



SESYNC Feedbacks

News from the National Socio-Environmental Synthesis Center



LIVING CHANGE | Ecology & Its Branches

As summer draws to a close here at SESYNC, we are leaning into the transition of the seasons. Temperatures are cooling down, the sun is setting earlier, and trees' leaves are starting to turn. Understandably, these periods of change in our environment can make us more attuned to the ecological dynamics of our surroundings—particularly the way all living things interact with one another and their environment.

If you're new to ecology, check out the first two resources below for a high-level introduction.

If you're already familiar with ecology and interested in taking a deeper dive, we direct you to the other resources listed below, great for graduate students and established scholars in the field. Some will help you explore the different ways in which humans interact with their environment from a natural science perspective—such as population, community, and landscape ecology. And others are more commonly used by those in the social sciences, such as political ecology and human behavioral ecology.

Either way, we hope these resources will help you consider how living things engage with their surroundings in new ways.

What Is Ecology? Introduction, Epistemology, & Ontology Lesson

This lesson describes what ecology is and how ecologists produce knowledge. It

includes an overview of the scope of ecology, a discussion of the philosophical underpinnings of ecological inquiry, an exploration of these ideas using a classic ecological topic as a case study, and a discussion of the role of ecology in socio-environmental synthesis research. [Learn more.](#)



Ecosystem Ecology – Theories, Methods, Lenses

In this video lecture, Dr. Whendee Silver presents an overview of the focus and some key currencies used in the field of ecosystems science. She defines ecosystem ecology as the study of both the organisms and the abiotic environment, and interactions between them, in an area defined by the strength of the connections between components of the system. [Watch now.](#)

Population Ecology – Theory, Methods, Lenses

In this video lecture, Dr. Bill Fagan frames the key theories and methods used in population ecology. He presents as foundational issues in population ecology the relationships among individuals in a population and the dynamics that impact growth or decline within a population. [Watch now.](#)



Landscape and Spatial Ecology

Since the earliest days of ecology, scholars have recognized that space matters. But it was not until 1997 that the phrase spatial ecology was first coined. This brief explainer article introduces the concept of spatial ecology and delves into how the distribution of ecological elements and processes across landscapes, in water bodies, and ocean floors influences the distribution of species, their interactions, and access to

resources. [Learn more.](#)

Spatial Ecology Lesson: Land Sparing versus Land Sharing

In the socio-environmental realm, spatial ecology sheds light on how ecosystem

services like fresh air, water, and shade cover affect human groups that dwell in proximity to natural habitats. And spatial ecologists seek to understand how access to green spaces enhances health and well-being among human groups. They also examine how the spatial arrangement of natural habitats influences epidemiological outcomes. This lesson, compares two models of urban green space, land sparing and land sharing, for evidence of their relative contribution to improved human well-being. [Learn more.](#)



Spatial Ecology: Landscape Design Contest

This lesson helps learners to understand and use spatial ecology to measure, design, and implement more healthful interfaces between human infrastructure and green space. In addition, participants will learn how well-planned spatial ecologies across urban, suburban, and rural habitats can produce complementary benefits, such as greater physical and mental

health, local food production, and the coexistence of wildlife. [Learn more.](#)

Population Ecology – Spatial Questions & Methods to Model Them

In this video lecture on population ecology, Dr. Bill Fagan addresses key spatial questions in population ecology and presents several methodological approaches to address spatial issues. He also notes the range of ways that space is conceptualized and represented in population ecology. [Learn more.](#)



Integrating Spatial Ecology & Resilience Theory to Understand Ecosystem Service Flows Lesson

This lesson explores an essential new avenue of research that integrates ecological with social benefits by considering how spatial distributions co-influence ecosystem and social network resilience. It serves as a guide to understanding the basics of spatial resilience and to applying its insights to a city in one's own region. [Learn](#)

[more.](#)

Critical Political Ecology

In this video lecture on critical political ecology, Dr. Paige West traces the history of the theory

and how it emerged from the study of isolated communities and their connections to external structures that impact their social lives. She defines political ecology as a critical approach that sees environmental change as caused by both natural and human structures, with differential impacts for individuals within those structures. [Learn more.](#)



Sustainability through the Lens of Human Behavioral Ecology

In this lecture, Dr. Monique Borgerhoff Mulder overviews the focus, history, and approaches used in the subdiscipline of human behavioral ecology. Here, she describes how human behavior ecology seeks to better understand human tendencies, how those tendencies vary, and potentially how they can be contained or harnessed. [Learn more.](#)

Perspectives in Political Ecology

This brief explainer article provides an overview of the basic concepts of political ecology including: the origins of the concept, illustrative examples, relevant research questions, and further suggested readings for a deeper exploration of the topic. [Learn more.](#)



Introduction to Political Ecology Lesson

This lesson defines and explains political ecology as a perspective, and shows how political ecology is linked to environmental and social equity. It enables learners to understand how environmental vulnerability relates to social capital and geopolitical context rather than simply environmental risk. [Learn more.](#)

NEW PUBLICATIONS | SESYNC in the Journals

"Exploring engagement practicalities and motivations in transboundary water governance." Published in *Environmental Research: Water* by Andrea K Gerlak and Anita Milman. This paper resulted from the Pursuit, [Science in Shared Rivers](#).

CONTACT US | We Want To Hear From You!

UHave updates or outcomes tied to your SESYNC research that would make for an interesting research spotlight? Looking for a resource on a topic that we haven't covered yet? Want to share an idea? Contact us at communications@sesync.org.

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