

CURRICULUM VITAE

MATTHEW E. FAGAN

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EDUCATION

Ph.D.	2014	Columbia University, Ecology
M.S.	2003	Dartmouth College, Ecology
B.S.	1998	University of Texas at Austin, Ecology/Conservation Biology

Experience in Higher Education

2016 – present University of Maryland, Baltimore County, Assistant Professor,
Geography & Environmental Systems

Grants and Sponsored Research

Fagan, M.E. (Co-Principal), Magliocca, N. (Principal), Elizabeth Tellman, Erik Nielsen, Jennifer Devine, Kendra McSweeney, Steven Sesnie, Emil Cherrington. "Making the Hidden Visible: Accelerated Land-Use Change and Degradation Caused by Narco-Trafficking In and Around Central America's Protected Areas." Sponsored by NASA (LCLUC; 80NSSC21K0297), \$696,112. (2021-2024).

Fagan, M.E. (Co-Principal), Omland, K. (Principal), Lincove, S. (Co-Principal), Studds, C. (Co-Principal). "International Research in The Bahamas: Conservation Biology of the Critically Endangered Bahama Oriole," Sponsored by National Science Foundation (OISE: IRETrack 1), \$299,952. (2019-2021).

Fagan, M. E., University of Maryland, Baltimore County. CAHSS Dean's Research Fund Award, "Assessing riverine forest degradation in Costa Rica", \$4,702. (2017 - 2018).

Fagan, M.E. (Co-Principal), "SESYNC PURSUIT: Landscape Diversity as a Driver of Dietary Diversity," Sponsored by National Socio-environmental Synthesis Center (SESYNC), \$200,000 (no funds to UMBC). (2017-2018).

Fagan, M. E. (Co-Principal), Holland, M. (Principal), "ARC AidData Workshop: Generating and testing a framework for mapping the influence of conservation aid on forest change in Mesoamerica," Sponsored by AidData, \$12,029. (2017 - 2017).

Fagan, M. E., University of Maryland, Baltimore County. Summer Faculty Research Support, "Assessing forest structure and edge effects in agricultural landscapes: aerial insights from NASA's G-LiHT imager", \$6,000. (2016 -2016).

Ph.D. Students

Anisha Jayadevan, in progress, Chair

Felipe Saad, in progress, Chair
Hasan Ahmed, in progress, Chair
Kirk Saylor, in progress, Co-Chair
Tanja Crk, in progress (MEES program), Co-Chair
Ohad Paris, in progress, Committee Member
Ben Daniels, in progress, Committee Member
Janine Antalffy, in progress, Committee Member
Patrick Osei-Darko, in progress (McGill University), Committee Member
Pedro Ribeiro Piffer, in progress (Columbia University), Committee Member
Peter Chirico, withdrew, Committee Member
Eliud Bonilla, withdrew, Chair
Alex Rittle, ended 2020, Committee Member and Co-Advisor

Master's Students

Meagan Fairfield-Peak, in progress, Chair
Leah Staub, in progress, Chair
Michelle Katowski, in progress, Committee Member
Kaitlyn Holtsclaw, withdrew, Committee Member
Beatriz Shobe, graduated, Committee Member
Julian Holman, graduated, Committee member
Daniel Cunningham, graduated, Chair
Zach Clifton, graduated, Committee Member
Eileen Connell, graduated, Committee Member

Undergraduate Students

James Poeschel, Departmental Research Internship, 2021, Advisor.
Kashmira De Saram, Departmental Research Internship, 2021, Advisor.
Gabriel Wilkins, NSF IRES Summer Researcher, 2019-2020, Advisor.
Leah Staub, Departmental Research Internship, 2019-2020, Advisor.
Justin Drew, SURE scholar, 2017-2020, Sponsor.
Joshua Slaughter, URCAD researcher, 2019, Adviser.
Wesley Settle, Departmental Research Internship, 2018-2019, Advisor.
Julian Holman, SESYNC Research Technician, 2018, Sponsor.
Lexie Ferry, Departmental Research Internship, 2018, Advisor.
Jeremy Powell, SESYNC Research Technician, 2018, Sponsor.
Paul Cunningham, Departmental Research Internship, 2017-2018, Advisor.
Joshua Schaferbien, SURE scholar, 2016-2017, Sponsor.
Jennifer Christhilf, URCAD Scholar and Biology Independent Study, 2015-2018, Co-advisor.
Haven Carlson, Research Technician, 2015-2016, Sponsor.
Tairi Mena, Departmental Research Internship, 2015-2016, Advisor.

PUBLICATIONS AND PRESENTATIONS

Publications

- **Peer-Reviewed Works** (student authors are starred*)
Articles

Fagan, M.E., D.H. Kim, W. Settle*, L. Ferry*, J. Drew*, H. Carlson*, J. Slaughter*, J. Schaferbien*, A. Tyukavina, N.L.Harris, E. Goldman, and E. Ordway (*accepted*). The expansion of tree plantations across tropical biomes. *Nature Sustainability*.

Janine M. Antalffy*, M.G. Rowley*, S.B. Johnson, S. Cant-Woodside, E.H. Freid, K.E. Omland, **M.E. Fagan** (2021). Comparing global and local maps of the Caribbean pine forests of Andros, home of the critically endangered Bahama Oriole. *Environmental Monitoring and Assessment* 193(12): 1-16.

Osei Darko, P. *.; Kalacska, M.; Arroyo-Mora, J.P.; **Fagan, M.E.** Spectral Complexity of Hyperspectral Images: A New Approach for Mangrove Classification. *Remote Sensing* 2021, 13, 2604. <https://doi.org/10.3390/rs13132604>

M.G. Rowley*, R.C. Stanley, J.M. Antalffy*, J.L. Christhilf*, D.C. Stonko, S.B. Johnson, S. Cant-Woodside, T.S. Sillett, **M.E. Fagan**, C.E. Studds, K.E. Omland, Hierarchical distance sampling reveals increased population size and broader habitat use in the endangered Bahama Oriole. *Avian Conserv. Ecol.* 16(1):5.

Fagan, M.E. (2020). A lesson unlearned? Underestimating tree cover in drylands biases global restoration maps. *Global Change Biology*, 26(9), 4679-4690. <https://onlinelibrary.wiley.com/doi/abs/10.1111/gcb.15187>.

Alves de Almeida, Danilo Roberti, Almeyda Zambrano, Angelica Maria, Broadbent, E. N., Wendt, A. L., Foster, P., Wilkinson, B. E., Salk, C., Papa, Daniel de Almeida, Stark, S. C., Valbuena, R., Gorgens, E. B., Silva, C. A., Santin Brancalion, Pedro Henrique, **Fagan, M.**, Meli, P., and R. Chazdon. (2020). Detecting successional changes in tropical forest structure using GatorEye drone-borne lidar. *BIOTROPICA*, 52(6), 1155-1167.

Cunningham, D. *, Cunningham, P. *, and **M.E. Fagan**. (2020). Evaluating Forest Cover and Fragmentation in Costa Rica with a Corrected Global Tree Cover Map. *Remote Sensing*, 12(19).

Zahawi, R. A., Reid, J. L., and **M.E. Fagan**. (2020). Potential impacts of COVID-19 on tropical forest recovery. *Biotropica*, 52(5), 803-807.

Gergel, S, B. Powell, F. Baudron, S. Wood, J. Rhemtulla, G. Kennedy, L.A. Rasmussen, A. Ickowitz, **M. Fagan**, E.A.H. Smithwick, J. Raneri, S. Wood, J. Groot, and T. Sunderland (2020). Conceptual linkages between landscape diversity and diet diversity: a roadmap for transdisciplinary research. *Bioscience* 70(7), 563-575.

Fagan, M.E., J.L. Reid, M.B. Holland, J.G. Drew*, and R. Zahawi (2020). How feasible are global forest restoration commitments? *Conservation Letters*: e12700.

Cunningham*, D., P. Cunningham*, and **M.E. Fagan**, (2019). Identifying biases in global tree cover products: a case study in Costa Rica. *Forests* 10:853.

Rasmussen, L.A., **M. Fagan**, A. Ickowitz, S.L.R. Wood, G. Kennedy, B. Powell, F. Baudron, S. Gergel, S. Jung, E.A.H. Smithwick, T. Sunderland, S. Wood, and J. Rhemtulla (2019). *Forest*

pattern, not just amount, influences dietary quality in five African countries. *Global Food Security*.

Gopalakrishnan, R., J.S. Kauffman, **M.E. Fagan**, J.W. Coulston, V.A. Thomas, R.H. Wynne, T.R. Fox, and V.F. Quirino (2019). Creating Landscape-Scale Site Index Maps for the Southeastern US is Possible with Airborne LiDAR and Landsat Imagery. *Forests* 10 (3), 234.

Reid, J.L., **M.E. Fagan**, J. Lucas, J. Slaughter*, and R. Zahawi (2019). The ephemerality of regenerating forests in southern Costa Rica. *Conservation Letters* e12607.

Fagan, M.E., and N.B. Schwartz (2018) Exploring the social and ecological trade-offs in tropical reforestation: a role-playing exercise. *Lessons in Conservation* 9, 38-54.

<https://ncep.amnh.org/index.php/Detail/objects/1026>

Fagan, M.E., D.C. Morton, B.D. Cook, J.G. Masek, F. Zhao, H.E. Andersen, R.F. Nelson, and C. Huang (2018). Mapping pine plantations in the southeastern U.S. using spectral, structural, and temporal remote sensing data. *Remote Sensing of Environment* 216: 415-426.

Reid, J.L., **M.E. Fagan**, and R. Zahawi (2018). Positive site selection bias in meta-analyses comparing natural regeneration to active forest. *Scientific Reports* 4(5) eaas9143.

Williamson, Jessie L. *, and **M.E. Fagan**. (2017) Predator playback, foraging height, and phylogeny affect gap crossing behavior in tropical forest birds. *Ornitología Neotropical* 28: 163-174, Jul. ISSN 1075-4377.

Cove, M.V., C.M. Fernandez*, M.V. Alvarez*, S. Bird*, D.W. Jones*, and **M.E. Fagan**, Toucans descend to the forest floor to consume the eggs of ground-nesting birds. *Food Webs* 10 (March 2017): 2-4.

Reid, J.L, S.J. Wilson, G.S. Bloomfield, M.E. Cattau, **M.E. Fagan**, K.D. Holl, and R.A. Zahawi. (2017). How Long Do Restored Ecosystems Persist? *Annals of the Missouri Botanical Garden* 102(2).

Keeley, A.T.K., P. Beier, B.W. Keeley, and **M.E. Fagan**. (2017). Habitat suitability is a poor proxy for landscape connectivity during dispersal and mating movements. *Landscape and Urban Planning* 161: 90-102.

Cisneros L.M., **Fagan M.E.**, Willig M.R. (2016) Environmental and spatial drivers of taxonomic, functional, and phylogenetic characteristics of bat communities in human-modified landscapes. *PeerJ* 4:e2551 <https://doi.org/10.7717/peerj.2551>

Fagan, M. E., R. S. Defries, S. E. Sesnie, J. P. Arroyo, and R. L. Chazdon. 2016. Targeted reforestation could reverse declines in connectivity for understory birds in a tropical habitat corridor. *Ecol. Appl.* 26: 1456–1474.

Fagan, M.E., R.S. DeFries, S.E. Sesnie, J.P. Arroyo, C. Soto, A. Singh, P. Townsend, and R.L. Chazdon (2015). Mapping Species Composition of Forests and Tree Plantations in Northeastern

Costa Rica with an Integration of Hyperspectral and Multitemporal Landsat Imagery. *Remote Sensing* 7(5), 5660-5696.

Shaver, I., A. Chain-Guadarrama, K. Cleary, A. Sanfiorenzo, R.J. Santiago-García, B. Finegan, L. Hormel, N. Sibelet, L.A. Vierling, N. Bosque-Pérez, F. DeClerck, **M.E. Fagan**, and L. Waits, (2015). Coupled social, economic and ecological outcomes of agricultural intensification in Costa Rica and the future of biodiversity conservation in tropical agricultural regions. *Global Environmental Change*, 32: 74-86.

Nowakowski, A.J., DeWoody, J.A., **Fagan, M.E.**, Willoughby, J.R. and Donnelly, M.A. (2015), Mechanistic insights into landscape genetic structure of two tropical amphibians using field-derived resistance surfaces. *Molecular Ecology*, 24: 580–595. doi: 10.1111/mec.13052

Cisneros, L.M., **Fagan, M.E.**, Willig, M.R. (2015), Season-specific and guild-specific effects of anthropogenic landscape modification on metacommunity structure of tropical bats. *Journal of Animal Ecology*, 84: 373–385. doi: 10.1111/1365-2656.12299

Cisneros, L.M., **Fagan, M.E.**, Willig, M.R. (2014), Effects of human-modified landscapes on taxonomic, functional and phylogenetic dimensions of bat biodiversity. *Diversity and Distributions*. doi: 10.1111/ddi.12277

Meyfroidt, P., K.M. Carlson, **M.E. Fagan**, V.H. Gutiérrez-Vélez, M.M. Macedo, L.M. Curran, R.S. DeFries, G.A. Dyer, H.K. Gibbs, E.F. Lambin, D.C. Morton, V. Robiglio. 2014. Multiple pathways of expansion of commodity crops in tropical forest landscapes. *Environmental Research Letters* 9(7): 074012.

Fagan, M.E., R.S. DeFries, S.E. Sesnie, J.P. Arroyo, W. Walker, C. Soto, R.L. Chazdon, and A. Sanchez. 2013. Land cover dynamics following a deforestation ban in northern Costa Rica. *Environmental Research Letters* 8(3): 034017.

Yackulic, C.B.*, **M. Fagan**[°], M. Jain[°], A. Jina, Y. Lim, M. Marlier, R. Muscarella, P. Adame, R. DeFries, and M. Uriarte. 2011. Biophysical and socioeconomic factors associated with forest transitions at multiple spatial and temporal scales. *Ecology and Society* 16(3): 15.
<http://dx.doi.org/10.5751/ES-04275-160315> [°]Shared first authorship

Fagan, M. E., and D. R. Peart. 2004. Impact of the invasive shrub glossy buckthorn (*Rhamnus frangula* L.) on juvenile recruitment by canopy trees. *Forest Ecology and Management* 194: 95-107.

- **Book Chapters**

Fagan, M.E. and R.S. DeFries. 2009. "Measurement and Monitoring of the World's Forests: A Review and Summary of Remote Sensing Technical Capability, 2009-2015" in *The World's Forests: Design and Implementation of Effective Measurement and Monitoring*. Published by Resources for the Future, Washington, D.C. 70 pp.
<https://www.rff.org/publications/reports/measurement-and-monitoring-of-the-worlds-forests-a-review-and-summary-of-remote-sensing-technical-capability-20092015/>

- **Works Submitted or In Preparation**

Fagan, M.E., E.N. Broadbent, A. Almeyda, and J.R. Kellner (in prep). Edges and the likelihood of treefalls during a lowland tropical storm event. *Ecosphere*.

- **Popular Articles (not peer-reviewed)**

Fagan, M.E., J.L. Reid, and R.A. Zahawi. 2020. "No Bonn Challenge restoration commitment exceeds a country's potential area." *Science*, eLetter re: Bastin et al. 2019.

<https://science.sciencemag.org/content/365/6448/76/tab-e-letters>

Fagan, M.E., J.L. Reid, and R.A. Zahawi. 2019. "Forests: questioning carbon stores after restoration (Correspondence 25 June 2019)." *Nature* 570, 446.

<https://www.nature.com/articles/d41586-019-01975-0>

Fagan, M.E., J.L. Reid, and M.H. Holland. 2019. "Restoring tropical forests isn't meaningful if those forests only stand for 10 or 20 years." *The Conversation*.

<https://theconversation.com/restoring-tropical-forests-isnt-meaningful-if-those-forests-only-stand-for-10-or-20-years-107880>

Harris, N.L., E.D. Goldman, and S. Gibbes. 2019. "Spatial Database of Planted Trees Version 1.0." Technical Note. Washington, DC: World Resources Institute. Data Contribution, **M.E. Fagan**.

<https://www.wri.org/publication/spatialdatabase-planted-trees>.

Presentations

- **Conference/Poster Presentations (Non-Refereed)**

Fagan, M.E., UMBC Earth Day Symposium, Lecture, "Potential impacts of COVID-19 on tropical forest recovery," UMBC, Online, 2021.

Fagan, M.E., et al., American Geophysical Union Annual Meeting, Lecture, "The pan-tropical expansion of tree plantations (2000-2012)," AGU, Online, 2020.

Fagan, M.E., et al., Ecological Society of America Annual Meeting, Lecture, "The pan-tropical spread of tree plantations: Implications for global forest regrowth," Ecological Society of America, Online, 2020.

Fagan, M.E., UMBC Earth Day Symposium, Lecture, "Tracking the pan-tropical spread of tree plantations using machine learning," UMBC, Online, 2020.

Fagan, M.E., and D.C. Cunningham. In global tree cover products, how much forest change is actually agricultural expansion? American Geophysical Union, Fall Meeting, San Francisco, CA, 2019.

Wilkins, G., B. Byrd, S. Danquah and M.E. Fagan. Forest fires, and the Bahama Oriole: Describing burn history within Caribbean Pine forests. UMBC SURF Undergraduate Research Conference, Catonsville, MD, 2019.

Fagan, M.E., D.H. Kim, L. Ferry, J. Drew, H. Carlson, J. Schaferbien, J. Slaughter. Beyond" forest" change: assessing and improving global forest cover products. American Geophysical Union, Fall Meeting, Washington, DC, 2018.

Fagan, M.E., D. Morton, B. Cook, J. Masek, F. Zhao, C. Huang, R. Nelson. Growing up on the frontier: assessing the impact of forest age and edge age on forest structure in the southeastern US. ForestSat, College Park, MD, 2018.

D. Cunningham, M.E. Fagan, P. Cunningham. Identifying and correcting biases in global tree cover products: a case study in Costa Rica. ForestSat, College Park, MD, 2018.

Fagan, M.E., D.C. Morton, B.D. Cook, J.G. Masek, F. Zhao, R.F. Nelson, and C. Huang. Evaluating the Contribution of Pine Plantations to Habitat Fragmentation in the Southeastern U.S. US-International Association of Landscape Ecology Conference, Chicago, IL, 2018.

Fagan, M.E., and D.H. Kim. "Mapping tree plantations: How much recent tropical forest regrowth in Costa Rica is natural forest?" US-International Association of Landscape Ecology Conference, Baltimore, MD, 2017.

Fagan, M.E., D.C. Morton, B.D. Cook, J.G. Masek, F. Zhao, R.F. Nelson, and C. Huang. "Beyond edge effects: landscape controls on forest structure in the southeastern US." American Geophysical Union Conference, San Francisco, CA, 2016.

Fagan, M.E., D.C. Morton, B.D. Cook, J.G. Masek, F. Zhao, R.F. Nelson, and C. Huang. "An airborne perspective on forest edge effects and patterns of native forests and pine plantations in the southeastern U.S." Ecological Society of America Meeting, Fort Lauderdale, FL, 2016.

Fagan, M.E., D.C. Morton, B.D. Cook, J.G. Masek, F. Zhao, R.F. Nelson, and C. Huang. "Assessing forest edge effects in the southeastern U.S. using NASA's G-LiHT Airborne Imager." Ecological Society of America Meeting, Baltimore, MD, 2015.

Fagan, M. E., R. S. Defries, S. E. Sesnie, J. P. Arroyo, and R. L. Chazdon. "Targeted reforestation to combat declines in connectivity for understory birds in a tropical habitat corridor." International Congress of Conservation Biology, Montpellier, France, 2015.

Fagan, M.E., D.C. Morton, B.D. Cook, J.G. Masek, F. Zhao, H.E. Andersen, R.F. Nelson, and C. Huang. "Commercial ecosystem services: plantation forest contributions to US carbon sequestration." International Congress of Conservation Biology, Montpellier, France, 2015.

Fagan, M.E., D.C. Morton, B.D. Cook, J.G. Masek, F. Zhao, H.E. Andersen, R.F. Nelson, and C. Huang. "Estimating the contribution from tree plantations to the US forest carbon sink." NASA Joint Science Workshop, Silver Spring, MD, 2015.

Fagan, M.E. "Managing the matrix: assessing conservation in human-dominated landscapes." NASA Biospheric Sciences Brown Bag Seminar Series, Greenbelt, MD, 2015.

J. P. Arroyo, M.E. Fagan, and M. Kalacska. "Leaf to image scalability based on spectral libraries: a case study using forest plantations in Northern Costa Rica" ForestSat Conference, Riva del Garda, Italy, 2014.

Fagan, M.E., D.C. Morton, B.D. Cook, J.G. Masek, F. Zhao, H.E. Andersen, R.F. Nelson, and C. Huang. "Estimating tree plantation area and height across the southeastern US using G-LiHT LiDAR and Landsat." ForestSat Conference, Riva del Garda, Italy, 2014.

Fagan, M.E., R.S. DeFries, S.E. Sesnie, J.P. Arroyo, C. Soto, A. Singh, P. Townsend, and R.L. Chazdon. "Integrating hyperspectral and multitemporal Landsat imagery to monitor tree plantation expansion in northeastern Costa Rica." ForestSat Conference, Riva del Garda, Italy, 2014.

Fagan, M.E., R.S. DeFries, S.E. Sesnie, J.P. Arroyo, C. Soto, A. Singh, P. Townsend, and R.L. Chazdon. "Integrating multi-temporal Landsat and hyperspectral imagery to monitor expansion of tropical tree plantations." NASA Biodiversity and Ecological Forecasting Team meeting, Silver Spring, MD, 2014.

"Protecting forests outside parks: Land sparing after a deforestation ban in northeastern Costa Rica." International Congress for Conservation Biology, Baltimore, MD, 2013.

"Protecting forests outside parks: Land cover dynamics in the San Juan-La Selva biological corridor region following a deforestation ban." Association of Tropical Biology and Conservation, San Jose, Costa Rica, 2013.

Fagan, M.E., R.S. DeFries, S.E. Sesnie, J.P. Arroyo, C. Soto, A. Singh, P. Townsend, and R.L. Chazdon. "Using hyperspectral imagery to monitor tree plantations." NASA Biodiversity and Ecological Forecasting Team meeting, Silver Spring, MD, 2013.

Fagan, M.E., R.S. DeFries, S.E. Sesnie, J.P. Arroyo, W. Walker, C. Soto, R.L. Chazdon, and A. Sanchun. "Land cover dynamics following a deforestation ban in northern Costa Rica." NASA LCLUC program meeting.

Fagan, M.E., R.S. DeFries, S.E. Sesnie, J.P. Arroyo, W. Walker, C. Soto, R.L. Chazdon, and A. Sanchun. "Tracking deforestation and tree plantation expansion in a Costa Rican biological corridor using a Landsat time series." American Geophysical Union Conference, San Francisco, CA, 2012.

Fagan, M.E., R.S. DeFries, S.E. Sesnie, J.P. Arroyo, W. Walker, C. Soto, R.L. Chazdon, and A. Sanchun. "Tracking deforestation and tree plantation expansion in a Costa Rican biological corridor using a Landsat time series." ForestSAT Conference, Corvallis, OR, 2012.

Fagan, M.E., R.S. DeFries, S.E. Sesnie, J.P. Arroyo, W. Walker, C. Soto, R.L. Chazdon, and A. Sanchun. "Tracking deforestation and tree plantation expansion in a Costa Rican biological corridor using a Landsat time series." NASA Land-Cover and Land-Use Change Science Team Meeting, Rosslyn, VA, 2012.

Fagan, M.E., R.S. DeFries, S.E. Sesnie, J.P. Arroyo, W. Walker, C. Soto, R.L. Chazdon, and A. Sanchun. "Tracking deforestation and tree plantation expansion in a Costa Rican biological corridor using a Landsat time series." Princeton-Penn-Rutgers-Columbia Student Conference, Philadelphia, PA, 2012.

Fagan, M.E., R.S. DeFries, S.E. Sesnie, J.P. Arroyo, W. Walker, C. Soto, R.L. Chazdon, and A. Sanchun. "Assessing forest protection and PES policies in a deforested landscape in northern Costa Rica." Interdisciplinary Ph.D. Workshop in Sustainable Development, New York, NY. 2012

Fagan, M.E., R.S. DeFries, M. Uriarte, and D.R. Rubenstein. "The effect of tree plantation structure and composition on matrix permeability for tropical forest understory birds." Ecological Society of America Annual Meeting, Austin, TX, 2011.

Fagan, M.E. and R.S. DeFries. "Distinguishing tree plantation species and secondary forests using Landsat and Hymap." NASA CC&E Joint Science Workshop & Biodiversity and Ecological Forecasting Team Meeting, Alexandria, VA, 2011.

Fagan, M.E. and R.S. DeFries. "Landscape configuration and tree plantation habitat quality." Student Conference on Conservation Science, New York, NY, 2010

- **Other Professional Presentations**

- **Invited Seminars**

Holl, K, M.E. Fagan, and P. Brancalion, "Keys to Improving Outcomes of Tree Planting Campaigns". IUCN-CEM Ecosystem Restoration Thematic Group webinar series, Online, 2020.

Fagan, M.E., "Estimating the area and growth rates of pine tree plantations in the southeastern US using remote sensing and FIA data". Forest Inventory and Analysis Webinar, US Forest Service, Washington, DC, 2019.

Fagan, M.E., "Monitoring a Landscape of Disturbance: An Aerial Perspective on Timber Plantations in the Southeastern US." Department of Biology, University of Central Florida. Orlando, FL, 2017.

Fagan, M.E. "Forests from above: protecting forests with an eye in the sky." American University, Environmental Science class seminar. Washington, DC, 2017.

Fagan, M.E. "A review of available forest and land use change datasets for Mesoamerica." UMBC Conservation Aid Workshop (co-led by Fagan). Catonsville, MD, 2017.

Fagan, M.E., D.C. Morton, B.D. Cook, J.G. Masek, F. Zhao, R.F. Nelson, and C. Huang. "Mapping pine tree plantations in the southeastern US using structural, spectral, and temporal remote sensing data." Center for Urban Environmental Research and Education. Catonsville, MD, 2016.

Fagan, M.E., D.C. Morton, B.D. Cook, J.G. Masek, F. Zhao, R.F. Nelson, and C. Huang. "Mapping pine tree plantations in the southeastern US using structural, spectral, and temporal remote sensing data." Department of Forest Resources, Virginia Tech, Blacksburg, VA, 2015.

Fagan, M.E. "Managing the matrix: assessing conservation in human-dominated landscapes." Union of Concerned Scientists, Washington, DC, 2015.

Fagan, M.E., and N.B. Schwartz. "Social and ecological tradeoffs in tropical reforestation." People and Reforestation in the Tropics (PARTNERS) NSF workshop, Storrs, CT, 2015.

Fagan, M.E., and N.B. Schwartz. "Social and ecological tradeoffs in tropical reforestation." American Museum of Natural History, Network of Conservation Educators and Practitioners Workshop. New York, New York, 2015.

Fagan, M. E., R. S. Defries, S. E. Sesnie, J. P. Arroyo, and R. L. Chazdon. "Have forest protection and reforestation policies increased connectivity for understory birds in a Costa Rican habitat corridor?" Smithsonian Conservation Biology Institute, Washington, DC. 2014.

Fagan, M.E., R.S. DeFries, S.E. Sesnie, J.P. Arroyo, W. Walker, C. Soto, R.L. Chazdon, and A. Sanchun. "Protecting forests outside parks: Land cover dynamics in the San Juan-La Selva biological corridor region following a deforestation ban." La Selva Organization for Tropical Studies (OTS) Research Seminar, La Selva, Costa Rica, 2013.

Fagan, M.E., R.S. DeFries, S.E. Sesnie, J.P. Arroyo, W. Walker, C. Soto, R.L. Chazdon, and A. Sanchun. "Forests outside parks: The story of the San Juan-La Selva biological corridor, a deforestation ban, reforestation efforts, and cranky birds." REU Mentor Seminar, La Selva, Costa Rica, 2013.

Fagan, M.E., R.S. DeFries, S.E. Sesnie, J.P. Arroyo, W. Walker, C. Soto, R.L. Chazdon, and A. Sanchun. "Understory birds and the changing landscape of the San Juan-La Selva Biological Corridor." REU Mentor Seminar, La Selva, Costa Rica, 2012.

Fagan, M.E. and R.S. DeFries. "Distinguishing tree plantation species and secondary forests using Landsat and Hymap." CATIE PCP Workshop, Turrialba, Costa Rica, 2011.

Fagan, M.E., R.S. DeFries, S.E. Sesnie, J.P. Arroyo, W. Walker, C. Soto, R.L. Chazdon, and A. Sanchun. "Adventures in mapping: challenges in tracking forest connectivity in the San Juan-La Selva Biological Corridor." La Selva Organization for Tropical Studies (OTS) Research Seminar, La Selva, Costa Rica, 2011.

Fagan, M.E. and R.S. DeFries. "The changing matrix: Assessing connectivity in a Costa Rican habitat corridor." REU Mentor Seminar, La Selva, Costa Rica, 2011.

Fagan, M.E. and R.S. DeFries. "The intensifying matrix: shifts in nonforest tree cover in a Costa Rican biological corridor and its consequences for avian habitat connectivity." Research Seminar, La Selva, Costa Rica, 2010.

SERVICE TO THE DEPARTMENT, UNIVERSITY, COMMUNITY, AND PROFESSION

- **Service to the Department**
2021, Co-lead, GIS Lecturer Search Committee

2018 - present, Faculty Senate Representative, GES
2017, Co-lead, GES Summer Field Course in Costa Rica
2016 - 2018, Departmental Liaison, AOK Library
2016 - present, Member, GIS Committee

- **Service to the University**

2020 – present, Member, Caregiving Advisory Committee
2016 - 2017, Member, Strategic Framework Committee on the Library

- **Service to the Community**

2020 – present. Collaborator: Chesapeake Conservancy, Macaw Recovery Network, Bahamas National Trust, World Resources Institute, Conservation International.
2017-2018, Mentor for independent research in remote sensing and GIS, Westminster High School. Student: Joshua Slaughter.
2016 (Summer), Speaker, 11 Costa Rican government agencies and NGO's. "Managing the matrix: assessing conservation in human-dominated landscapes."
2014 (Spring), Speaker, STEM night, Rippling Woods Elementary School, Glen Burnie, MD. "NASA Earth Science: Why does NASA study the Earth, anyway?"
2012 (Spring), Speaker, Native American and Pacific Islander Research Experience (NAPIRE) Student Seminar, La Selva, Costa Rica. "Understory birds and the changing landscape of the San Juan-La Selva Biological Corridor."
2011 (Fall), Leader of Virtual Rainforest Field Trip, Rooster Springs Elementary School, Austin, TX. "Skyping the Rainforest."
2011 (Fall), Speaker, Del Monte Forestry Station, Guacimo, Costa Rica. "La configuración del paisaje y la conectividad del hábitat en plantaciones del árboles en el noreste de Costa Rica."
2009- present, Collaborator: Costa Rican NGO's FUNDECOR, CATIE, and CENAT.

- **Service to the Profession**

2021 – present, Manuscript Reviewer, *Current Biology*
2021, Panelist, NASA Earth Science grant program review
2020 – present, Manuscript Reviewer, *Forests*
2020 – present, Manuscript Reviewer, *Frontiers in Ecology and the Environment*
2020 – present, Manuscript Reviewer, *Environmental Research Letters*
2019, Co-convener, AGU Conference Panel
2019, Panelist, NASA Earth Science grant program review
2018 – present, White Paper Reviewer, World Resources Institute
2018 – present, Manuscript Reviewer, *Perspectives in Ecology and Conservation*
2018, Panelist, NSF CHN2 grant program review
2017 – present, Manuscript Reviewer, *Scientific Reports*
2017 – present, Manuscript Reviewer, *Biological Conservation*
2017 – present, Manuscript Reviewer, *Remote Sensing*
2015 – present, Manuscript Reviewer, *Ecology Letters*
2015, Panelist, NASA Earth and Space Science Fellowship review
2014 – present, Manuscript Reviewer, *Remote Sensing of Environment*
2014 – present, Manuscript Reviewer, *Biotropica*
2012 – present, Manuscript Reviewer, *International Journal of Applied Earth Observation and Geoinformation*

2012 – present, Manuscript Reviewer, *Environmental Monitoring and Assessment*
2002 – present, Manuscript Reviewer, *Ecology*