



Gene Conservation Challenges in Urban Forests

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Leadership

Municipal leadership on matters of urban forestry is extremely sporadic. Part of the problem is that most legislation which governs development offers little, if any, guidance on how trees or woodlands should be treated. Equally frustrating is the fact that most municipalities have not developed workable definitions or evaluation criteria for conserving trees. Even those that have established decent policies often find themselves short of the political will or the staff to change the status quo. "Forgiveness is easier than permission" is not just a motto but is the practice of expeditiously removing trees which literally stand in the way of development. Trees may well be the canaries of urban health so we should pay a little more attention to the state of our forests. Next time a significant tree has to be cut down, make sure its seed has been gathered so at least some of its genetic heritage can live on in future generations.

The erosion of genetic capital

Urban forests have not traditionally been considered worthy of forest gene conservation. Yet they are reservoirs of considerable natural heritage which are rapidly disappearing in plain view. Urban sprawl and new rights-of-way for hydro and transportation corridors are isolating woodlots and consuming genetic capital at an alarming rate

Unfortunately, the importance of genotypic diversity to the health of city trees and parks is not on the radar of city and rural planners. However, individual homeowners should feel empowered to raise standards of practice since as a group they are among the largest owners of greenspace in cities and towns. Thoughtful choices with respect to tree type and native origin will have tremendous positive long term benefits on the appearance and well-being of the communities in which we live. In contrast, ignorance and indifference only foster the decay of the green infrastructure which is our common wealth. The erosion of natural heritage is not a frivolous or esoteric issue. It is a symptom of the decline of our most important collective resource, the commons. We have to ensure that future generations are not robbed of the biological capital they need to have quality of life and health. We need to make a deliberate effort to manage neighbourhood trees and seed resources to ensure that healthy forests grow just as our cities do.

To this end, a system for documenting and evaluating seed trees in urban settings has been developed. Since we cannot see the genetic composition of trees (i.e. genotype), we must assess their significance as a seed source using their phenotype (i.e. appearance). Choosing seed sources based on visual characteristics is called *mass selection* by tree breeders. Excellent skills of observation, judgment and a passion for the discovery and exploration of forests are the most important prerequisites. Since the goal of these surveys is to document high-quality seed sources, this evaluation system has been deliberately weighted more heavily with criteria of biological and ecological significance than of social or emotional value. Trunk size, crown size, dominance, age, health, size of breeding cohort and social context are the seven categories used to judge candidate seed trees. A final grade is derived by summing scores across all criteria. Although the rating system requires a good

deal of judgment, it has been kept as simple as possible while still being sensitive enough to register small differences in merit among many different trees. It should be used to screen and prioritize seed collection areas. Seed tree surveys may also provide an indication of the health of urban forests.

For more information on how to conduct a seed tree survey in your neighbourhood, you are invited to attend a workshop to be presented by the Ontario Urban Forest Council June 17, 2006 in Toronto. Details are in this issue of the newsletter, in the EVENTS section.