



December 4, 2015

TO: Park Board Chair and Commissioners
FROM: General Manager - Vancouver Board of Parks and Recreation
SUBJECT: Flowering Cherry Tree Grove Plantings

RECOMMENDATION

THAT the Vancouver Park Board direct staff to proceed with the installation of flowering cherry tree groves in Balaclava Park, Beaconsfield Park, Callister Park, Earles Park, Queen Elizabeth Park, and Slocan Park, with final tree locations and quantities subject to the park planning process and public consultation, and in adherence to the Urban Forest Strategy.

BACKGROUND

Vancouver is known for its beautiful cherry blossoms every spring -- in its parks and lining its streets. Cherry trees make up a significant portion of the overall street tree canopy (see Appendix A). The Park Board has planted and tended its cherry trees for almost one hundred years.

Their profound presence within the minds of Vancouverites and visitors to the city is most notably celebrated by the Vancouver Cherry Blossom Festival. A not-for-profit society now in its tenth year, the festival brings thousands of participants to public events such as park parties, dances, musical and lantern festivals, educational events, and a cross-town bicycle ride timed for optimal blossom viewing.

In recognition of the special role cherry trees play in Vancouver, at their regular meeting on April 27, 2015, the Board recommended the following:

- A. THAT the Vancouver Park Board direct staff to identify locations suitable for the planting of new cherry tree groves (*Prunus* genus) within destination parks and gardens, which may include, but not be limited to, VanDusen Botanical Gardens, Queen Elizabeth Park, and Stanley Park, as well as on prominent boulevards and streetscapes across the city where mass flowerings in the spring will help to support the social, cultural, and tourism potential of the City, while also supporting the spirit and intention of Vancouver's world-renowned and award-winning Cherry Blossom Festival, winner of Canada's Best Garden Festival Award; and
- B. FURTHER THAT staff report back with proposed locations and numerical targets that align with Vancouver's Urban Forest Strategy, ensuring the most benefits to the city in terms of beauty, resiliency to disease, and canopy cover.

DISCUSSION

Goals for Creating Flowering Tree Groves in Parks

The planting of flowering cherry tree groves in select locations within neighbourhood and destination parks has great potential for bringing people together outdoors. Existing cherry tree groves are busy places during blossom time.

The goal is that these groves will become gathering places to celebrate spring. The Vancouver Cherry Blossom Festival has expressed strong interest in expanding activities throughout the city. It is also hoped that there will be interest from the public in the adoption of cherry tree groves for purposes of commemoration. There are many expressions of sentiment to which the natural ephemeral beauty of flowering cherry blossoms is well suited. Perhaps the proverb adopted by the Vancouver Cherry Blossom Festival sums up the highest goal of this project, that "*there is no stranger beneath the cherry tree*" (Kobayashi Issa).

Design and Selection Criteria

The grove locations and planting designs will consider the draft Park Tree Planting Principles. Trees are one of the main tools that are used in defining space in a park. Trees can be used to provide clarity and direction along a pathway, express ceremony and importance in a formal alley (rows), or can be used to frame and give definition to sweeping lawn areas, creating harmonious and restful compositions. These techniques were first mastered by early European garden designers and reached their zenith in parks designed by landscape architect Fredrick Law Olmsted in parks such as Central Park in New York City and Prospect Point in Brooklyn. These principles will play a key role in determining the final location and configuration of the cherry tree groves.

Flowering cherry tree groves are particularly enjoyed when the trees are massed, in which case the colours appear more brilliant and the ground below affords picnicking and other forms of socialization. Groves will typically consist of a single variety, though some designs may contain two complementary varieties for interest. Where there are multiple groves in the same park, non-overlapping varieties with staggered flowering times would be placed so that the blossom season is extended.

The numbers of trees in each grove will match the constraints of the sites in conjunction with other park uses, while allowing adequate sunlight and airflow for the trees to reach and sustain mature size. Below ground, growing conditions such as drainage and soil quality and quantity are carefully considered for reasons of long term viability. Above ground, considerations such as sight lines, existing park program uses, and aesthetic compatibilities like colour and form will be incorporated. The context within the park typology will be important; for example, groves will not be situated in natural areas or where wild bird enhancement objectives take precedence.

Proposed Grove Locations

Staff have identified six (6) parks where groves can be planted during this coming dormant season, for a total of 150 trees (see Appendix B). The proposed grove locations include the following neighborhood parks: Balaclava Park, Beaconsfield Park, Callister Park, Earles Park, and Slocan Park, as well as Queen Elizabeth Park, a large destination park. In Queen Elizabeth Park, there are options for several groves (see Appendix C), where varietal

selections can be chosen so that when one grove is finished for the season, another is hitting its peak. A sequence of three varieties can thereby provide up to six weeks of enjoyment.

These sites were selected for their compatibility with other park uses, and for the soil and exposure conditions in which flowering cherry trees are likely to survive. Collectively, these proposed sites could contain up to 150 trees of the following beautiful yet robust flowering cherry varieties: Akebono, Kwanzan, Shirotae, Shirofugen, and Kiku.

Urban Forest Strategy - Diversity

As Park Board staff continue to develop the Urban Forest Strategy, they find that there is complete consensus amongst the professional and academic communities that genetic diversity is a very important element of building resilience in a population of trees. The threat of sudden catastrophic loss caused by insect and disease outbreak, climate change, or weather extremes is best mitigated by broadening the genetic makeup of the urban forest.

The cautionary tale of 'not putting all one's eggs in one basket' is particularly true with genetic diversity because pathogens have adaptive strategies to take advantage of low diversity. Many municipalities have had to endure the sudden loss of many trees. The maxim of being conservative in the face of uncertainty is prudent planning in aiming for the goal of resilience. The table in Appendix A provides current numbers of the flowering trees representing species diversity within our street tree population, and indicating where the City's urban forest currently is in terms of professionally accepted maximum limits.

Urban Forest Strategy - Canopy

Research has also indicated a broad consensus on the human and environmental benefits that trees offer to city living. These benefits are measured using a metric called canopy cover (the area of ground covered by tree leaves). Canopy cover provides significant benefits. Shade, as a function of canopy area, reduces heat extremes and prevents some kinds of pollution formation. Leaf area, as a function of crown volume, affects the growth of the tree and therefore its carbon sequestration. It is also directly related to storm water interception and airborne particle capture. Flowering cherry trees provide these green services.

The beauty and sense of place that flowering cherries provide make them a wonderful contributor to the happiness and well-being of Vancouverites. Many people love the effect of having the same species of trees matching across and down the street, especially in springtime. Since the adoption of the 1990 Street Tree Plan, the Park Board has tried to strike a balance between this aesthetic goal and the environmental, and the benefits of the canopy provided by larger maturing species. When adequate space and soil are present, larger maturing species can be more effective than flowering cherry trees.

The Park Board has planted over 4,500 flowering cherries since that time. It continues to grow and plant cherry trees. This season's replacement tree planting program includes four different varieties selected for their beauty and disease resistance. Going forward, the Urban Forest Strategy seeks to strike a balance, providing beauty and enjoyment while optimizing environmental benefits through judicious tree selection.

SUMMARY

The suggested sites for flowering cherry tree groves, as outlined in this report, meet all of the criteria for success. With Board approval, it is anticipated that as many as eleven cherry tree groves, located in six different parks and consisting of five different varieties for added diversity and extended bloom periods, could be in the ground for the 2016 spring blossom season, with the actual number of trees planted to be confirmed pending park planning process and public consultation.

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Flowering Cherries - Street Tree Distribution (Dec 2015)

As a portion of the overall Vancouver street tree population, flowering cherries currently represent a higher percentage than the recommended maximum limit. As referenced in the chart below, they are also part of a larger family of tree species (Rose) that is proportionately very large (30%). These large numbers put the integrity of the urban forest at a higher risk to catastrophic loss due to pathogens which specifically attack flowering cherries and their close cousins.

Street Tree Distribution - Flowering Cherry Trees			
Taxonomic Grouping	Current # of Cherry Trees ⁽¹⁾	Current % of All Street Trees ⁽¹⁾	Maximum % Limit ⁽²⁾
Family - <i>Rose</i> ⁽³⁾	43, 490	30.2 %	30 %
Genus - <i>Prunus</i> ⁽⁴⁾	31, 267	21.7 %	20 %
Species - <i>Serrulata</i> ⁽⁵⁾	13, 518	9.4 %	10 %
Cultivated varieties ⁽⁶⁾	10, 686	7.4 %	5 %
TOTAL # of flowering ornamentals⁽⁷⁾ - all types	51,156	35.5 %	
TOTAL # of All Street Trees - all types	143, 567		

- (1) Data from the VanTree street tree database, as of December 2015.
- (2) Broadly accepted guideline for genetic diversity of urban tree population to help guard against catastrophic canopy loss due to insects or disease -- Dr. Frank Santamour, Research Geneticist at the US National Arboretum in his paper: Trees for urban planting: Diversity, uniformity, and common sense.
- (3) Family: broad classification of tree taxa; flowering cherries are in the Rose family, which also includes apple, pear, mountain ash, and roses.
- (4) Genus: less broad classification for tree taxa; flowering cherries are in the Prunus genus, which also includes the closely related plums and laurels.
- (5) Species: plants that can successfully breed together to produce viable offspring; flowering cherries are termed 'serrulata', which do not include the wild or edible cherry trees species.
- (6) Cultivated varieties: clones of each other, selected for their desirable qualities; flowering cherries have been selected for interesting or just unique floral features; Japanese call these *Sato-zakura - Village cherries*.
- (7) Flowering ornamental inventory also includes non-Rose family trees selected for their beautiful blooms and smaller stature; most notably Dogwood, Magnolia, Snowbell, and Redbud.

Proposed Parks for Cherry Tree Groves



(#) = possible number of trees

Queen Elizabeth Park - Proposed Cherry Tree Grove Sites

