

O'Neill

Lead for the Greater Good

O'Neill School of Public and Environmental Affairs
SPEA E555 Sustaining Urban Ecosystems (6840)
READING LIST

Instructor: Gwen M. White, whiteg@iu.edu

Week 1 – Day 1

Derby Lewis, A., M. J. Bouman, A. M. Winter, E.A. Hasle, D. F. Stotz, M. K Johnston, K. R. Klinger, A. Rosenthal, C. A. Czarnecki. 2019. Does nature need cities? Pollinators reveal a role for cities in wildlife conservation. *Front. Ecol. Evol.* 7:220. Doi:10.3389/fevo.2019.00220.

<https://www.frontiersin.org/articles/10.3389/fevo.2019.00220/full>

Oregon DFW. (n.d.). Conservation in Urban Areas.

<https://www.oregonconservationstrategy.org/conservation-toolbox/conservation-in-urban-areas/>

Rotatori, A., B. Holland, R. Kansal, A. Shah, R. Nanavatty, M. Banker. 2020. Breathing life back into cities. Rocky Mountain Institute. <https://rmi.org/insight/breathing-life-back-into-cities/>

Urban Monarch Conservation, Field Museum of Chicago (website) -

<https://www.fieldmuseum.org/science/research/area/keller-science-action-center/science-action-chicago/monarchs-view-city>

Video: Planning for People & Pollinators in Cities: New Tools & Approaches (NOTE video starts at 3:47 minutes) - <https://vimeo.com/260484457>

Week 1 – Day 2

Endlicher, W. R., M. Langner, M. Hesse, H. A. Mieg, I. Kowarik, P. Hostert, E. Kulke, G. Nützmann, M. Schulz, E. van der Meer, G. Wessolek, C. Wiegand. 2006. Urban ecology – Definitions and concepts. pp. 1-15 in *Shrinking Cities: Effects on Urban Ecology and Challenges for Urban Development*, 2nd ed., M. Langner, W. Endlicher (eds.) Peter Lang Verlag.

https://www.researchgate.net/publication/232906753_Urban_Ecology_-_Definitions_and_Concepts

Pickett, S. T. A., M. L. Cadenasso, D. L. Childers, M. J. McDonnell, W. Zhou. 2016. Evolution and future of urban ecological science: ecology in, of, and for the city. *Ecosystem Health and Sustainability*, 2:7, DOI: 10.1002/ehs2.1229 <https://www.tandfonline.com/doi/full/10.1002/ehs2.1229>

Video: The Baltimore Ecosystem Study: Urban Ecology (Holli Howard, Gund Graduate Student Fellow)
<https://youtu.be/Cv6fr371PT4>

Week 2 – Day 1 (no readings for Martin Luther King, Jr. Day)

Week 2 – Day 2

Ingram, M. 2008. Urban ecological restoration. *Ecol. Restoration* 26(3):175-177.
https://www.researchgate.net/publication/250231534_Urban_Ecological_Restoration

Palta, M. M., N. B. Grimm, P. M. Groffman. 2017. “Accidental” urban wetlands: ecosystem functions in unexpected places. *Front Ecol Environ* 2017; 15(5): 248–256, doi:10.1002/fee.1494.
https://www.researchgate.net/publication/317211990_Accidental_urban_wetlands_Ecosystem_functions_in_unexpected_places

Week 3 – Day 1

Avins M. 2013. Baltimore’s Forest Patches: Emerald Assets for Ecosystem Services. 34p. Baltimore Green Space. <http://baltimoregreenspace.org/downloads/ForestPatchesWeb.pdf>

Marshall V. 2013. “Patch Reflection.” *The Nature of Cities*.
www.thenatureofcities.com/2013/04/14/aerial-reflection-for-urban-ecology/

Moxley, D. & B. Fischer. 2020. Historic HOLC Redlining in Indianapolis and the Legacy of Environmental Impacts. *Journal of Public and Env Affairs* 191(1):1-8. DOI: 10.14434/jpea.v1i1.30321
<https://scholarworks.iu.edu/journals/index.php/jpea/article/view/30321/34726>

Website: Redlining of 1930’s, a lens for urban patch dynamics: see Mapping Inequality – Redlining at:
<https://dsl.richmond.edu/panorama/redlining>

Week 3 – Day 2

Fukase, J. and Simons, A.M. (2016). Increased Pollinator Activity in Urban Gardens with More Native Flora. *Applied Ecology and Environmental Research* 14(1): 297-310.
<https://carleton.ca/andrewsimonslab/wp-content/uploads/fukase-simons-2016.pdf>

Week 4 – Day 1

Hostetler, M. 2014. A Matter of Scale: Connecting Human Design Decisions with Decisions Made by Wildlife. *The Nature of Cities*, 15 Jan. 2014, www.thenatureofcities.com/2014/01/15/a-matter-of-scale-connecting-human-decisions-with-decisions-made-by-wildlife/

Lepczyk, C. A., M. Aronson, K. L. Evans, M. A. Goddard, S. B. Lerman, J. S. Macivor. 2017. Biodiversity in the City: Fundamental Questions for Understanding the Ecology of Urban Green Spaces for Biodiversity Conservation. *BioScience* 67: 799–807. Doi:10.1093/biosci/bix079

Lowenstein, D. M., & Minor, E. S. (2016). Diversity in flowering plants and their characteristics: integrating humans as a driver of urban floral resources. *Urban Ecosystems*, (4), 1735. doi:10.1007/s11252-016-0563-z,
http://minorlab.weebly.com/uploads/5/5/2/0/55209937/lowenstein_minor2016_urban_ecosystems.pdf

Week 4 – Day 2

Hager et al. 2017. Continent-wide analysis of how urbanization affects bird-window mortality in North America. *Biological Conservation* 212: 209-215.

<https://www.sciencedirect.com/science/article/abs/pii/S0006320717306316>

Youth, H. 2020. Parrot paradox: The unprotected, endangered red-crowned parrot. *American Bird Conservancy, Bird Calls: News and Perspectives*, December 7, 2020. <https://abcbirds.org/blog20/red-crowned-parrot/>

Week 5 – Day 1

Teurlincx, S., J. J. Kuiper, E. M. Hoevenaar, M. Lurling, R. J. Brederveld, A. J. Veraart, B. G. Janssen, W. M. Mooij, L. N. de Senerpont Domis. 2019. Towards restoring urban waters: understanding the main pressures. *Current Opinion in Environmental Sustainability* 2019, 36:49–58. doi.org/10.1016/j.cosust.2018.10.011.

Xia J, Zhang Y Y, Xiong L H, He S, Wang L F, Yu Z B. 2017. Opportunities and challenges of the Sponge City construction related to urban water issues in China. *Science China Earth Sciences*, 60: 652–658, doi: 10.1007/s11430-016-0111-8

McKenna, J. 2017. ‘Daylighting’- the new trend that’s transforming cities. *World Economic Forum*. <https://www.weforum.org/agenda/2017/09/daylighting-is-a-new-trend-that-s-transforming-cities/>

ASSIGNMENT GUIDELINES: Program Logic Model

NIFA (n.d.) Logic Model Planning Process by the USDA National Institute of Food and Agriculture at <https://nifa.usda.gov/resource/logic-model-planning-process>

NIFA (n.d.) Frequently Asked Questions about Logic Models <https://nifa.usda.gov/sites/default/files/resource/Frequently%20Asked%20Questions%20about%20Logic%20Models.pdf>

W.K. Kellogg Foundation. 2004. Using Logic Models to Bring Together Planning, Evaluation, and Action Logic Model Development Guide. <file:///C:/Users/gwenm/OneDrive/Desktop/DESKTOP/IU%20E555%20Sustaining%20Urban%20Ecosystems%20MW%204.55-6.15%20-%20WhiteGM/Assignment%20guidance/Kellogg%202004%20Using%20logic%20models.pdf>

Week 5 – Day 2

Kaye, J. P., Groffman, P. M., Grimm, N., Baker, L. A., & Pouyat, R. V. (2006). A distinct urban biogeochemistry? *Trends in Ecology and Evolution*, 21(4), 192-199.

<https://doi.org/10.1016/j.tree.2005.12.006>

Sun, G. & Caldwell, P. 2015. Impacts of Urbanization on stream water quantity and quality in the United States. *Water Resources Impact* 17:1. https://www.srs.fs.usda.gov/pubs/ja/2015/ja_2015_sun_002.pdf

Yurk, V. 2020. Mollusks contain highest levels of microplastics. *E&E News: Greenwire*, December 23, 2020. <https://www.eenews.net/stories/1063721453>

Week 6 – TBD from Local Spatial Group #1**Week 7 – Day 1**

McHale, M.R., D. N. Bunn, S. T. A. Pickett, W. Twine. 2013. Urban Ecology in a developing world: why advanced socioecological theory needs Africa. *Frontiers in Ecology and the Environment* 11(10): 556-564. <http://europepmc.org/article/PMC/4038793>

Schneider, A., C M Mertes, A J Tatem, B Tan, D Sulla-Menashe, S J Graves, N N Patel, J A Horton, A E Gaughan, J T Rollo, I H Schelly, F R Stevens, and A Dastur. 2015. A new urban landscape in East–Southeast Asia, 2000–2010. *Letter. Environ. Res. Lett.* 10 034002. <https://iopscience.iop.org/article/10.1088/1748-9326/10/3/034002/pdf>

The Economist. 2011. Welcome to the Anthropocene: Humans have changed the way the world works. Now they have to change the way they think about it, too. May 26, 2011. https://hahana.soest.hawaii.edu/cmoreserver/summercourse/2012/documents/5hisholm_07-02-12/Economist-WelcomeToTheAnthropocene.pdf

Week 7 – Day 2

Derkzen, M. L., Teeffelen, A. J., & Verburg, P. H. (2017). Green infrastructure for urban climate adaptation: How do residents' views on climate impacts and green infrastructure shape adaptation preferences? *Landscape and Urban Planning*, 157, 106-130. <https://doi.org/10.1016/j.landurbplan.2016.05.027>

Filippelli, G.M, Freeman, J.K., Gibson, J., Jay, S., Moreno-Madriñán, M.J, Ogashawara, I., Rosenthal, F.S., Wang, Y., and Wells, E., 2020. Climate change impacts on human health at an actionable scale: A state-level assessment of Indiana, USA. *Climatic Change*. <https://doi.org/10.1007/s10584-020-02710-9>

Reynolds, H.L., Brandt, L., Fischer, B.C. et al. 2019. Implications of climate change for managing urban green infrastructure: an Indiana, US case study. *Climatic Change*. <https://doi.org/10.1007/s10584-019-02617-0>

The Trust for Public Land. 2016. The Benefits of Green Infrastructure for Heat Mitigation and Emissions Reductions in Cities: A Review of the Literature. Climate-Smart Cities Program. Urban Climate Lab at the Georgia Institute of Technology. 34 p. <https://www.tpl.org/sites/default/files/Benefits%20of%20GI%20for%20heat%20mitigation%20and%20emissions%20reductions%20in%20cities.pdf>

Week 8 – Day 1

EPA. n.d. Introduction to pesticide drift (website). <https://www.epa.gov/reducing-pesticide-drift/introduction-pesticide-drift>

Harvey, C. 2021. Butterflies in retreat across warming American West. *E&E News*, March 5, 2021. <https://www.eenews.net/climatewire/stories/1063726715>

Simpkins, K. 2020. Colorado mountains bouncing back from 'acid rain' impacts. Phys Org, December 9, 2020. <https://phys.org/news/2020-12-colorado-mountains-acid-impacts.html>

Reilly, S. 2020. How cities can keep the pandemic's blue-sky boon. E&E News, October 7, 2020. <https://www.eenews.net/stories/1063715743>

Rotatori, A., B. Holland, R. Kansal, A. Shah, R. Nanavatty, M. Banker. 2020. Breathing Life Back into Cities, Rocky Mountain Institute. <https://rmi.org/insight/breathing-life-back-into-cities/>

Krabbenhoft, D. P., D. A. Rickert. 1995. Mercury Contamination of Aquatic Ecosystems. US Geological Survey Fact Sheet 216-95. <https://pubs.usgs.gov/fs/1995/fs216-95/>

USGS. (n.d.) Pharmaceuticals in Water (website). Water Science School. https://www.usgs.gov/special-topic/water-science-school/science/pharmaceuticals-water?qt-science_center_objects=7#qt-science_center_objects

USGS. 2015. Understanding how Pharmaceuticals in the Environment Affect Fish. <https://www.usgs.gov/news/understanding-how-pharmaceuticals-environment-affect-fish>

NOAA. n.d. What is a harmful algal bloom? Sometimes tiny algae can cause big problems. <https://www.noaa.gov/what-is-harmful-algal-bloom>

Communications Plan template & examples

U.S. Fish and Wildlife Service. 2017. Atlantic Coast Piping Plover Strategic Communications Plan: Reducing Human Disturbance, 2017-2021. Hadley, MA. https://www.fws.gov/northeast/pipingplover/pdf/Communications_Plan_for_Reducing_Human_Disturbance_to_Atlantic_Coast_Piping_Plovers.pdf

Dayer, A.A. 2013. Prairie Pothole Joint Venture Strategic Communications Plan 2013-2017. Preview the document. Communications Report 2013-01. Skaneateles, NY. http://ppjv.org/assets/docs/resources/ppjv_comms_plan.pdf

Week 8 – Day 2

Ahmed, S., Dávila, J.D., Allen, A., Haklay, M., Tacoli, C., Fèvre, E.M., 2019. Does urbanization make emergence of zoonosis more likely? Evidence, myths and gaps. Environment and urbanization, 31(2), pp.443-460. <https://doi.org/10.1177/0956247819866124>

Karesh, W. B., A. Dobson, J. O. Lloyd-Smith, J. Lubroth, M.A. Dixon, M. Bennett, S. Aldrich, T. Harrington, P. Formenty, E. H Loh, C. C Machalaba, M. J. Thomas, D. L Heymann. 2012. Ecology of zoonoses: natural and unnatural histories. The Lancet 380 (9857):1936-1945. ISSN 0140-6736. [https://doi.org/10.1016/S0140-6736\(12\)61678-X](https://doi.org/10.1016/S0140-6736(12)61678-X). https://www.researchgate.net/publication/233826808_Ecology_of_zoonoses_Natural_and_unnatural_histories

Gibb R, Redding DW, Chin KQ, Donnelly CA, Blackburn TM, Newbold T, Jones KE. Zoonotic host diversity increases in human-dominated ecosystems. Nature. 2020 Aug;584(7821):398-402. doi: 10.1038/s41586-020-2562-8. Epub 2020 Aug 5. PMID: 32759999. <https://www.nature.com/articles/s41586-020-2562-8>

Hassell, J.M., M. Begon, M. J. Ward, E. M. Fèvre. 2017. Urbanization and Disease Emergence: Dynamics at the Wildlife–Livestock–Human Interface. *Trends in Ecology & Evolution* 32(1):55-67.

<https://doi.org/10.1016/j.tree.2016.09.012>

Johnson, C. K., P. L. Hitchens, P. S. Pandit, J. Rushmore, T. S. Evans, C. C. W. Young, M. Doyle. 2020. Global shifts in mammalian population trends reveal key predictors of virus spillover risk.

Proc. R. Soc. B. 28720192736. <http://doi.org/10.1098/rspb.2019.2736>.

Mackenstedt, U., D. Jenkins, T. Romig. 2015. The role of wildlife in the transmission of parasitic zoonoses in peri-urban and urban areas. *International Journal for Parasitology: Parasites and Wildlife* 4(1): 71-79, ISSN 2213-2244, <https://doi.org/10.1016/j.ijppaw.2015.01.006>.

Winchell, K. 2020. Urbanization and zoonotic disease. *Life in the City: Evolution in an Urbanization World*. <https://urbanevolution-litc.com/2020/01/28/urbanization-and-zoonotic-disease/>

Week 9 – TBD from Regional / Multi-State Spatial Team

Week 10 – Day 1

Anderson, E. C., M. H. Egerer, N. Fouch, M. Clarke, M. J. Davidson. 2019. Comparing community garden typologies of Baltimore, Chicago, and New York City (USA) to understand potential implications for socio-ecological services. *Urban Ecosystems* 22:671-681. <https://doi.org/10.1007/s11252-019-00855-9>

Conservation Measures Partnership (CMP). 2016. Incorporating Social Aspects and Human Wellbeing in Biodiversity Conservation Projects. Version 2.0. Available from: <http://cmp-openstandards.org/guidance/addressing-human-wellbeing/>

Collective Impact Forum. 2014. Readiness Assessment. An Initiative of FSG and the Aspen Institute Forum for Community Solutions. Available from: https://www.collectiveimpactforum.org/sites/default/files/CI_Readiness_Assessment_Jan_7_2014.pdf

Week 10 – Day 2

Yachnin, J. 2021. Outdoor industry to Biden: Go local on conservation. *E&E News*, March 23, 2021. Available from:

https://www.eenews.net/eenewspm/2021/03/23/stories/1063728267?utm_campaign=edition&utm_medium=email&utm_source=eenews%3Aeenewspm

Atu, J. E., F. Ebuta. 2013. Sprawl and Biodiversity in Cross River State, Nigeria. *Research on Humanities and Social Sciences* 3(21), ISSN 2222-2863 (online).

https://r.search.yahoo.com/_ylt=AwrEzeYPfedg3.EAy3tXNyoA;_ylu=Y29sbwNiZjEEcG9zAzEEdnRpZAMEc2VjA3Ny/RV=2/RE=1625812367/RO=10/RU=https%3a%2f%2fwww.iiste.org%2fJournals%2findex.php%2fRHSS%2farticle%2fdownload%2f9543%2f9865/RK=2/RS=R8RLkcmSRu9dxdztpjQG6et6LkA-

Healy, T. P. 2016. Indy Rezone: Creating a 21st-century urban community. *Indy Midtown Magazine*, February 13, 2016. <https://www.indymidtownmagazine.com/indy-rezone-creating-a-21st-century-urban-community/>

O'Farrell P., et al. 2019. Towards resilient African cities: Shared challenges and opportunities towards the retention and maintenance of ecological infrastructure. *Global Sustainability* 2, e19, 1–6.

<https://doi.org/10.1017/sus.2019.16>

Week 11 – Day 1

Athreya V, Odden M, Linnell JDC, Krishnaswamy J, Karanth U. 2013. Big Cats in Our Backyards: Persistence of Large Carnivores in a Human Dominated Landscape in India. *PLoS ONE* 8(3):e57872.

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0057872>

Beier, P. 2012. Cougars, Corridors, and Conservation: Three decades of expanding vision and partnerships. Webinar, 26 May 2021, Network for Landscape Conservation (57 minutes).

https://us02web.zoom.us/rec/play/NGYJIUTR2zHabofJN3zk2Pt1Eqi7tatgJS7PF9uOIOW0TSpPSSORzPJ93pVrLOpV4tCzfFcTUxF2XuR.24Yh7d8MB9eLUTKW?continueMode=true&_xzm_rtaid=Ghwsug-4TWiUhFR68w7M9g.1622235594425.c2031aa2f83185e4bd9ef7bbdd312332&_xzm_rhtaid=820

Gross, L. 2010. Mountain lions straying into more urban areas. *SF Gate*, 28 November 2010, updated 8

February 2012. <https://www.sfgate.com/green/article/Mountain-lions-straying-into-more-urban-areas-3164598.php>

Schell CJ, Stanton LA, Young JK, Angeloni LM, Lambert JE, Breck SW, Murray MH. 2020. The evolutionary consequences of human-wildlife conflict in cities. *Evol Appl.* 2020 Sep 29;14(1):178-197. doi:

10.1111/eva.13131. PMID: 33519964; PMCID: PMC7819564.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7819564/pdf/EVA-14-178.pdf>

Grant Proposal template & examples

WildTeam. 2021. Grant Writing for Wildlife Conservation v1. Wildlife Conservation Professional Series. WildTeam, Cornwall, UK.

US Fish & Wildlife Service. 2015. Ecological Places in Cities (EPIC): Program description. Landscape Conservation Cooperatives.

Week 11 – Day 2

7 principles for building better cities by Peter Calthorpe (14-minute video).

<https://youtu.be/IFjD3NMv6Kw>

Felson, A.J. and Pickett, S.T. 2005. Designed experiments: new approaches to studying urban

ecosystems. *Frontiers in Ecology and the Environment*, 3: 549-556. [https://doi.org/10.1890/1540-9295\(2005\)003\[0549:DENATS\]2.0.CO;2](https://doi.org/10.1890/1540-9295(2005)003[0549:DENATS]2.0.CO;2)

VisionMakerNYC (web-based simulation) <https://visionmaker.us/nyc/>

Sanderson, E. Design the future New York City (13-minute video) <https://youtu.be/A0bjlfpjYgs>

Week 12 (4/7) – TBD from Global / International Spatial Team

Week 13 – Day 1

Using biophilic design to heal body, mind, and soul by Amanda Sturgeon (14-minute video).

<https://www.youtube.com/watch?v=uAmbZCtNC9U>

Browning, W.D., Ryan, C.O., Clancy, J.O. (2014). 14 Patterns of Biophilic Design. New York: Terrapin Bright Green LLC. <https://www.terrapinbrightgreen.com/reports/14-patterns/>

Orr, D. W. 1993. Love It or Lose It: The Coming Biophilia Revolution. Excerpt from Earth in Mind: On Education, Environment, and the Human Prospect.

http://faculty.fgcu.edu/dgreen/index_files/RLO_Why_We_Do/RLO_Why_We_Do_sco/761-2_Snapp_Final_Orr2.pdf

Week 13 – Day 2

Christensen, J. 2018. Can the L.A. River Avoid 'Green Gentrification'? City Lab. February 20, 2018.

<https://www.citylab.com/equity/2018/02/can-the-la-river-avoid-green-gentrification/553613/>

Joselow, M. 2020b. Environmental racism scholar on pollution as 'violence.' E&E News Greenwire, June 19, 2020. <https://www.eenews.net/stories/1063416927>

Wittenberg, A. 2020. Trees as a civil right: 'All we have is cement and pavement' E&E News, Greenwire, Sept 16, 2020. <https://www.eenews.net/stories/1063713865>

Week 14 – Day 1

Richards, D. R., B. S. Thompson. 2019. Urban ecosystems: A new frontier for payments for ecosystem services. People Nat. 2019:1:249-261. <https://doi.org/10.1002/pan3.20>.

Joselow, M. 2020a. DeFazio: Biden eyeing green infrastructure package. E&E News, October 7, 2020.

<https://www.eenews.net/eenewspm/2020/10/07/stories/1063715739>

Wittenberg, A. 2021. How Dr. Seuss got 'mad' and spoke for the trees 50 years ago. E&E News, February 1, 2021

Week 14 – Day 2

Robinson, K. S. 2021. Cities as a Climate Survival Mechanism: A future with far more cities, and cities that are asked to do far more. Bloomberg Green. April 17, 2021. <https://www.bnnbloomberg.ca/kim-stanley-robinson-on-cities-as-a-climate-survival-mechanism-1.1591520>

Tzoulas, K., P. James. 2010. Making biodiversity measures accessible to non-specialists: an innovative method for rapid assessment of urban biodiversity. Urban Ecosystems 13:113– 127.

https://www.researchgate.net/publication/227290583_Making_biodiversity_measures_accessible_to_n-on-specialists_An_innovative_method_for_rapid_assessment_of_urban_biodiversity

Week 15 – No assigned readings.