S. Kathleen Barnhill-Dilling, Ph.D

Department of Forestry & Environmental Resources, North Carolina State University
919-452-2740 | barnhill.k@gmail.com | https://skbarnhilldilling.wordpress.com/

ACADEMIC POSITIONS

2019-Present	Postdoctoral Research Scholar, North Carolina State University Department of Forestry & Environmental Resources
2019	Instructor, North Carolina State University College of Natural Resources
2018-2019	Postdoctoral Research Scholar, North Carolina State University Department of Biological Sciences Project Coordinator: *Restoring Ecosystems and Biodiversity through Development of Safe and Effective Gene Drive Technologies*
2016, 2018	Instructor, North Carolina State University Science, Technology, & Society Program

RESEARCH INTERESTS

- Stakeholder, community, & public engagement as environmental governance
- Governance of emerging genetic technologies for conservation & restoration
- Indigenous participation in environmental governance
- Environmental justice principles & practice as they intersect with Science, Technology, & Society public engagement with science & technology; Indigenous environmental justice

EDUCATION

2018	PhD, North Carolina State University Department of Forestry & Environmental Resources Genetic Engineering & Society (Minor) Dissertation: Growing Governance: Considerations for Inclusive Engagement for Genetically Modified Trees Advisor: Dr. Jason A. Delborne
2009	Master of Science, SUNY College of Environmental Science & Forestry Environmental Science Environmental Policy & Democratic Processes (Concentration)

Thesis: Negotiating Sacred Space: Indigenous Participation in Local Environmental Governance

2006 Higher Diploma, University College Dublin
World Heritage Management

2002 Bachelor of Arts, University of North Carolina at Chapel Hill
Anthropology, Environmental Studies (Minor)

FELLOWSHIPS & AWARDS

2016-17 NSF IGERT Fellow, Genetic Engineering & Society Center, N.C. State University
2016 NSF Graduate Fellow, Cultivating Cultures of Ethics in STEM
2016 Namkoong Family Graduate Fellowship for Excellence in Conservation & Ethics
2006-2007 New York State Sea Grant Fellowship, Great Lakes Research Consortium, SUNY-ESF

GRANTS

The Nature Conservancy Bridge Collaborative Award, "Community Engagement with (Eastern Band of) Cherokee Indians on Controlled Burning in the Southern Blue Ridge Mountains" November 2018-May 2019 ($10,000). Collaboration with TNC of North Carolina

National Science Foundation: Science, Technology, & Society Program, "Collaborative Research: Responsible Innovation with Genetically Modified American Chestnut Trees" August 2016-2019, (NSF-1632670: $291,974), PI: Jason Delborne; Co-PIs: Andrew Binder, Louie Rivers
*Developed & co-wrote goals for indigenous groups and environmental justice components; facilitated collaboration with Center for Native Peoples & the Environment; conducted interviews

Faculty Research & Professional Development, North Carolina State University, "A forest in these trees? An exploratory, comparative analysis of public engagement and diversity in the case of genetically modified trees." July 2015-July 2016, (NCSU-671568): $7,743), PI: Jason Delborne
*Constructed comparative analysis structure for dissertation chapter; established contacts at University of Pretoria and Biosafety South Africa; conducted interviews in South Africa

PUBLICATIONS

Serr, M.E., Valdez, R.X., **Barnhill-Dilling, Kathleen.**, Godwin, J. Kuiken, T., Booker, M. (2020). Scenario analysis on the use of rodenticides and sex-biasing gene drives for the removal invasive house mice on islands. *Biological Invasions*. https://doi.org/10.1007/s10530-019-02192-6

Barnhill-Dilling, S.K., Rivers, L. & Delborne, J.A. (2019) Rooted in recognition: Indigenous environmental justice and the genetically engineered American chestnut tree. *Society & Natural Resources.* https://www.tandfonline.com/doi/full/10.1080/08941920.2019.1685145

Godwin, J., Serr, M., **Barnhill-Dilling, S.K**……..Thomas, P. (2019) Rodent gene drives for conservation: Opportunities and data needs. *Proceedings of the Royal Society B*. https://doi.org/10.1098/rspb.2019.1606

Barnhill-Dilling, Kathleen S., Serr, Megan, Blondel, Dimitri, & Godwin, John. (2019). Sustainability as a framework for considering gene drive mice for invasive rodent eradication. *Sustainability 11*(5), 1334. https://doi.org/10.3390/su11051334

Barnhill-Dilling, S.K., & Delborne. J.A. (2019). The genetically modified American chestnut as opportunity for reciprocal restoration in Haudenosaunee communities. *Biological Conservation 232*, 1-7. https://doi.org/10.1016/j.biocon.2019.01.018

Delborne, J.A., Kokotovich, A.E., **Barnhill-Dilling, S.K.** (2018). Engaging community with humility. *Science 362*(6414), 532-533, DOI: 10.1126/science.aav4987

Barnhill, K., & Smardon, R. (2012). Gaining ground: green infrastructure attitudes and perceptions from stakeholders in Syracuse, New York. *Environmental Practice 14*(1), 6-16, DOI: https://doi.org/10.1017/S1466046611000470

Barnhill L.J. & **S.K. Barnhill**. (2002). The role of cultural factors and deinstitutionalization of persons with mental retardation: a view from the rural south, *NADD Bulletin* 5(5): 87-93.

BOOK CHAPTERS

Barnes, J.C., Pitts, E, **Barnhill-Dilling, S.K**., Delborne, J.A. (2019). *Genetic Engineering.* in *Science, Technology, and Society: Perspectives and Directions*. Cambridge University Press.

IN REVIEW

Barnhill-Dilling, S.K., Kokotovich, A., & Delborne, J. "The Decision Phases Framework for Public Engagement: When to Engage Stakeholders about Gene Editing in the Wild." [in review for an invited special issue of *The Hastings Center Report*]

Barnhill-Dilling, S.K., George, D., Kokotovich, A., Binder, A.R., Rivers, L., & Delborne, J. "Engineering (and) Engagement for the Genetically Engineered American Chestnut Tree" [in review for *Engaging Science, Technology & Society*]

OTHER PUBLICATIONS

Mahmud Farooque, **S. Kathleen Barnhill-Dilling**, Julie Shapiro, and Jason Delborne. "Exploring Stakeholder Perspectives on the Development of a Gene Drive Mouse for Biodiversity Protection on Islands" Workshop Report. June 2019. Available online at http://go.ncsu.edu/ges-gene-drive-workshop

Barnhill-Dilling, S.K. & J.A. Delborne. (2019, May 13). An important community in restoration efforts to protect the American chestnut tree." Science Trends. Available online: https://sciencetrends.com/an-important-community-in-restoration-efforts-to-protect-the-american-chestnut-tree/

Delborne, J.A., Rivers, L., Binder, A., Barnes, J.C., **Barnhill-Dilling, S.K.**, George, D., Kokotovich, A., Sudweeks, J. (2018). "Biotechnology, the American chestnut tree, and public engagement." Workshop Report. Available online: https://research.ncsu.edu/ges/files/2018/10/Biotech-American-Chestnut-Public-Engagement-2018.pdf

TEACHING EXPERIENCE

North Carolina State University

2019	Instructor, Introduction to Environmental Sciences
2018	Co-Instructor, Genetic Engineering for Health & Conservation
2018	Online Instructor, Introduction to Science, Technology, & Society
2018	Online Content Developer, Land Use Policy & Management
2016	Instructor, Introduction to Science, Technology, & Society
2016	Graduate Teaching Assistant, Emerging Technologies & Society
2015	Graduate Teaching Assistant, Adaptive Management & Governance
2015	Graduate Assistant (with Arizona State University: Washington, DC) Increasing Diversity in Science & Technology Studies

SUNY College of Environmental Science & Forestry

2011	National Science Foundation Teaching Fellow
2011	Graduate Teaching Assistant, Writing Center
2009	Graduate Teaching Assistant, Global Environment & the Evolution of

	Human Culture
2008	Graduate Teaching Assistant, Introduction to American Government

Other Teaching Experience

2012-2014	Science Teacher (Hillside High School: Durham, NC) Honors/IB Earth & Environmental Science; Advanced Placement Environmental Science
2013	Science Educator (Museum of Life & Science: Durham, NC)
2012	Educator/Presenter (Charlotte Nature Museum: Charlotte, NC)
2011-2012	Science Teacher (Harding University High School: Charlotte, NC) Honors/IB Earth & Environmental Science; Honors Forensics
2011-2012	TEACH Charlotte Teaching Fellow (The New Teacher Project; Charlotte, NC)
2008; 2002-2004	Teacher (Nature's Classroom: Silver Bay, NY)

CONFERENCE ACTIVITY & PRESENTATIONS

Invited Talks

Environmental Justice Reconsidered: Epistemic Dominance in Environmental Governance. Presented at the Social Epidemiology Seminar at the University of North Carolina at Chapel Hill. December, 2019.

Community & Stakeholder Engagement: Who Do We Engage & When? Panel moderator & presenter at the annual meeting of the Genetic Biocontrol of Invasive Rodents. Raleigh, NC. November, 2019.

Genetically Engineered American Chestnut Trees for Restoration: An Overview of the Social Science of Stakeholder Engagement. Poster presented at the Annual Fall Meeting of the American Chestnut Foundation. Gettysburg, PA. October 19, 2019.

Engaging Indigenous Communities. Presented at the Annual Conference of the Fire Learning Network of the Southern Blue Ridge. Athens, TN. May 16, 2019.

Considerations for inclusive engagement: Lessons from the genetically engineered American chestnut tree. Presented at the Biotechnology Communication & Engagement Workshop. Raleigh, NC. October 23, 2018.

The genetically modified American chestnut as potential for reciprocal restoration in Indigenous communities. Poster presented at the Forging Integrated Expertise in Graduate Education Symposium. Raleigh, NC. June 4, 2018.

Engaging indigenous communities in environmental governance. Presented at the Southeast Climate Science Center. Raleigh, NC. February 27, 2018.
Transgenic chestnut introduction. Presented at 21st Annual USEPA Region 2 Indian Nation Leaders Meeting; Syracuse, NY. May 9-10, 2017.

Governing transgenic trees: Indigenous environmental justice and the genetically modified American chestnut. Presented at the North Carolina Environmental Justice Symposium; Raleigh, NC. April 8, 2017.

Growing in the shadow of GMOs: Anticipatory governance, responsible innovation, and environmental justice of GM trees. Presentation at the Forest and Agricultural Biotechnology Institute. University of Pretoria. Pretoria, South Africa. May 9, 2016.

Sessions Organized
Emerging Technologies & Conservation. Society for the Social Studies of Science, Boston, MA. August, 2017.

Conference Papers & Other Activities
Barnhill-Dilling, K., Costantini, D., & Delborne, J., *Innovations, interruptions, and regenerations of chestnut restoration: Reciprocal restoration as a framework for reflexivity in chestnut restoration narratives.* Presented at the Society for the Social Studies of Science, New Orleans, LA, September 2019.

Barnhill-Dilling, K. Delborne, J. & Rivers, L. *The limits of conventional reflexivity: Cross-Cultural Inclusion, Technical Deliberations, and Indigenous Environmental Justice.* Presented at the Society for the Social Studies of Science, New Orleans, LA, September 2019.

Binder, A. R., Barnes, J. C., **Barnhill-Dilling, S. K.**, George, D., Kokotovich, A., Rivers, L. Sudweeks, J., & Delborne J. A. *Restoring biotechnology's moral fiber? Lessons from a stakeholder workshop on genetically modified American chestnut trees and public engagement*. Paper presented at the annual meeting of the Society for Risk Analysis, New Orleans, LA. December, 2018.

Barnhill-Dilling, S. Kathleen. *Scientists branching out? Scientists' perception of public & reciprocal engagement potential*. Presented at the Society of American Foresters, Albuquerque, New Mexico. November, 2017.

Barnhill-Dilling, S. Kathleen. *Growing governance: Genetically modified American chestnut & indigenous-led participatory process.* Presented at the Society for the Social Studies of Science, Boston, MA. August, 2017.

Barnhill-Dilling, S. Kathleen. *Responsible innovation & risk perception in genetically modified trees*. Presentation in Genetic Engineering and Society Colloquium. North Carolina State University. April 11, 2017.

Roberts, J.P., Barnes, J. C., **Barnhill, S.K.**, and Sudweeks, J. *The genetically modified American chestnut tree and surface mine Reclamation: modeling the potential for restoration*. Paper presented at the International Society for Forest Resource Economics; Raleigh, NC. April 5, 2016.

Barnhill, S. Kathleen. *Posting chestnuts: Crowdfunding and the genetically modified American chestnut.* Presented at the Society for the Social Studies of Science, Denver, CO. November, 2015.

Barnhill, S. Kathleen. *Governing transgenic trees: Rooting responsible innovation in environmental justice*. Presented at the Atlanta Conference on Science and Innovation Policy, Atlanta, GA. September, 2015.

Delborne, J. & **Barnhill, S. K.** *Anticipating Responsible Innovation: Genetically Modified Trees and Conceptualizations of Technological and Regulatory Futures.* Presented at the Governance of Emerging Technologies: Law, Policy and Ethics, Scottsdale, AZ. May, 2015.

Barnhill, S. Kathleen. *Public Perception of Green Infrastructure.* Presented at Central New York's Green Infrastructure Symposium: Syracuse, NY. November, 2010.

Barnhill, S. Kathleen. *Negotiating sacred space: Indigenous participation in local environmental governance.* Presented at Association of American Geographers: Washington, DC. April, 2010.

CONSULTING

2018-19 The Nature Conservancy of North Carolina, "Community Engagement with

Eastern Band of Cherokee Indians on Controlled Burning in the Southern Blue Ridge Mountains" (Durham, NC)

2018 Genome British Columbia, Reviewer for Grant Pre-Applications for Projects involving First Nations, (Vancouver, BC, Canada)

ENGAGEMENT, OUTREACH, & COLLABORATION

2019 Invited Speaker, "Restoration & Reciprocity: The American Chestnut Tree, Biotechnology, & Native American Perspectives," North Carolina Museum of Natural Science Science Cafe Series (Raleigh, NC) Available online: https://www.eenorthcarolina.org/resources/videos-and-livestreams-lunchtime-lecture-series#restoration-&-reciprocity:-the-american-chestnut-tree,-biotechnology-and-native-american-perspectives

2019 Invited Technical Expert for Workshop, "Bio-novelty & Restoration" to develop a policy-relevant research framework for ecological restoration in the face of rapid diversification of bio-novel organisms & global environmental change, (Vancouver, BC, Canada)

2019 Organizer & Facilitator of Stakeholder Workshop, "Exploring Stakeholder Perspectives on the Development of a Gene Drive Mouse for Biodiversity Protection on Islands" (Raleigh, NC)

2018 Organizer & Facilitator of Stakeholder Workshop, "Biotechnology, the American Chestnut Tree, & Public Engagement" (Raleigh, NC)

2016 Facilitator, A Roadmap to Gene Drives: A Deliberative Workshop to Develop Frameworks for Research and Governance (Raleigh, NC)

2015 Facilitator, United States Department of Agriculture Stakeholder Workshop on Coexistence (Raleigh, NC)

2010 Facilitator, Focus Groups for Long Term Socio-Ecological Research project on Community perception of green infrastructure (Syracuse, NY)

PROFESSIONAL SERVICE

2019 Planning Committee & Education Sub-Committee, An Evening with Margaret (North Carolina State University, Raleigh, NC)

2018-2019 Co-Moderator, Women in Genetic Engineering & Society Online Network

2015-2016 Mentor, Sustainable Sisterhood Program, College of Natural Resources

2014 Chaperone, EF Tours, Costa Rica (Hillside High School, Durham, NC)

2014 Participant, Daring Dialogue: A Study Circle on the Role of Race & Ethnicity in

	Education (Hillside High School: Durham, NC)
2013-2014	Science Department Chair (Hillside High School, Durham, NC)
2010-2011	President, Graduate Student Association (SUNY-ESF: Syracuse, NY)
2009-2010	Department Representative, Graduate Student Association (SUNY-ESF: Syracuse, NY)
2010-2011	Graduate Student Representative, Middle States Reaccreditation Self-Study, Integrity, Governance & Administration Committee (SUNY-ESF: Syracuse, NY)
2010	Graduate Student Representative, Div. of Environmental Science Senior Administrator Search Committee (SUNY-ESF: Syracuse, NY