

A Systematic Review of Ecosystem Services from Green Space

Katherine von Stackelberg^{1,2} and ***John Heinze***³

¹E Risk Sciences, Allston, MA, USA

²Harvard Center for Risk Analysis, Boston, MA, USA

³Environmental Health Research Foundation, Chantilly, VA, USA

We summarize and evaluate the literature with respect to the benefits of turfgrass or “turf” defined as residential lawns, commercial or institutional turf surfaces and public facilities such as parks and playing fields with the goal of quantifying ecosystem services generated by such areas. Healthy, properly maintained turf and green space provides both regulating and supporting services, including: erosion control, water purification, air purification, temperature modification, oxygen generation, and carbon sequestration. In addition, there are cultural services, including recreation, stress reduction, and obesity reduction. We discuss the evidence for quantitative relationships between green space area and changes in ecosystem services, and corresponding valuation of those changes for use in analyses to quantify the benefits of restoration or other management activities.

We develop a systematic review of the literature to identify and evaluate primary studies that can be used as the basis for such quantitative relationships, and explore the range of values across studies, with the goal of providing metrics and functional relationships for estimating the value of management actions.

Contact Information: Katherine von Stackelberg, E Risk Sciences, LLP, 12 Holton Street, Allston, MA 02134, Phone: 508-596-4209, Email: kvon@erisksciences.com