CITY OF SANTA BARBARA

PARKS AND RECREATION COMMISSION REPORT

AGENDA DATE: July 25, 2012

TO: Parks and Recreation Commission

FROM: Administration Division, Parks and Recreation Department

SUBJECT: Open Space Park Tree Canopy Assessment

RECOMMENDATION: That the Commission receive a presentation on the results of the Open Space Park Tree Canopy Assessment Project.

DISCUSSION:

Introduction

In May 2012, the Department initiated the Tree Canopy Assessment (Assessment) to provide information on the total tree canopy cover and stand characteristics of native and dominant tree species in the undeveloped portions of seven open space parks, including: the Douglas Family Preserve, Franceschi Park, Hale Park, Hidden Valley Park, Honda Valley Park, Skofield Park, and Stevens Park. These parks were only partially surveyed during the 2008 inventory due to budget constraints, as well as their open space nature. The 2008 inventory did provide a comprehensive assessment of more than 35,000 public trees on city streets and in city parks. The intent of the Assessment was to fill the gap left by conducting a tree canopy cover assessment. The information gathered will help in the day-to-day management of the City's park and public resources as well as assist in the development of the urban forest management plan.

Tree Canopy Cover

Tree canopy cover is the percentage of a site covered by the canopies of trees. Many cities and communities are adopting tree canopy cover goals to maintain and improve forest coverage (McPherson, 2008). Tree canopy cover has become a popular metric for several reasons:

1. It is less costly than field sampling.
2. It is comparable across a city and between cities.
3. The size of the area does not matter.
4. It can be applied to detect change across space and time.
5. It easily understandable for public communication and education.

Agenda Item: **7**

At the same time, tree canopy cover data also has limitations. It does not convey the spatial depth of the canopy nor represent the amount of light penetrating the forest floor. Additionally, it does not reflect the health, diversity, age, or management needs of a forest and is therefore best used in conjunction with a richer data set.

Methodology

For the Open Space Park Tree Canopy Assessment, canopy cover was assessed using i-Tree Canopy software created by the United States Department of Agriculture (USDA) Forest Service. i-Tree Canopy software was used to generate 750 random points overlaid on 2010 aerial satellite imagery for the assessed park parcels. Staff manually classified each point as canopy or non-canopy areas. i-Tree Canopy software provides estimates of cover within a 2% standard error.

Staff also analyzed existing tree information from the 2008 tree inventory assessment including diversity, size, and health. Ground verification determined the approximate percentage of trees included in the survey, estimated number and type of trees not included in the survey, and approximate height and diameter range of non-surveyed trees. Additionally, field surveys identified management needs specific to each park.

Results

As illustrated in the table on the following page, tree canopy cover within the seven parks averages 64% over nearly 200 acres of land. Of that, it is estimated that 70% is comprised of California and South Coast native tree species. The Douglas Family Preserve had the lowest percent canopy cover at 49% and Stevens Park the highest at 74%. Stevens Park also had the second highest values of percent native tree canopy cover (91%). Skofield Park had the highest native canopy cover at 95% of total canopy cover.

Park site visits were conducted to determine the estimated number of trees not accounted for during 2008 inventory. A total of 3,154 trees were surveyed within the developed portions of these parks during the 2008 survey. It is estimated that an additional 3,661 trees were unaccounted for. As a result, it is estimated that there are a total of 6,815 trees in these seven parks. It is also estimated that 85% or more of trees found in Franceschi Park and Hale Park were surveyed, while as little as 20%-40% of trees were surveyed in other heavily forested parks like Stevens Park.

Tree Canopy Assessment Summary Table

Park	Park Designation	Acres	Number of trees from 2008 Assessment	Total number of trees estimated	Tree Canopy Cover (%)	% from Total Canopy Cover of Native trees (estimated)
DFP	Open Space	70	749	1400	49%	79%
Franceschi	Passive	15	320	360	52%	28%
Hale	Open Space	14	336	380	63%	61%
Hidden Valley	Open Space	20	184	400	80%	63%
Honda Valley	Open Space	18	343	800	64%	75%
Skofield	Community	25	924	2100	68%	95%
Stevens	Neighborhood	35	298	1375	74%	91%
Total		197	3,154	6,815	(Avg) 64%	(Avg) 70%

California Native Species found: Bigleaf Maple, Blue Oak, California Buckeye, Common Horsechestnut, Incense Cedar, Madrone, Monterey Cypress, Monterey Pine, Torrey Pine

Santa Barbara Native Species found: Arroyo Willow, California Bay, California Sycamore, Canyon Live Oak, Coast Live Oak, Elderberry, California Black Walnut, Fremont Cottonwood, Laurel Sumac
*Not inclusive of all regional or local native species.

Next Steps

In addition to supporting the day-to-day management of the City's park and tree resources, the Tree Canopy Assessment provides additional baseline information for the development of an Urban Forest Management Plan. The primary purpose of the Urban Forest Management Plan is to address long-term management objectives including canopy cover, infrastructure constraints, environmental resources, land use, aesthetics and community objectives. A detailed work plan will be provided to the Commission at the regular September meeting.

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