



Claremont Hills Wilderness



MASTER PLAN

September 12, 2014

Claremont Hills Wilderness Park 2014 Annual Count Estimate

Introduction

This report summarizes the number of park users visiting the Claremont Hills Wilderness Park (CHWP) based on intercept questionnaires (one-on-one, impromptu surveys) done on location at CHWP entrances by volunteers as part of preparing the Claremont Hills Wilderness Park Master Plan. The intercept questionnaires were conducted to identify the perspective of park users upon completion of their visit to CHWP. During the intercept process, volunteers at each of these locations also counted the number of people exiting the park, the type of visitor (hiker / walker, runner, biker, equestrian), and whether the visitors were observed by themselves or in groups and with dogs. Using this information, MIG estimated an approximate range of how many people visit the CHWP on an annual basis. This report provides a summary and methodology on how the annual visitor count was estimated.

A highly accurate count of annual visitors can only be determined with a much more intensive counting effort over a year long period. The USDA Forest Service regularly estimates visitor usage at its facilities using a rigorous estimation methodology. The annual visitation estimates include a 20% margin of error. Therefore, the annual estimate developed during this data collection process, at best, is a general magnitude of visitation for policy development purposes.

Survey Count Summary

Surveys were conducted on 16 different days between May 5 and July 18, 2014. Survey days included weekends and weekdays when the park was open, between the hours of 6:30 A.M. to 8:30 P.M. See Table 1 for the days and hours surveyed. Volunteers were trained by MIG and City staff to conduct surveys. Volunteers were stationed at five different CHWP trailheads, including North Mills Avenue, Pomello/Thompson Canyon Trail, Mountain Avenue, Padua Avenue, and Evey Canyon. Volunteers worked in two-hour shifts per day at each location. The number of volunteers at each trailhead varied between two and six people, depending on trail usage at the trailhead. Volunteers asked visitors exiting

the trails to participate in the intercept questionnaire. Visitor activities (running, walking, and biking), the presence of leashed dogs, as well as group sizes were identified as part of the survey.

A total of 2,242 surveys were collected from the volunteers. The survey summary sheets counted a total of 3,737 users and 2,259 groups with an average of 1.65 people per group. Most visitors were walking (2,941), with about 597 counted running, and 199 biking. The results are summarized in Table 2. Additionally, 241 leashed dogs were counted, and no horses or equestrians were observed.

Table 1: Hours/Day of Week

Hours/Day of Week	Number of Days Surveyed							Totals
	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.	
6:30-8:30 A.M.		1						1
7:30-9:30 A.M.			1	1	1		1	4
9:30-11:30 A.M.				1		1	2	4
1:30-3:30 P.M.						1		1
2:30-4:30 P.M.		1	1					2
4:30-6:30 P.M.	1				1			2
5:35-7:35 P.M.	1							1
6:30-8:30 P.M.						1		1
Totals	2	2	2	2	2	3	3	16

Table 2: Summary of Count Data¹

Hours	Activity	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.	Totals
6:30-8:30am	Walking	--	146	--	--	--	--	--	143
	Running	--	65	--	--	--	--	--	60
	Biking	--	10	--	--	--	--	--	10
	Subtotal	--	221	--	--	--	--	--	221
7:30-9:30am	Walking	--	--	94	115	123	--	511	843
	Running	--	--	25	24	42	--	64	155
	Biking	--	--	5	16	12	--	15	48
	Subtotal	--	--	124	155	177	--	590	1,046
9:30-11:30am	Walking	--	--	--	191	--	277	340	1,150
	Running	--	--	--	47	--	75	79	235
	Biking	--	--	--	10	--	15	20	74
	Subtotal	--	--	--	248	--	367	439	1,459
1:30-3:30pm	Walking	--	--	--	--	--	175	--	175
	Running	--	--	--	--	--	24	--	24

Hours	Activity	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.	Totals
	Biking	--	--	--	--	--	6	--	6
	Subtotal	--	--	--	--	--	205	--	205
2:30-4:30pm	Walking	--	52	58	--	--	--	--	110
	Running	--	10	20	--	--	--	--	30
	Biking	--	10	3	--	--	--	--	13
	Subtotal	--	72	81	--	--	--	--	153
4:30-6:30pm	Walking	110	--	--	--	64	--	--	174
	Running	17	--	--	--	6	--	--	23
	Biking	5	--	--	--	15	--	--	20
	Subtotal	132	--	--	--	85	--	--	217
5:35-7:35pm	Walking	178	--	--	--	--	--	--	178
	Running	53	--	--	--	--	--	--	53
	Biking	22	--	--	--	--	--	--	22
	Subtotal	253	--	--	--	--	--	--	253
6:30-8:30pm	Walking	--	--	--	--	--	165	--	166
	Running	--	--	--	--	--	12	--	12
	Biking	--	--	--	--	--	6	--	6
	Subtotal	--	--	--	--	--	183	--	189
Totals		385	293	205	403	262	755	1,434	3,737

1-MIG documented 3,737 visitors counted based on data received from volunteer staff. Volunteer staff reported a higher count total of 3,799 visitors. At the time of this writing MIG has not been able to verify if there are missing data count forms that would account for this discrepancy.

Annual Estimate Methodology

Based on the data, MIG developed an annual estimate of park users per year. The following describes the methodology employed to estimate an annual visitor count by two different methods: Hourly Average Approach and the Multiplier Approach, which are standard methods for these types of projects. Another counting method involves the use of electronic counters to record each visitor as they pass a fixed point on a trail. When the counter is properly calibrated and managed it can result in accurate estimates of use. However, calibration is often difficult and time consuming, and resources were not allocated for this approach under the current MIG contract.

Hourly Average Approach

Since counts were only conducted on two-hour increments for an entire day, an hourly visitor rate was calculated to estimate daily visitors by weekdays and weekends. The hourly rate was calculated by averaging the daily data points and dividing by two (two-hour intervals) to establish weekday and weekend hourly visitor rates. This rate was then multiplied by the average number of hours the CHWP was opened throughout the year (12.63 hours). The weekday daily visitor rate was then multiplied by the number of weekdays per year in 2014 (261 weekdays) and the weekend daily visitor rate was then multiplied by the number of weekend days per year (104 weekend days). Adding these two numbers yields an estimated annually visitor number.

Estimate of Yearly Usage: **494,556 visits**

Multiplier Approach

Surveys completed provided at least one data point for every two-hour increment on weekdays. Surveys provided data for two two-hour increments (total of 4 hours) on Sundays, and three two-hour increments (total of 6 hours) on Saturdays.

Weekdays: Generally, there is only one data point for each two-hour increment on weekdays. Where there is more than one data point, the data were averaged. Then, this data was applied uniformly for the same time frame. (For example, on Thursday, May 15, 2014 survey results indicate 248 total users during 9:30 A.M and 11:30 A.M. For purposes of this analysis, it was assumed that there were 248 users on all other weekdays between 9:30 A.M. and 11:30 A.M.)

Weekends: Because there were fewer data points for weekends, a multiplier was calculated to apply data collected during weekday intervals to the weekend intervals. The multiplier was calculated by comparing users during the same time interval on the weekend versus the weekday. The Saturday multiplier was calculated at 1.48 and the Sunday multiplier was calculated at 4.75. (The Saturday multiplier was calculated by comparing the only comparable time interval; 9:30 A.M. to 11:30 A.M. The Sunday multiplier was calculated based on comparing data collected during 7:30 A.M. to 9:30 A.M. time interval on Sunday to the lowest count during the same time on a weekday, to yield the largest, and thus most conservative, multiplier.) The multiplier was then applied to weekday data for the same time interval.

Estimate of Yearly Usage: **566,949 visits**

City Parking Information Data

To evaluate the 2014 count data, MIG conducted a third analysis using the City's 2013 parking counts, and 2014 Parking meter (Ventek) data. These data along with a factor accounting for the number of people per vehicle and park opening hours were included in a calculation to develop this annual use estimate. Since the parking counts collected by City staff did not cover all hours the CHWP is open, it was necessary to apply their counts to periods of time when data were not collected. To accomplish this MIG reviewed the distribution of parking times across the time the CHWP is open in the Ventek data. Parking numbers from original data collected in spreadsheets were rounded using the Excel rounding function, then multiplied by a factor of 1.8 to obtain total visitors (based on 1.8 visitors per car). The results were then rounded again. This included Saturday and Sunday visitors, and used data from the three original, observed time periods (7:30-9:30am, 11am-12:30pm, and 2-3pm) during which time City staff counted vehicles.

For the six other time periods (5:30-7:30am, 9:30-11am, 12:30-2pm, 3-5pm, 5-7pm, and 7-8:30pm) in the Saturday/Sunday visitor estimates, percentage ratios from the Claremont VenTek RCS Hourly Parking Volume Report (Dec. 1, 2013 - June 25, 2014) were applied to estimate the remaining proportion of visitors (e.g., "known" visitor counts equaled ~43% of the total). Using this information,

the "unknown" remaining time period counts were estimated and apportioned based on the respective proportions in the VenTek time periods (with adjustments made for time periods that didn't begin or end at the same time, such as 5:30 to 6:00, 6:30 to 7:00, etc.

For the weekday estimates, Saturday and Sunday numbers were totaled, and then a factor of 67% was applied. The resulting estimate was 473,420 annual visitors. However, this estimate used an average group size of 1.8 persons per group, which is the median for the 2014 count data and a commonly found group size for other visitor count studies of 2. This median value was used, since the 2014s group size estimate may be low. One explanation for the lower group size estimate from the 2014 count is that individuals were not questioned about the size of their group; volunteers estimated group size based on observation as visitors exited the park. People who may have started their hike together may not have exited together. Furthermore, parking meter data would not include the number of people who walked or biked to the CHWP to begin their hike.

Estimate of Yearly Usage: **473,420 visits**

Summary of Estimates

Table 3: Annual Use Estimation by Approach

Technique	Annual Use Estimation
Hourly-Average Approach	494,556 visits
Multiplier Approach	566,949 visits
Claremont Ventek RCS Hourly Parking Approach	473,420 visits

It is worthwhile exploring why the estimates may vary. First, when a sampling technique is used, sampling error is always a possibility as especially heavy or light use days may not have been sampled or over sampled. As more samples are taken, the estimation becomes more refined. Second, all use estimation procedures make assumptions about visitor or group characteristics. As such, group size estimation, for example, that is off by just 10 percent would result in an error of 10 percent. Additionally, assumptions about off-season use are made even though the sampling period was during only part of the year. Third, it is also possible that conditions have changed as visitors may have responded to parking fees and periodic changes to parking restrictions. Finally, the Claremont Ventek RCS Hourly Parking Approach did not capture walk-ins and, thus, it likely underestimates the level of recreation use. Finally, it should be noted that visitor use estimates are subject to sampling error, and that rigorous visitor count program administered by the USDA Forest Service, the National Visitor Use Monitoring program (NVUM), yields visit estimates for each national forest that are +/- 20% of the true level of visitation.

ALTA ESTIMATE

MIG’s preliminary estimate of visitor use prepared in May, 2014, was based on data collected by Alta during three days in December 2012 and two days in June, 2013. Alta estimated 1.4 million annual visits to the CHWP. MIG re-calculated this estimate using more conservative assumptions about how recreation use is distributed across weekends and weekdays, resulting in an estimate of 858,00 visitors, which was offered as a range of 850,000 to 900,000. This estimate is about 60% higher than the estimates developed from 2014 and 2013 data, for which there are several possible explanations.

Alta oversampled peak use periods. With the exception of the 3 to 5 pm time slot on the December, 2012, Tuesday, Alta sampled peak use time periods, resulting in an overestimate of total annual visits. Moreover, Alta only sampled five days resulting in a higher sampling error than parking counts conducted by City staff in 2013, and MIG volunteers in 2014. Alta also may have sampled several time periods with unusually high periods of visitor use.

Table 4 displays the most comparable dates for the Alta and MIG sampling efforts.

Table 4: Best Comparable Dates for Alta and MIG Count Data.

Alta Dates & Time, 2013	MIG Dates & Time, 2014	Alta Visitor Count	MIG Visitor Count	Location
Saturday, June 8, 7:30-9:30am	Saturday, May 17, 9:30-11:30am	1306	315	Mills Avenue
Saturday, June 8, 6:00-8:00pm	Saturday, July 5, 6:30-8:30pm	252	148	
Sunday, June 9, 7:30-9:30am	Sunday, June 22, 9:30-11:30am	982	374	
Saturday, June 8, 7:30-9:30am	Saturday, May 17, 9:30-11:30am	87	15	Pomello
Saturday, June 8, 6:00-8:00pm	Saturday, July 5, 6:30-8:30pm	13	18	
Sunday, June 9, 7:30-9:30am	Sunday, June 22, 9:30-11:30am	29	29	
Saturday, June 8, 7:30-9:30am	Saturday, May 17, 9:30-11:30am	70	29	Evey Canyon
Saturday, June 8, 6:00-8:00pm	Saturday, July 5, 6:30-8:30pm	24	4	
Sunday, June 9, 7:30-9:30am	Sunday, June 22, 9:30-11:30am	46	15	

Table 4 shows that for the first Saturday time period of 7:30 to 9:30 am at the Mills Avenue access point, Alta's visitor count was more than 4 times as high as MIG's count. For the Pomello location, Alta's visitor count during the same time period was more than 5 times higher than MIG's count. Sunday counts for the 7:30 to 9:30 am time period show a similar difference, with Alta's visitor count being about 3 times higher than MIG's for the Mills Avenue and Evey Canyon locations.

Finally, the City implemented fee based parking and neighborhood street parking restrictions, which may have reduced CHWP use. When Sand Dune Park in Manhattan Beach implemented an online permit system visitor use dropped by 40% of total park capacity.

Summary

Three approaches were used to develop estimates of recreation use levels at CHWP (Table 3). Two of the approaches were based on data collected as a part of visitor surveys conducted during the spring and summer of 2014. The third approach was based on data generated by the City of Claremont's parking lot tracking system, and 2013 parking count data collected by City staff. The estimates range from 473,420 to 566,472 annual visits. The results of these three analyses support a general conclusion that CHWP receives about one-half million visits per year. In terms of developing the CHWP Master Plan, an understanding of the general magnitude of annual visitation may be sufficient to develop policies and implementation actions if the goal of the master plan effort is to manage the impacts associated with park usage rather than establishing a maximum number of visits per year.