NATIONAL SOCIO-ENVIRONMENTAL SYNTHESIS CENTER



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Lesson – Fertilize Like the Joneses: The Ecology of Prestige

By Heidi Scott, SESYNC | June 7, 2022

Overview:

This is the first lesson in a two-part series examining ecology's benefits using social insights. These lessons are meant to be complementary; they can be completed individually and do not need to be completed sequentially. The other lesson in this series is available here: Integrating Social and Equity Dynamics into Ecological Studies: The Landfill Case Study.

The 21st century is the *urban* century. Today, 55% of the world's population lives in cities; by 2050 the UN projects that number to increase to 68% (UN 2018). This trend makes cities and their urbanizing suburbs critical zones for supporting biodiversity, ecological resilience, tree canopy cover, watershed preservation, and local food production. How can ecologists use social science to amplify their research using the human behavioral elements of urban-suburban land use? This lesson explores pathways to integrate ecology with new insights into individual, local, and regional sociologies. It introduces natural science students to concepts like what have been called the *ecology of prestige** and *social conformity network feedback loops*.** Using applied science in lawn care regimes, tree cover canopy, and birdwatching locales, this lesson will help natural science students understand how human social pressures may promote resilient and sustainable urban-suburban land-use futures.

*Ecology of prestige theory hypothesizes that many locational choices, environmental management decisions, and expenditures on publicly visible environmentally relevant goods and services at household and neighborhood levels are motivated by group identity and social status (from Grove et al. 2014.)

**Views are strongly influenced by what people perceive as the consensus opinion with their networks; as individual opinions within the network change, this has feedback effects which lead to others changing their opinion. Research has indicated that when the number of confederates is roughly 25% of the group, the opinion of the majority could be tipped to that of the minority (from Centola et al. 2018).

Assumed Prior Knowledge:

Most suitable for undergraduate and graduate students with a natural sciences background and a working knowledge of climate change and land use effects on ecological resilience.

Learning Objectives:

- Apply new sociological insights on how social conformity feedbacks affect urban and suburban land use choices and maintenance
- Integrate ecology with human behavior sciences, including sociology and psychology
- Examine specific land uses in relation to their ecological effects to promote socio-ecological solutions for more resilient and sustainable urban-suburban landscapes

Key Terms and Concepts:

social conformity feedbacks, individualism, normative behavior, petroculture, urban green space, biodiversity, tree canopy cover, urban food cultures, environmental justice, intersectionality, land use tipping points

The "Hook" (suggestions for quickly engaging students):

1. Spend 5 min. with the class analyzing this image of an estate house in England. What natural aesthetic guides the landscaping? How does this aesthetic relate to natural grasslands, the pastoral, and animal grazing? What forms of human and petrochemical investment are required to make its appearance so uniform? Then ask them to consider this landscape of privilege, colonial wealth, and exclusionary land use and the highly out-of-balance ecology of this artificial system with the cultural and ecological costs and benefits of its existence and maintenance. List benefits and costs of this high-input English landscape on the board.



Lawn at Haddon Hall by Trevor Rickard
Photo Source: Wikimedia Commons, CC BY-SA 2.0.

2. Summarize the costs of the American suburban culture of petrochemical lawn maintenance. Then open the conversation to student experience; they may voice personal views in relation to family and neighborhood norms. Did the "perfect" lawn of the Joneses next door affect their own family's investment in lawn care using gas-powered machines, fertilizers, and pesticides? Did any students experience an alternate urban-suburban culture of lawn removal, xeriscaping, perennial biodiverse installations, rain gardens, vegetable and fruit gardens? Are there differences in experience based on region, socio-economic status, race, and gender? Conclude The Hook by highlighting normative trends of lawn care and counter-normative exceptions in the socio-ecology of lawns from the sample of student experience.

Teaching Assignments:

The Ecology of Prestige (Two, 50-min. classes)

The assignments below are best accomplished if the students have first completed at least Assignment 1 in the SESYNC Lesson "Actionable Research".

- **Class Session 1:** Steps 1–6
- **Class Session 2:** Steps 7–14

1. **Class 1: Hacking the Ecology of Prestige to Seed Sustainable and Biodiverse Urban-Suburban Landscapes**

   Consider Behavior: Completing the above Hook activity should prime students to acknowledge how normative behavior affects the ways we cultivate and invest in private landscapes, which have major effects on urban-suburban quality of life and ecological services that support resilience and biodiversity.

2. **Read Background:** Have them read a brief background on 1) evidence of social tipping points (Centola et al. 2018); and 2) its application in the sociology of lawn care norms (Locke et al. 2019) (Reading Excerpts Pt. 1).

   Fertilize_Like_the_Joneses_Reading_Excerpts_Pt1.pdf

3. **Develop List:** From this material, ask them to list factors important to land use decisions in urban-suburban private space (social norms, community regulations, income, age, kinship with neighbors, level of environmental concern, prevalence of hired landscape maintenance).

4. **Group Work:** In small groups of 3–4, have students brainstorm specific ways that normative behavior related to lawn keeping might be influenced by other outside factors (climate and geography, water availability, climate concerns, incentives to support biodiversity, awareness of sustainable landscaping). Have them sketch out a conceptual diagram that hypothesizes these many factors' relationships including any positive and/or negative feedback loops.

5. **Present Diagrams:** Share the group diagrams and have the whole class learn from these hypothesized relationships. Where are there positive and negative feedback loops? Does any one factor link with most of the others, making it a critical nexus in the socio-environmental system? List the class consensus on the 2–3 most critical factors in urban-suburban lawn choices.

6. **Conclusion:** Close the session by having each student choose one critical factor and write a

paragraph on ways that it might be manipulated to create a critical mass that changes normative behavior. For example, if the factor is "community regulations" (presumably that require a lawn maintenance regime), have them cite counter-normative trends in communities such as the controversial No-Mow month.

7. **Class 2**: **Applying Social Conformity Feedback Loops to Social Media and Naturalist Apps**
Provide Overview: The first assignment introduces the Ecology of Prestige by using a specific and accessible example in the American Lawn. But this phenomenon—the cultural creation and revision of normative values—applies broadly to reforming 20th-century petroculture toward a revolutionary 21st-century society that uses sustainable energy, land use, farming, and green infrastructure to reduce climate change. How can we increase the impact of social networks that engage with nature and support communities that enhance natural immersion in the urban-suburban environment?

8. **Assign Reading:** Have learners read excerpts from two SESYNC publications on: 1) determinants of emissions pathways in the coupled climate–social system (Moore et al. 2022); and 2) insights into urban human-wildlife interactions from recorded bird sightings (Lopez et al. 2020) (Reading Excerpts Pt. 2).

Fertilize_Like_the_Joneses_Reading_Excerpts_Pt2.pdf

9. **Foster Discussion:** These two articles may at first appear unrelated; open the conversation by asking your students to link ideas of Social Conformity Feedback Loops with the information on how Naturalist apps develop communities of birdwatching in Chicago. This ~10 min. may help students integrate information on social feedback loops with the specific case of birdwatching in Chicago. At this point, links may be tenuous and sketchy.

10. **Split into Groups:** Divide the class into 5 feedback groups: 1) Social Conformity; 2) Climate Change Perception; 3) Credibility-Enhancing Display; 4) Expressive Force of Law; and 5) Endogenous Cost-Reduction. Each group should spend their first 10 min. defining the type of feedback they are assigned, according to their understanding from the reading and their experience.

11. **Brainstorm:** Next, have students brainstorm how their type of feedback might be used to stimulate post-normative land use choices in urban-suburban environments. That is, have them speculate on how their feedback loop could be applied to various social media tools like iNaturalist (but also X and Instagram, and the many tools listed at the end of the Lopez article) to seed a narrative that discourages normative petroculture lawn care, and instills cultures that prioritize perennials, permaculture, urban forests, biodiversity, wise water use, reductions in chemical inputs.

12. **Consider EJ & Access:** Now have them integrate environmental justice and equality of access. How could the choice of social media outlet, the spokespeople, and the rhetorical tone be tailored to appeal to specific disenfranchised groups? For example, how would a social media post on rain gardens be pitched differently to a 65-year-old, white retiree in a leafy suburb versus a 15-year-old, Black kid who lives in a landscape of pavement and brick?

13. **Draft Social Media:** Finally, have each group draft a social media post that shows their new awareness of forms of social feedback, audience, and social media tools they might use. For example, the Expressive Force of Law groups might take the position of City Hall providing a press release on

new funding for urban gardens. They would select an audience (preferably an underprivileged one) and a specific social media app, and draft an image-led short narrative to entice the targeted group into engaging with the idea of urban gardening, because the Mayor and Council have signaled that this is virtuous behavior.

14. **Share Posts:** Have each of the five groups share their drafted Social Media post, and discuss each one. Invite students from other groups to suggest how multiple feedback loops could figure into a comprehensive social media strategy.

Background Information for the Instructor:

1. **Benefits of Urban Green Space**

    - "Urban green spaces such as parks, gardens, and even vacant lots can provide many benefits for city dwellers, including clean air and water, reduced flooding, and habitat for plants, birds, and pollinators. They can also provide people with other, less tangible benefits, such as aesthetic beauty, recreation, and appreciation of nature, collectively known as cultural ecosystem services. Cultural ecosystem services are less well understood than other ecosystem services because they are difficult to measure, but they may be highly important for forming connections between people and nature and for overall human wellbeing."

    - Lopez, B. (2017). *Benefits of Urban Green Space*. SESYNC. https://www.sesync.org/research/benefits-urban-green-space

2. **Residential household yard care practices along urban-exurban gradients in six climatically-diverse U.S. metropolitan areas**

    - "Residential land is expanding in the United States, and lawn now covers more area than the country's leading irrigated crop by area. Given that lawns are widespread across diverse climatic regions and there is rising concern about the environmental impacts associated with their management, there is a clear need to understand the geographic variation, drivers, and outcomes of common yard care practices. One theory of residential behavior, the ecology of prestige, proposes that 'household patterns of consumption and expenditure on environmentally relevant goods and services are motivated by group identity and perceptions of social status associated with different lifestyles.' Peer pressure and the household's desire to fit in with their lifestyle group shape land management preferences."

    - Locke, D., Polsky, C., Grove, J.M. et al. (2019). Residential household yard care practices along urban-exurban gradients in six climatically-diverse U.S. metropolitan areas. *PLoS ONE, 14*(11), https://doi.org/10.1371/journal.pone.0222630

3. **Yards increase forest connectivity in urban landscapes**

    - "Tree canopy connectivity is important for supporting biodiversity. In urban landscapes, empirical examinations of habitat connectivity often overlook residential land, though yards and gardens often comprise a large portion of urban forests. Objectives We quantify structural composition (patches and paths), connectivity and fragmentation of an entire tree canopy network spanning 1220 Boston's neighborhoods to assess the configuration of the urban forest potentially affecting tree-dependent wildlife species, such as some birds and arboreal mammals."

    - Ossola, A., Locke, D., Lin, B. et al. (2019). Yards increase forest connectivity in urban landscapes. *Landscape Ecology, 34,* 2935–2948.

https://doi.org/10.1007/s10980-019-00923-7

4. **Can Money Buy Green? Demographic and Socioeconomic Predictors of Lawn-Care Expenditures and Lawn Greenness in Urban Residential Areas**

    - "It is increasingly important to understand how household characteristics influence lawn characteristics, as lawns play an important ecological role in human-dominated landscapes. This article investigates household and neighborhood socioeconomic characteristics as predictors of residential lawn-care expenditures and lawn greenness. The study area is the Gwynns Falls watershed, which includes portions of Baltimore City and Baltimore County, MD. We examined indicators of population, social stratification (income, education and race), lifestyle behavior, and housing age as predictors of lawn-care expenditures and lawn greenness."

    - Zhou, W., Troy, A., Grove, J.M. et al. (2009). Can Money Buy Green? Demographic and Socioeconomic Predictors of Lawn-Care Expenditures and Lawn Greenness in Urban Residential Areas. *Society & Natural Resources, 22*(8), 744-760. https://doi.org/10.1080/08941920802074330

5. **Determinants of emissions pathways in the coupled climate–social system**

    - "The social networks in which individuals are embedded at home, work, school or leisure have a strong influence on opinions and behavior. Social norms (that is, representations of the dominant or acceptable practices or opinions within a social group) are costly for individuals to violate and, over the long term, can shape individual identities, habits and world-views. Studies in the USA have shown that perceived social consensus, that is, the degree to which individuals believe a particular opinion or action is dominant within their social group, can partially explain belief in climate change and support for climate policies. A large body of literature has also shown that social norms are one important determinant of the probability that an individual engages in pro-environmental behavior, such as conserving energy or adopting solar panels. A tendency towards social conformity can lead to tipping-point-type dynamics in which a system transitions suddenly from a previously stable state given a sufficient critical mass of proponents of the alternate norm. The model includes the social conformity effect in two ways: formation of public opinion regarding climate policy and individual decisions on adopting pro-climate behavior."

    - Moore, F.C., Lacasse, K., Mach, K.J. et al. (2022). Determinants of emissions pathways in the coupled climate–social system. *Nature, 603*, 103-111. https://doi.org/10.1038/s41586-022-04423-8

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- United Nations. (2018, May 16). *68% of the world population projected to live in urban areas by 2050, says UN*. United Nations Department of Economic and Social Affairs. https://www.un.org/development/desa/en/news/population/2018-revision-of-world-urbanization-prospects.html

Related SESYNC Content:

- Armstrong, A. (2022, June 16). *Lesson – What Is Ecology? Introduction, Epistemology, & Ontology*. SESYNC. https://www.sesync.org/resources/what-ecology-introduction-epistemology-ontology
- Armstrong, A., & Palmer, M.A. (2022, April 20) *Lesson – Political Ecology in Action: Water and People*. SESYNC. https://www.sesync.org/resources/political-ecology-action-water-and-people
- Palmer, M.A., & Armstrong, A. (2022, April 20). *Lesson – Introduction to Political Ecology*. SESYNC. https://www.sesync.org/resources/introduction-political-ecology
- Palmer, M.A., & Scott, H. (2022, August 11). *Lesson – Integrating Spatial Ecology & Resilience Theory to Understand Ecosystem Service Flows*. SESYNC. https://www.sesync.org/resources/integrating-spatial-ecology-and-resilience-theory-understand-ecosystem-service-flows
- Scott, H. (2022, June 21). *Spatial Ecology Lesson: Land Sparing versus Land Sharing*. SESYNC. https://www.sesync.org/resources/spatial-ecology-land-sparing-versus-land-sharing
- Scott, H. (2022, June 21). *Lesson – Spatial Ecology: Landscape Design Contest*. SESYNC. https://www.sesync.org/resources/spatial-ecology-landscape-design-contest
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This work was supported by the National Socio-Environmental Synthesis Center (SESYNC) under funding received from the National Science Foundation DBI-1639145.