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Abstract. Background: Urban forestry is an emerging profession, yet its professional identity is not clearly defined, nor does it have the full complement of support mechanisms commonly expected or needed by professionals. As a result, urban forest professionals rely on closely allied professions (e.g., arboriculture, forestry) resulting in frustration amongst urban forest professionals and confusion and lack of awareness amongst the general public. Methods: We developed a series of practical but ideal benchmarks for a successful "modern profession" based on features extracted from a review of the literature and precedents from 11 other professions. We then examined a broad array of evidence to identify gaps between the benchmarks and the current reality of the profession. Strength of evidence was assessed, and each benchmark was classified as being supported by established, emerging, or little to no evidence. Results: Gap analysis indicates that while the profession provides an essential service to society, there is a need for improvement in credentialing, public awareness, recruitment into the profession, and support for career advancement. Many gaps result from a lack of coordinated efforts or organized community dedicated to the full scope of urban forest professionals. We identified a misalignment between urban forest professionals and existing professional organizations that are dedicated to closely allied professions. Conclusion: To meet benchmarks for a successful "modern profession," urban forestry needs professional support explicitly dedicated to urban forestry. The profession cannot meet the future needs of society supported only by borrowed credentials and surrogate professional organizations.

Keywords. Green Industry; Professional Credentials; Professional Organizations; Professionalization; Public Image.

Abstract. The diel patterns of stem carbon dioxide efflux (E_s) were quantified for 8 lignophyte tree species using paired trees, with one tree surrounded by hardscape from the bole to the canopy perimeter and the second tree surrounded by grass or mulch. Stem E_s was measured at a height of 30 to 40 cm on the boles, and measurements were made about every 2 hours during 31-hour measurement campaigns. Nocturnal E_s was similar for the hardscape trees and the trees without hardscape. Trees surrounded by hardscape exhibited daytime E_s that was 73% greater than nocturnal E_s. In contrast, trees surrounded by grass or mulch exhibited daytime E_s that was only 55% greater than nocturnal E_s. The diurnal maximum of E_s was in the morning for trees surrounded by hardscape but was in the afternoon for trees growing in grass or mulch. The results indicated root-respired carbon dioxide was transferred to the bole through daytime transpiration, and more of this carbon dioxide was released from the bole surfaces for trees surrounded by hardscape.

Keywords. Carbon Cycle; Philippines; Stem Respiration.

Abstract. Standardized tree risk assessment protocols are beneficial to utility vegetation management (UVM) in that they provide the most consistent qualitative assessment of a tree's likelihood of failure, likelihood of impact, and overall risk. Yet, utility foresters do not often inspect off-right-of-way (ROW) vegetation due to constraints such as accessibility and time, which leaves many off-ROW trees unmonitored or with limited monitoring. This review focuses on the key studies addressing the application of unmanned aerial systems (UAS)-based LIDAR systems, especially in terms of UVM along electrical distribution systems. We reviewed the scientific literature in terms of the acquisition of UAS-based LIDAR data and the processing of the data. The incorporation of UAS-based LIDAR will allow utility foresters to better manage both on- and off-ROW trees to better identify tree risks and thus reduce outages and increase resiliency of distribution power lines.

Keywords. LIDAR; Unmanned Aerial Systems; Urban Forestry; Utility Forestry; Utility Vegetation Management.