

# **Beyond Sustainability: Cultivating Social-Ecological Resilience in the Anthropocene – Applied Solutions from Project Drawdown.**

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## **ABSTRACT**

Rapid and unprecedented global social-ecological change is well documented and can be encapsulated as “The Great Acceleration”. In the Age of the Anthropocene, stationarity is no longer rule, but rather, the exception (Milly et al., 2008). The new ‘rule’ is characterized by unpredictability driven by climate change. Increased storms, weather variability, drought, wildfires, shifts in wildlife habitats, and coastal sea level rise all characterize new peculiar ecological trends. Continuing to operate under outdated assumptions and governing principles is a recipe for, inter alia, degraded ecological systems and ecosystem services, as well as higher construction and insurance costs. We cannot continue under the same sustainability-framed governing principles. Within the context of the Anthropocene and the Great Acceleration, “resilience” has emerged as a concept to best understand and deal with non-linear ecological systems, and is especially valuable when applied to the built environment. Within this framework, Project Drawdown has identified and calculated 100 solutions to climate change, with a number being within the built environment.

## **BIOGRAPHY**

**Siman’s** research focuses on the social-ecological resilience of Ohio’s Lake Erie shoreline, adaptive management and polycentric governance structures, with biomimetic applications that support long-term system resilience, moving away from “random acts of restoration” to a holistic, data-driven approach to management. Current projects include the development a low-cost, open source dual-beam visual spectrometer to detect Phosphates and Nitrates using a smartphone; conducting a Lake Erie coastal system resilience assessment; and conducting a social network analysis of coastal governance with a grant through the National Socio-Environmental Synthesis Center (SESYNC). Siman is working with the Ohio Department of Natural Resources, Office of Coastal Management; The Cleveland Water Alliance; and Biohabitats, Inc.