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Abstract. Urban forests create indispensable habitat for declining wildlife populations. The tree care industry is essential to the viability of urban forests and thus the survival of urban wildlife. At the same time, tree care operations such as tree removal and branch pruning present clear threats to urban wildlife and their habitats. Here we describe the development of a grassroots coalition of arborists and wildlife advocates in the Western United States and the process of charting a path to best management practices and professional training to mitigate the impacts of tree care practices to wildlife. In particular, we describe the unique challenges and opportunities that arose through this multidisciplinary process and build a case for the benefits of uniting diverse communities of practice around complex urban ecological problems. We finish by laying out recommendations to the international arboriculture and urban forestry practitioner and research communities.

Keywords. Arboriculture; Best Management Practices; Tree Care; Urban Forestry; Urban Wildlife; Wildlife; Wildlife Habitat.

Abstract. Many municipalities are working to protect and grow their urban forest, including adopting private tree regulations. Such regulations typically require property owners to apply for a permit to remove trees and, if the permit is granted, plant replacement trees. Even with such regulations, many private trees are removed each year, particularly on residential property. Property-level construction activity, including expanding building footprints, replacing an older home with a new one, and increasing hardscaping, is emerging as a key driver of residential tree loss. This study addresses whether homeowners who receive a permit to remove one or more trees comply with the requirement to plant replacement trees to better understand the effect of private tree regulation. We explore this question through a written survey of homeowners who received a tree removal permit and site visits in Toronto (Ontario, Canada). While 70% of all survey participants planted the required replacement trees 2 to 3 years after receiving the permit, only 54% of homeowners whose permit was associated with construction planted. Additionally, most replacement trees were in good health but were dominated by a few genera. We also found significant differences in replacement planting and tree survival across the city's 4 management districts. This study highlights that if resources supporting private tree regulations are limited, tree permits associated with construction should be prioritized for follow-up. Additionally, guidance about diverse species to plant should be communicated to ensure that private tree regulations are supporting the long-term protection of the urban forest.

Keywords. By-Law; Ordinance; Private Urban Forest; Property Redevelopment; Residential.

Abstract. Background: With the creation of photo-based plant identification applications (apps), the ability to attain basic identifications of plants in the field is seemingly available to anyone who has access to a smartphone. The use of such apps as an educational tool for students and as a major identification resource for some community science projects calls into question the accuracy of the identifications they provide. We created a study based on the context of local tree species in order to offer an informed response to students asking for guidance when choosing a tool for their support in classes. Methods: This study tested 6 mobile plant identification apps on a set of 440 photographs representing the leaves and bark of 55 tree species common to the state of New Jersey (USA). Results: Of the 6 apps tested, PictureThis was the most accurate, followed by iNaturalist, with PlantSnap failing to offer consistently accurate identifications. Overall, these apps are much more accurate in identifying leaf photos as compared to bark photos, and while these apps offer accurate identifications to the genus level, there seems to be

little accuracy in successfully identifying photos to the species level. Conclusions: While these apps cannot replace traditional field identification, they can be used with high confidence as a tool to assist inexperienced or unsure arborists, foresters, or ecologists by helping to refine the pool of possible species for further identification.

Keywords. Botany; Dendrology; Image Recognition; Natural Resource Management; Tree Identification.