 2019
\$3,500	Institute for the Study of Ecological Effects of Climate Impacts (ISEECI) Graduate Student Research Fellowship, 2018
\$1,500	Natalie Hopkin's Education Grant, California Native Plant Society (CNPS), 2018
\$850	Malcolm McLeod Grant, CNPS San Luis Obispo Chapter, 2014
\$500	CNPS Educational Grant Award, 2013
\$9,990	David and Frieda Wertman Fellowship for Plant Biology at Cal Poly, 2013

Teaching & Mentoring

Adjunct Assistant Professor, Northwestern University

2024-2025 | PBC 450 – Introduction to GIS for Ecologists

Instructor of Record/Part-time Lecturer

2021-2023 | BIO 114 – Plant Diversity and Ecology (Lecture and Lab), Cal Poly, SLO (IOR)

2022 | BIO 150 – Biodiversity and History of Life, Cal Poly, SLO (Part-time lecturer)

2019 | EEMB 127L – Plant Biology and Biodiversity Lab, UC Santa Barbara (IOR)

Teaching Assistant

2015-2019 | EEMB 127 – Plant Biology and Biodiversity, UC Santa Barbara

2015-2020 | EEMB 120 – Introduction to Ecology, UC Santa Barbara

2015-2018 | EEMB 127L – Plant Biology and Biodiversity Lab, UC Santa Barbara

2013-2015 | BIO 114 – Plant Diversity and Ecology Lab, Cal Poly, SLO

2013-2015 | BOT 121 – General Botany Lab, Cal Poly, SLO

Mentoring

2025-present | Kat Shay – PhD in Plant Biology and Conservation, Northwestern University

- The role of management practices in the structure and function of urban forests in Chicago*

2025-present | Yazhou Cao – MS in Plant Biology and Conservation, Northwestern University

- The influence of scale on cooling potential of urban parks in Chicago*

2025-present | Rew Kim – MS in Plant Biology and Conservation, Northwestern University

- An urban safeguard: The role of urban trees in conserving genetic diversity of an evolutionary anachronistic species*

2025-present	<p>Coral Brock – MS in Plant Biology and Conservation, Northwestern University</p> <ul style="list-style-type: none"> • <i>Can lawn alternatives mitigate heat in urban landscapes?</i>
2023-present	<p>Ashley Rasmussen – PhD in Biology, University of Illinois at Chicago</p> <ul style="list-style-type: none"> • <i>Assessing intraspecific variation in common urban tree species</i>
2020-2023	<p>Cami Pawlak – Master’s Thesis in Biology, Cal Poly, SLO</p> <ul style="list-style-type: none"> • <i>Trends in California’s urban forest: from trees to people</i>
2021-2023	<p>Erin Grady – Frost Scholar in Biology, Cal Poly, SLO</p> <ul style="list-style-type: none"> • <i>Assessing the suitability of urban tree species to California’s current and future climates</i>
2021-2022	<p>Paola Rendon – Undergraduate Senior Project in Economics, Cal Poly SLO</p> <ul style="list-style-type: none"> • <i>Street trees and the urban heat island effect in California</i>
2022	<p>Kielana Sugano – Summer Frost Scholar in Biology, Cal Poly, SLO</p> <ul style="list-style-type: none"> • <i>Suitability of native trees for the urban environment in the face of climate change</i>
2022	<p>Cam Gonsalves – Summer Frost Scholar in Biology, Cal Poly, SLO</p> <ul style="list-style-type: none"> • <i>How does urban tree diversity impact urban bird diversity in California?</i> • <i>Assessing tree health with UAVs and real-time dendrometers</i>
2022	<p>Ben Mangelsdorf, Ryan Zhang, Nathan Johnson – Data Science Capstone Project, Computer Science Department, Cal Poly SLO</p> <ul style="list-style-type: none"> • <i>Trends in urban tree and urban bird distributions in California</i>
2018-2020	<p>Timothy (TJ) Sears – Worster Family Research and Mentorship Award Recipient, UC Santa Barbara</p> <ul style="list-style-type: none"> • <i>Using herbarium specimens to investigate climatic drivers of phenology and floral color in <i>Streptanthus</i> (jewelflowers, Brassicaceae)</i>
2018-2020	<p>Andrew Liu – Undergraduate Research and Creative Activities Grant (URCA), UC Santa Barbara</p> <ul style="list-style-type: none"> • <i>Using herbarium specimens to investigate climatic drivers and plasticity of pollen grain size in the mountain jewelflower (<i>Streptanthus tortuosus</i>)</i>
2018-2020	<p>Candyce Wu – Undergraduate Research and Creative Activities Grant (URCA), UC Santa Barbara</p> <ul style="list-style-type: none"> • <i>Geographic variation in pollen quantity and pollen size in the mountain jewelflower (<i>Streptanthus tortuosus</i>) along an elevation gradient in Yosemite National Park</i>
2018	<p>Alexia Li – Dos Pueblos High School, Santa Barbara County Science Fair</p> <ul style="list-style-type: none"> • <i>Clinal variation in calyx color of <i>Streptanthus tortuosus</i></i>
2015-2017	<p>Aaron Yim - Undergraduate Research and Creative Activities Grant (URCA), UC Santa Barbara</p> <ul style="list-style-type: none"> • <i>Why are some species rare?: Testing hypothesis to explain why some species are restricted to unusual soils</i>

Invited Research Seminars

2023	<p><i>The role of urban forests in cities: How do we study them and what have we learned?</i></p> <ul style="list-style-type: none"> • Ecology and Evolution Seminar, University of Illinois at Chicago
2023	<p><i>Planning for climate-resilient urban forests: A data-driven approach to assessing urban tree species suitability</i></p> <ul style="list-style-type: none"> • California ReLeaf Annual Meeting • Western Chapter of the International Society of Arboriculture Conference

	<ul style="list-style-type: none"> Professional Tree Care Association (PTCA) Annual Seminar and Field Day
2022	<i>California native tree diversity and what it means for urban forests</i> <ul style="list-style-type: none"> University and Jepson Herbaria at UC Berkeley (Botany Lunch)
2022	<i>The role of urban forests as carbon sinks: Tools for measuring carbon sequestration in urban trees</i> <ul style="list-style-type: none"> Climate Solutions Now Conference
2022	<i>Data-driven urban forest: How we can use data to make better species selections</i> <ul style="list-style-type: none"> California Urban Forests Council (CAUFC) Annual Meeting
2022	<i>The California Urban Forest Inventory: What seven million data points tell us about one of the world's largest and most diverse urban forests</i> <ul style="list-style-type: none"> Western Chapter of the International Society of Arboriculture Conference Professional Tree Care Association (PTCA) Annual Seminar and Field Day
2021-2024	<i>Region-specific phenological responses to climate change in <i>Streptanthus tortuosus</i> (Brassicaceae)</i> <ul style="list-style-type: none"> Portland State University (CURE: Using herbarium specimens to study phenology) Finnish Museum of Natural History (Luomus Research Seminar Series) Cal Poly, SLO Biology Department Seminar California Academy of Sciences (Explore, Explain, and Sustain Seminar Series) California Botanical Society (Speaker Series) Friends of the Chico State Herbarium
2020	<i>What can pressed plants tell us about the past, present, and future of California's flora?</i> <ul style="list-style-type: none"> CCBER Natural History Collections Research Seminar Series (UC Santa Barbara) California Native Plant Society (CNPS) – Channel Islands Chapter

First Author Contributed Presentations

2025	Botanical Society of America Annual Botany Conference
2024	International Association of Landscape Ecologists Conference
2023	Botanical Society of America Annual Botany Conference
2020	Botanical Society of America Annual Botany Conference
2019	Botanical Society of America Annual Botany Conference
2019	California Botanical Society Graduate Student Symposium
2015	California Native Plant Society (CNPS) Conference
2014	Botanical Society of America Annual Botany Conference – Poster Presentation
2014	Cal Poly College of Science and Math Student Research Conference

Awards

2022	Award of Arboriculture Research, Western Chapter of the International Society of Arboriculture (WCISA)
2019	Best Overall Presentation at the California Botanical Society Graduate Student Symposium
2015	Outstanding Graduate Student Award, Biology Department, Cal Poly, SLO
2013	Award for highest GPA of Soil Science graduating class, Cal Poly, SLO

Service & Outreach

- 2022-present | Peer reviewer – Urban Forestry & Urban Greening, New Phytologist, Journal of Ecology, American Journal of Botany, Madroño, Plant Science Bulletin
- 2022-2023 | Conference Session Moderator – Botany Conference, California Native Plant Society Conference
- 2022-2023 | Led tree tour and keying workshop – Professional Tree Care Association
- 2022 | Discussed tree biology for children’s podcast [*Moment of Um: Do trees poop or pee?*](#)
- 2022 | Developed hands-on units on fig biology and local plant ecology – Leffingwell Continuation School, Cambria, CA
- 2021-2022 | Led local field trips – Morro Bay Open Space Alliance (MBOSA)
- 2019-2020 | Developed a four-part introductory botany course (“Botany Basics”) and lead local field trips – Santa Barbara Botanic Garden
- 2018 | Worked with junior high students to design science experiments – La Colina Junior High, Santa Barbara, CA
- 2018 | Led science demonstrations for local families – FUSE (Family Ultimate Science Exploration), Santa Barbara, CA
- 2016 | Developed a [teaching video](#) to demonstrate no growth competition isoclines for UCSB undergraduate students; currently one of the top viewed videos on the topic on YouTube
- 2016 | Designed and implemented simple science projects with junior high students – SciTrek, La Colina Junior High, Santa Barbara, CA
- 2014 | Scientist mentor for elementary schools – PlantingScience.org