Inventories - A Management Tool for Urban Trees

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Urban trees provide a range of ecosystem services that, in different ways, enhance the liveability of urban areas. However, urban forests are exposed to land use conflicts, climate change, intensive human use and abuse, as well as pests and disease – and as a consequence, the social, cultural, economic and environmental benefits are threatened.

To sustain urban forests, there is a need for comparable information in the form of urban tree inventories. Accurate inventories are one of the most fundamental components in planning, managing and developing the urban tree population. Inventories are therefore being conducted all over the world, often with huge costs involved. However, many of these inventories often contain too much information, have little focus on keeping the content updated, and are conducted without a clear purpose. Nevertheless, inventories can be a huge resource that, with correct application, can have a significant impact on how urban trees are governed and how they are perceived by the public.

One way of utilizing urban tree inventory data is to value the ecosystem services that urban trees provide. Quantitative data on these services are often needed to reach decision makers and thereby get the resources needed to manage this important natural resource. Quantitative assessments also make it possible to create management strategies that take into account management actions which need to be taken to protect the long-term contributions of ecosystem services.

During the past ten years, much energy has been devoted to standardizing the way in which urban tree inventory data are collected and to help urban tree managers get a better understanding of the ecosystem services and disservices that urban trees provide. However, little attention has been paid to non-municipal tree owners, e.g. private individuals or cemeteries. To provide a holistic valuation of the ecosystem services provided by the urban tree population, it is important to include these often-forgotten urban trees.

Compared with many other countries, Swedish municipal tree managers very seldom let private individuals participate in urban tree inventories or management of urban trees. This might be one of the reasons why conflicts between citizens and tree managers are starting to occur in Sweden. From my studies on *Data quality in citizen science urban tree inventories*, it is clear that citizen science can be a vital source of information when working with urban tree inventories. However, further research is needed on how citizens can be involved in management of urban trees and how their use of public urban green spaces is changing. In an ongoing study, a colleague in New York city and I will compare whether the use of cemeteries has changed and, if so, how cemetery managers are coping with these changes. By conducting this type of research, we may be able to help managers become better equipped for dealing with the important, but sometimes frustrating, demand from citizens wanting to being part of the management of urban trees.

These examples show the complexity of management of urban trees and the importance of combining different aspects (e.g. economic valuation, ecosystem services and citizen science) when conducting research on this important resource. By uniting urban tree managers, private tree owners and citizens, it is possible to reach a better understanding of urban trees, and thereby protect them against some of the many threats they are facing.