

Emily Bruns

emily@pooma.com · 630.946.4307 · formerly Emily Beckman

Links

Portfolio · eb-bruns.github.io

LinkedIn · [emily-beckman-bruns](https://www.linkedin.com/in/emily-beckman-bruns)

GitHub · github.com/eb-bruns

Skills

Advanced · R | Microsoft Office | G Suite | Creative Problem Solving | Communication | Adaptability | Critical Thinking | Workflow Design

Intermediate · Data Analysis & Visualization | GitHub | ArcGIS | R Markdown | Project Management | Requirements Gathering

Working knowledge · SQL | Python | Tableau

Experience

Contract Data Analyst, Chicago IL

JUNE 2015 – PRESENT

The Morton Arboretum, Lisle IL

Feb 2023 – Present

- Ensure system longevity by writing technical documentation for R analysis workflows, online survey methods, spatial analyses, and relational databases, contributing to receipt of >\$4 million added funding
- Increase synergy among 14 partner organizations by training 20+ colleagues on large-scale analyses

Cincinnati Zoo & Botanical Garden, Cincinnati OH

Jan 2020 – Present

- Data analysis in R: design word search algorithms, find data sources, integrate data, create visuals
- Guide pivotal project decisions by communicating insights from complex analyses to technical and non-technical partners

Botanic Gardens Conservation Int'l US, San Marino CA

Oct 2019 – Present

- Engage and inform stakeholders globally with actionable analyses by gathering, vetting, visualizing, and communicating data; write reports, present at conferences, and lead stakeholder meetings
- Support the Executive Director through project management

Cirrus Partners, Agricultural Consulting Services, Evergreen CO

Jun 2015 – Oct 2019

- Informed sustainable agriculture initiatives at global companies via market research and interviews

Research Assistant II, The Morton Arboretum, Lisle IL

MARCH 2020 – FEBRUARY 2023

- Influenced program decisions through analyses requiring the extraction, transformation, integration, validation, mapping, and reporting of >6 million records, both qualitative and quantitative
- Scaled up analysis workflows by improving automation, adding data sources, and designing dashboards
- Led major component of cross-functional analysis by designing and testing new metrics
- Defined project requirements by communicating with stakeholders, users, and technical experts

Research Assistant I, The Morton Arboretum, Lisle IL

SEPTEMBER 2016 – MARCH 2020

- Established recognition of organization as a global leader in tree conservation by designing and implementing a novel method for prioritizing rare plants and conservation actions
- Promoted a data-driven culture by collecting, verifying, and managing data gathered through gray literature review, forming relationships with 50+ experts, and administering online surveys

Assistant Production & Floral Designer, Flowerlife, Inc., Chicago IL

MAY 2015 – SEPTEMBER 2021

- Created client-focused and design-forward floral arrangements and other decor with minimal guidance
- Enabled smooth day-of installations by troubleshooting in a fast-paced environment and collaborating with venue managers and clients

Oak Conservation Intern, The Morton Arboretum, Lisle IL

JUNE 2015 – MAY 2016

- Assessed extinction risk of trees on the *IUCN Red List of Threatened Species* by compiling data, synthesizing articles, communicating with experts, planning/facilitating workshops, and writing reports

Science Undergraduate Laboratory Intern, Argonne Nat'l Laboratory, Lemont IL

JUNE 2013 – AUGUST 2013

- Gathered field data and analyzed carbon sequestration trends in prairie and agricultural fields; processed 8 years of data, created visualizations, and summarized findings in a report & presentation

Education

B.S. Environmental Science, Wheaton College, Wheaton IL

AUGUST 2011 – DECEMBER 2014

Agriculture focus | Minor in Studio Art: Photography & Ceramics | GPA 3.72

Training & Certifications

Digital Body Language, The Morton Arboretum 2022

Multi-session interactive course, following the book by Erica Dhawan: Working with Communication Differences | How to Communicate Carefully | Fostering an Effective Meeting Culture

R Courses, Dataquest & DataCamp 2019 – 2022

Dataquest: Control Flow, Iteration and Functions | Data Visualization; **DataCamp:** Introduction to R | Introduction to Importing Data | Intermediate R | Visualizing Geospatial Data | Interactive Maps with leaflet | String Manipulation with stringr

Emerging Professionals, The Carrol Keller Group 2018 – 2020

By-invitation training with 10 full-day sessions over 3 years: Building Effective Teams | Mentoring & Coaching | Leadership Development | Effective Presentations | Influencing & Negotiating Without Authority | Problem Solving & Creative Thinking

Publications

Bruns, E.B., Still, S.M., Good, K. & Hoban, S. (2023). conservation-gap-analysis (Version 1.0.0) [Computer software]. <https://doi.org/10.5281/zenodo.8246949>

Bruns, E.B. (2023). *Conservation Gap Analysis Methodology User Guide*, Version 1.0. The Morton Arboretum. <https://mortonarb.org/gap-analysis-materials/>

Bruns, E.B., Westwood, M., Griffith, M.P., Hipp, A., Lobdell, M., Meyer, A., ... Hoban, S. (2023). Quantifying Endangerment Value: a Promising Tool to Support Curation Decisions. *Sibbaldia: The International Journal of Botanic Garden Horticulture*, 22. <https://journals.rbge.org.uk/rbgesib/article/view/1970>

- Bruns, E.B.**, Khoury, C.K., McCarry, N., Meyer, A., Mims, R. & Warschewsky E. (2023). Distributions and conservation status of North American fruit and nut tree crop wild relatives. <https://northamericanfruitnuttreecwr.github.io>
- Smith, D., Abeli, T., **Bruns, E.B.**, Dalrymple, S.E., Foster, J., Gilbert, T.C., ... Ewen, J.G. (2023). Extinct in the wild: The precarious state of Earth's most threatened group of species. *Science*, 379(6634). <https://www.science.org/doi/10.1126/science.add2889>
- Hoban, S., **Bruns, E.B.**, Griffith, M.P. Hahn, M. Hipp, A. Lobdell, M., ... Westwood, M. (2023). *Integrated Collections Development: Quantifying value of garden collections for decision making and prioritization*. San Marino, CA: Botanic Gardens Conservation International, U.S. <https://www.bgci.org/wp/wp-content/uploads/2023/03/ICD2HighResReduced.pdf>
- Linsky, J., Bellemare, J., Berryhill, J., Conrad, K., Lobdell, M., ... **Bruns, E.B.** & Coffey, E.E.D. (2022). *Conservation Gap Analysis of Native Magnolias of the U.S. and Canada*. Atlanta, GA: Atlanta Botanical Garden. https://usercontent.one/wp/www.globalconservationconsortia.org/wp-content/uploads/2022/11/Final_US_Canada_Mag_Gap_withAppB_113022.pdf
- Carrero, C., **Bruns, E.B.**, Frances, A., Jerome, D., Knapp, W., Meyer, A., ... Westwood, M. (2022). Data sharing for conservation: A standardized checklist of US native tree species and threat assessments to prioritize and coordinate action. *Plants, People, Planet*, 5(4). <https://doi.org/10.1002/ppp3.10305>
- Bruns, E.B.**, Coffey, E., Treher Eberly, A., Frances, A., Meyer, A. & Radcliffe, C. (2022). *Ex situ Gap Analysis of High Priority Plant Taxa of Conservation Concern in the Southeast U.S.* San Marino, CA: Botanic Gardens Conservation International U.S. <https://www.bgci.org/wp/wp-content/uploads/2022/07/SE-PCA-Ex-situ-Gap-Analysis-2022-v7-1-22b.pdf>
- Pence, V.C. & **Bruns, E.B.** (2022). The Tip of the Iceberg: Cryopreservation Needs for Meeting the Challenge of Exceptional Plant Conservation. *Plants* 11(12). <https://doi.org/10.3390/plants11121528>
- Zumwalde, B.A., Fredlock, B., **Bruns, E.B.**, Duckett, D., McCauley, R.A., Spence, E.S. & Hoban, S. (2022). Assessing *ex situ* genetic and ecogeographic conservation in a threatened but widespread oak after range-wide collecting effort. *Evolutionary Applications*, 15(6). <https://doi.org/10.1111/eva.13391>
- Linsky, J., Crowley, D., **Bruns, E.B.** & Coffey, E.E.D. (2022). *Global Conservation Gap Analysis of Magnolia*. Atlanta, GA: Atlanta Botanical Garden. https://usercontent.one/wp/www.globalconservationconsortia.org/wp-content/uploads/2023/05/GapAnalysisMagnoliaReduced_ISBN.pdf
- Pence, V.C., Meyer, A., Linsky, J., Gratzfelt, J., Pritchard, H.W., Westwood, M., & **Bruns, E.B.**, (2022). Defining exceptional species – A conceptual framework to expand and advance *ex situ* conservation of plant diversity beyond conventional seed banking. *Biological Conservation*, 266. <https://doi.org/10.1016/j.biocon.2021.109440>
- Pence, V.C., **Bruns, E.B.**, Meyer, A., Pritchard, H.W., Westwood, M., Linsky, J., ... Beech, E. (2022). Gap analysis of exceptional species – Using a global list of exceptional plants to expand strategic *ex situ* conservation action beyond conventional seed banking. *Biological Conservation*, 266. <https://doi.org/10.1016/j.biocon.2021.109439>
- Beckman, E.**, Meyer, A., Pivorunas, D., Hoban, S., & Westwood, M. (2021). *Conservation Gap Analysis of Trees in Nine Priority Genera*. [7 reports]. Lisle, IL: The Morton Arboretum. <https://mortonarb.org/science/projects/conservation-gap-analysis-of-u-s-trees-in-nine-priority-general/>

Carrero, C., Jerome, D., **Beckman, E.**, Byrne, A., Coombes, A.J., Deng, M., ... Westwood, M. (2020). *The Red List of Oaks 2020*. Lisle, IL: The Morton Arboretum. <https://usercontent.one/wp/www.globalconservationconsortia.org/wp-content/uploads/2021/08/RedListOaks2020.pdf>

Beckman, E., Meyer, A., Man, G., Pivorunas, D., Denvir, A., Gill, D., ... Westwood, M. (2019). *Conservation Gap Analysis of Native U.S. Oaks*. Lisle, IL: The Morton Arboretum. https://mortonarb.org/app/uploads/2021/05/conservation-gap-analysis-of-native-US-oaks_sm.pdf

Griffith, M. P., **Beckman, E.**, Callicrate, T., Clark, J., Clase, T., Deans, S., ... Wood, J. (2019). *Toward the Metacollection: Safeguarding plant diversity and coordinating conservation collections*. San Marino, CA: Botanic Gardens Conservation International, U.S. <https://www.bgci.org/resources/bgci-tools-and-resources/toward-the-metacollection-coordinating-conservation-collections-to-safeguard-plant-diversity/>

Jerome, D., **Beckman, E.**, Kenny, L., Wenzell, K., Kua, C. & Westwood, M. (2017). *Red List of US Oaks*. Lisle, IL: The Morton Arboretum. <https://mortonarb.org/app/uploads/2021/05/Red-List-of-Oaks-2017.pdf>

Presentations

Bruns, E.B., Alvarez-Claire, S., Byrne, A., Gurnoe, T., Hoban, S., Meyer, A., ... Westwood, M. (2022, September 1). Exploring a conservation gap analysis methodology: Overview of our progress and a space for adaptation and application (Workshop). Las Cruces, NM: International Oak Society Conference.

Bruns, E.B., Pence, V.C., Meyer, A., Westwood, M., Pritchard, H.W., Linsky, J. & Gratzfeld, J. (2022, August 30). Defining and prioritizing exceptional species: Could oaks be a model group for expanding strategic *ex situ* conservation? (Poster presentation). Las Cruces, NM: International Oak Society Conference.

Khoury, C., **Bruns, E.B.**, Warschefsky, E. & Meyer, A. (2022, July 26). North American Fruit and Nut Tree Crop Wild Relative Conservation (Poster presentation). Anchorage, AK: Botany.

Bruns, E.B., Hoban, S., Westwood, M. & Meyer, A. (2022, July 19). Developing a Metric for Optimizing an *Ex situ* Collection's Mitigation of Plant Extinction Risk (Presentation). Reno NV: North American Congress for Conservation Biology Annual Conference.

Bruns, E.B., Meyer, A., Radcliffe, C., Coffey, E., Frances, A. & Treher, A. (2022, June 24). Identifying regional *ex situ* conservation priorities for the Southeastern Plant Conservation Alliance (Presentation). Portland, OR: American Public Gardens Association Annual Conference.

Bruns, E.B., Pence, V.C., Meyer, A., Westwood, M., Pritchard, H.W., Linsky, J. & Gratzfeld, J. (2022, June 21). Exceptional species: What are they and how can we conserve them *ex situ*? (Poster presentation). Portland, OR: American Public Gardens Association Annual Conference.

Khoury, C., Meyer, A., **Bruns, E.B.**, Warschefsky, E. & Mims, R. (2022, June 16). Initial results from a global *ex situ* accession-level survey – Opportunities for collaboration between federal seed banks and botanic gardens (Presentation). Virtual: Plant Germplasm Operations Committee Meeting, USDA ARS.

Beckman, E. & Pence, V. (2021, October 19). Using a Global List of Exceptional Status to Inform Strategic Conservation Action (Presentation). Virtual: Conserving Exceptional Plants Virtual Symposium.

Rollinson, C., Shah, S. & **Beckman, E.** (2021, August 6). Using species environmental niche overlap to quantify the value of botanical garden accessions and *ex situ* habitat suitability (Poster presentation). Virtual: Ecological Society of America Annual Meeting.

Beckman, E., & Meyer, A. (2021, May 26). Metacollections! (Presentation). Virtual: North American Fruit and Nut Tree Crop Wild Relative Conservation Meeting.

Beckman, E., Meyer, A., Man, G., Pivorunas, D., & Westwood, M. (2019, May 4). Prioritizing species, populations, and regions for *ex situ* collecting: Threatened native U.S. oaks as a case study (Presentation). Chicago, IL: Center for Plant Conservation National Meeting.

Beckman, E., Westwood, M., Meyer, A. & Man, G. (2018, October 24). Prioritizing Conservation Needs for Native U.S. Oaks of Concern (Poster presentation). Davis, CA: 9th International Oak Society Conference.

Westwood, M., Allenstein, P., **Beckman, E.**, Boland, T., Lobdell, M., Meyer, A. & Wright, J. (2018, October 22). Establishing a consortium of *ex situ* conservation collections for threatened North American oaks (Workshop). Davis, CA: 9th International Oak Society Conference.

Beckman, E., Westwood, M., Meyer, A. & Man, G. (2018, June 8). Designing a Conservation Gap Analysis Methodology for U.S. Trees (Presentation). Anaheim, CA: American Public Gardens Association Annual Conference.

Beckman, E., Westwood, M., Meyer, A. & Man, G. (2017, June 21). Protecting Native U.S. Oaks: *In situ* and *Ex situ* Conservation Gap Analysis (Poster presentation). Hamilton, ON, Canada: American Public Gardens Association Annual Conference.

Westwood, M., **Beckman, E.** & Gorener, V. (2015, October 18). IUCN Red List workshop for oaks (Workshop). Lisle, IL: 8th International Oak Society Conference.