

Research & Evaluation of Best Management Practices: Regulation of Trees on Private Property

Outline from Igor Lacan

Introduction and study purpose

Urban trees are a source of documented benefits, including food and habitat for wildlife (Alvey, 2006), quantifiable ecosystem services (e.g., stormwater retention, cooling and energy-use reduction, air pollution reduction, carbon sequestration; Dwyer et al. 1992; McPherson 1992; but see also Pataki et al. 2011), and they provide documented enhancement to human health, economic activity and property values (e.g. Donovan and Butry, 2010; Donovan et al. 2011; Kuo and Sullivan, 2001).

Interestingly, the greater part of urban forests in cities comprises trees in private yards: in some cases, as much as 95% of tall urban trees (>8 m) were found in private yards in Australian cities, (Pearce et al 2013), whereas in the urban forest of Sacramento (California, USA) 14 non-street trees were present for every street tree (McPherson 1998). It is therefore critical that this “private urban forest” be maintained if the benefits ascribed to urban forests in general are to be fully realized, especially as cities are increasingly presuming the realization of those benefits as part of their carbon mitigation, climate adaptation, and resilience plans (e.g., McPherson 1998; City of Portland 2014; San Francisco Department of the Environment, 2013)

This study will evaluate tree ordinances, mechanisms used by municipalities across the US for local regulation of trees on private property, (1) to assess the common characteristics of such ordinances as written, and (2) to evaluate the subjective performance of each ordinance as perceived by the local urban tree manager (“Urban Forester”). The results can be used to inform the development of mechanisms for advancing urban tree policies in San Francisco by improving the understanding of advantages, drawbacks and limitations of tree ordinances.

Study plan

- (1) Survey (using municipal and code websites) a set of 30 cities for presence of a tree ordinance regulating trees on private property (aim for 22 cities in CA, 8 elsewhere; if many cities are found without ordinances, then the final list should include a minimum 10 cities with ordinance in CA, and 5 cities with ordinance elsewhere); we will either select cities with over 100,000 residents OR determine San Francisco residential density and then match cities based on density.
- (2) Literature review: find publications regarding regulation of trees on private property (urban forestry, arboriculture, planning, law, urban & community development). Publications will be used to guide questions in the survey (subsequent steps)
- (3) Collate ordinances into a table (matrix) with notable shared characteristics summarized
- (4) Create questionnaire #1: Survey for Urban Foresters in cities with ordinances; send to Urban Foresters

- (5) Create questionnaire #2: (guided by results from steps 1 and 2): Survey for Urban Foresters in cities without ordinances; Send to Urban Foresters
- (6) Guided by above results, conduct interviews with selected Urban Foresters from both types of cities. In cities with ordinances, focus on implementation issues (written vs. implemented) community support, and overall effectiveness. In cities without ordinances, focus on overall tree management strategy.
- (7) Collate findings into a summary table, highlighting common issues
- (8) Comparative literature review: select a comparable issue (regulation of an issue where jurisdiction and effectiveness of regulation varies by spatial position, e.g. house additions; garages; paved surfaces) and create a table summarizing regulatory concepts applied to that issue.
- (9) Write a summary of findings, discuss in context of the overall urban forest