5 Trailhead Comparisons

The previous section of the report examined the aggregate results for the survey. This section of the report considers the data based on pattern analysis. The section is divided into three sub-sections, which present the data based on two comparative analyses and a spatial analysis. The basis for data analysis in the first subsection is primarily functional, wherein trailheads were divided into primary and secondary trailheads. The second subsection presents a spatial analysis, comparing the trailheads utilizing their geographic characteristics such as proximity to either urban or suburban areas. To this end, it is useful to think of the trails as having catchments – geographically delimited areas from which trail users are drawn. The third subsection presents a geographic information analysis to determine trail user residential locations. In regard to this last form of data analysis, a question on the survey that asked respondents to identify their residential zip code enabled the visitor data to be geo-coded. The areal extent and current population of the National Recreation Area's catchment was also modeled using census data. The catchment area model enabled a projection of future catchment area population, based on SCAG sub-area 2020 population projections.

Primary and Secondary Trailheads

This section provides an analysis of what we term primary or destination trailheads and secondary or neighborhood trailheads. The analysis is directed towards making meaningful recommendations for future trail management. It is predicated upon a functional division of the trailheads. Some trails had a local function – acting as de facto local parks, whereas others were more regional in nature. By this, we mean that some trails such as Paramount Ranch or Malibu Creek State Park are destination trails and draw visitors from all over Southern California, who are attracted to the trails due to their cultural and historical significance (Paramount Ranch was a place of movie production and Malibu Creek State Park was the set for the popular television series MASH). Other trails, such as Runyon Canyon or the Wendy Trailhead typically provide a more localized recreational resource for those living in close proximity to the National Recreation Area – these we term secondary trails.

Sample size

Destination or primary trail sites had a sample size of 587 respondents (64% of the total sample for the survey) and over the course of the survey 8,439 visitors were counted at these sites. Secondary trails on the other hand had a sample size of only 325 respondents (35% of the total sample for the survey) and a total of 3,674 visitors were counted at trailheads for these trails. The primary trails are identified in ***Table 15*** and secondary trails in ***Table 16***.

Comparison of the trailheads

When the demographic characteristics of visitors surveyed at secondary trails are compared to those at primary trails, few important differences are observed. The samples

for the trails had approximately the same median age and sex ratios. Perhaps the greatest distinction concerns household composition. A higher proportion of respondents at primary trails lived in households comprised of couples with children, both over and under 18 (including single parent households), whereas a higher proportion of trail users at secondary trails lived in single person households and multigenerational households. Household income was higher in the low to medium range at primary trailheads, but higher in the upper range at secondary sites. A slightly higher percentage of respondents at primary trails had a college education, compared to secondary trails, but the difference is statistically not significant.

Table 15 Secondary (Neighborhood) Trails

Location #	Trail name	Number	Count
15	Tapia Park	18	744
35	Reseda	19	431
34	San Vincente	13	419
33	Los Liones	9	364
31	Point Dume	11	304
21	La Jolla	45[12]	220
42	Circle x	31	216
41	Zuma-Total	28	191
29	Corral Canyon	16	178
24	Kanan Backbone	25	150
18	Santa Ynez	25	121
28	Las Virgenes	10	84
16	Stunt Ranch	14	73
20	Charmlee Natural Area	21	65
12	Cheeseboro- China Flat	14	54
23	Leo Carillo	20	43
6	Rocky Oaks	6	17
		Total#	**3674**

As far as race and residence are concerned, the two types of trails were remarkably similar. The only real difference was nationality, with the second highest nationality at secondary trails being Mexican whereas at primary trails it was Iranian. Large trails also had a higher proportion of Canadians whilst secondary trails generally had more European visitors. Large trails were characterized by a slightly longer average duration of residency among non-US born respondents than at secondary trails.

Turning to visitation patterns, a higher proportion of respondents at primary trails were return visitors; the difference being 8 percent. In addition, respondents were much more likely to return to these trails when compared to secondary trail users, with return visitation being 50% higher at primary trails. Visitation rates were also a third higher at the destination trails. Equestrians were the most frequent visitors at secondary trails and dog walkers were the most frequent at destination trails. Hiking was the most popular activity at both types of trails, but mountain biking and jogging were more popular at

[12] Note that the large number of surveys collected at La Jolla represents an anomaly in data collection and should be treated as such.

destination (primary) trails whereas sightseeing and picnicking were more popular at local (secondary) trails. The reasons for visiting the trails were remarkably similar at both types of trails with a comparable proportion of visitors distributed across almost all the categories. A slightly higher proportion of respondents visited destination trails to exercise and breathe fresh air than their secondary trail counterparts. The important difference is that of solitude related uses at secondary trails: communing with nature attracted 10% more respondents at secondary trails, and there was an 8 percent difference in experiencing fewer people.

Table 16 Primary (Destination) Trails

Location #	Trail name	Number	Count
40	Runyon	29	1880
36	Wilacre	71	1219
27	Malibu Canyon-Main	39	1212
32	Temescal	42	968
45	Franklin Canyon	44	813
44	Rancho Sierra Vista	102	644
22	Sycamore Canyon	40	546
43	Cheeseboro	98	505
8	Paramount Ranch	41	375
17	Trippet Ranch	81	277
		Total	**8439**

With regard to neighborhood park visits, the overall distribution of respondents across response categories was once again remarkably similar for the two types of trails. When compared to primary trails there was a very slight difference in the proportion of users at secondary trails who visited their local park due to limited time and easier access, about five percent for the former and three percent for the latter. At the larger trails there was a slightly higher proportion of respondents who listed the ease of bringing children along as the reason for visiting their neighborhood park instead of the SMMNRA. However, when analyzed by user group, significant differences were observed. There were several user groups at secondary trails with high percentages of respondents who reported never using their local park. Seeking out different recreational opportunities on the other hand was more important for respondents at primary trail sites.

Differences also exist between trail users' sources of knowledge at secondary and primary trail sites. Respondents at primary trails had slightly higher percentages gaining information from ranger-led nature walks, but a much higher percentage – 5 percent more - gained their information from school, compared to secondary trail users. At secondary trails, there were slightly higher percentages of respondents who obtained their knowledge from the Internet, organized groups, family and friends, books and nature observation. At primary trails, slightly higher percentages of respondents gained their information from park brochures, television and living in the area. Once again, when examined by user group, important differences emerged. At secondary trails, 70% of dog walkers cited nature observation as an important source of knowledge whereas at primary trails 30% less dog walkers cited this source. At primary trails 60% of equestrians

reported reliance upon this nature observation but at secondary trail only half the number of equestrians cited this source.

Insofar as reasons for protecting the mountains are concerned, a slightly higher percentage of primary trail respondents cited either recreation of both recreation and habitat preservation as the principal reasons. Small trail users were comparatively more ecocentric, but the difference of four percent is statistically not significant. The most anthropocentric user group at secondary trails was equestrians whereas at primary trails it was dog walkers and mountain bikers.

A comparison of user group interaction patterns reveals that approximately the same proportion of respondents at both types of trails were impacted by the activities of other trail users. Mountain biking received the lowest rating at both types of trails. Leaving animal waste followed by uncooperative behavior were the most frequently cited problems at both trails, but the order was reversed between secondary and primary trails.

Slightly more respondents arrived by automobile at primary trails than at secondary trails. Walking, jogging and horseback were more popular modes of transit at secondary trails and cycling was citied more often at primary trails as the mode of transit. Public transit was eschewed by respondents at both types of trailhead.

A very small percentage of respondents at both trailhead types reported having a physical disability. In addition, barriers to access were cited at both trails by approximately five percent of respondents. Almost 10% pf trail users also reported encountering barriers to access elsewhere in the park.

A complete set of tables on results from both the secondary trailheads and primary trailheads within the SMMNRA are presented in ***Appendices 4a – 5a***.

Secondary Trails

User demographics

The median age of trail users who responded to the survey for secondary sites was just over 40, and two-thirds (60.9%) of those surveyed were men. Only 21% reported having children; those who did on average had two children. This is not surprising, given the distribution of household types in the sample. Approximately 36% of respondents were in single person households, over 20% were in two-person households without children, and 17.4% were in two-person households with children under 18. However, only 9.2% of households were multigenerational, and the smallest proportion (4%) of respondents lived in single parent households.

Most respondents were affluent, but approximately a quarter (24.3%) reported household incomes of less that $50,000. Over half the sample (52.7%) had household incomes of in the $50, 00 - $200, 000 range, and 11.4% were in the $200,000 plus range. Reflecting the relative affluence of the sample's respondents, about two-thirds 62.6% owned their homes, and 83.2% were college educated.

With respect to race/ethnicity, immigration status, and duration of residence in the US, only 13.2% of respondents identified themselves as Latino or Hispanic; with the majority considering themselves white (68.8). Less than 6% were Asian, and African-Americans constituted just over 1% of the sample at these neighborhood / secondary trailheads. Not surprisingly, just under three-quarters (74.5%) of respondents were born in the United States, with the remainder originating (in rank size order) from Mexico, Iran, France, the Philippines, Belize and various other countries (see ***Appendix 4a***). In total, visitors from 32 different nationalities were represented in the sample for secondary sites. On average, respondents who were not native-born had lived in the USA for 17 years. Almost three-quarters (73.5%) spoke English at home, with most of the small remainder speaking either Chinese (presumably Mandarin) or Spanish. Demographic information is broken down by user group in ***Appendix 4b***.

User visitation rates and patterns

At these secondary trailheads, 325 respondents completed surveys but responses were not provided for some of the questions. Most visitors (81.9%) were return users (***Figure 19*** below).

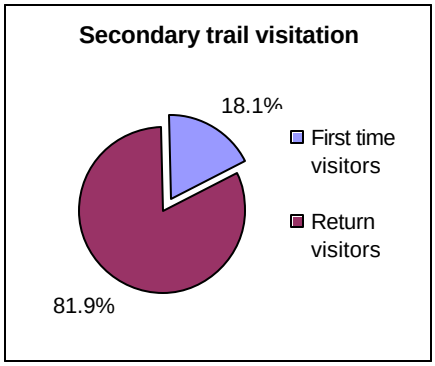


Figure 19 Visitation on secondary trails

Just over a quarter of the visitors surveyed (26.8%) arrived alone, another quarter was with family members (25.2%) and about a third (36.3%) was with both family and friends. The median group size was over 3 people, and altogether, 124 animals (mostly dogs) accompanied trail visitors.

User activities

Most visitors surveyed reported that they intended to undertake more than one activity whilst visiting the National Recreation Area. The dominant activities at secondary sites were hiking, sightseeing, and mountain biking. Hiking was particularly popular, with 84% of respondents reporting that they had, or planned to, hike during their visit to the SMMNRA. However, jogging, bird watching, photography and picnicking were also relatively common activities (see ***Table 17*** below).

Table 17 User activities (secondary trails)

Qu. 2a: Activities engaged in during visit			
Activity (N=325)	*%*	*Activity*	*%*
Sightseeing	62.2	Horseback riding	5.2
Hiking	84.0	Rock climbing	10.2
Picnicking	20.3	Painting / crafts	1.8
Mountain biking	22.2	Photographing	16.6
Bird watching	14.8	Sunbathing	7.4
Walking dog(s)	13.2	Wading swimming	7.7
Jogging	18.5	Other	9.5
Camping	9.8		

The most often reported principal activity at secondary sites however, was hiking with mountain biking a popular, but comparatively much smaller second activity (see ***Table 18*** and ***Figure 20*** below). Over half of all respondents indicated that hiking was their main planned activity. Other activities such as sightseeing (7.2%), were less apt to be cited as visitors' principal activity at the SMMNRA.

Table 18 Principal activity

Qu. 2b: Principal activity during visit	
Activity (N=318)	*%*
Hiking	55.3
Mountain biking	14.8
Jogging	4.7
Sightseeing	7.2
Dog walking	3.1
Horseback riding	3.1
Picnicking	4.1
Total	**92.3**

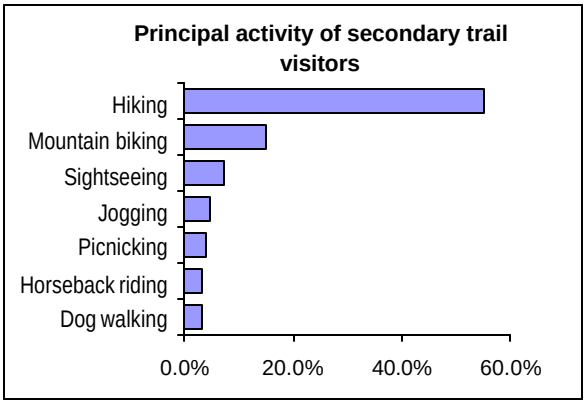


Figure 20 Principal trail user activity

Reason for visit to the SMMNRA

Survey respondents at secondary trail sites provided a large variety of reasons for visiting the SMMNRA (see ***Table 19*** and ***Figure 21*** below). The most frequently cited reason was to be outdoors, closely followed by the desire to exercise, the need to breathe fresh air, and the need to venture out to the SMMNRA to enjoy the scenic beauty. However, almost 50% also indicated that they came to see or hear wildlife; and close to two-thirds to escape the city/suburbs and commune with nature. Socializing with family or friends,

experiencing fewer people, and engaging in adventure sports were also relatively common responses.

On average, trail users at secondary trails had either spent, or planned to spend, 2.85 hours at the SMMNRA. Almost two-thirds (59.8%) reported that the trail where the survey had been administered was the trail that they normally visited. However, over 80% indicated that they did, at times, visit other trails in the mountains. The average number of visits per month reported by respondents was six. This is comparatively quite high, indicating that many visitors were regular trail users. Almost three-quarters of visitors went to the SMMNRA on the weekend (75.4%) and two-thirds (62.5%) of respondents preferred to visit in the morning. Summer was the most popular season in which to visit, followed by spring then fall. However, almost half of respondents (43.4%) also visited the SMMNRA throughout all seasons.

Table 19 Reason for visit

Qu. 3: Reason for visiting the SMMNRA	
Reason (N=320)	*%*
To exercise	80.6
To be outdoors	90.2
To enjoy the quiet	70.2
To breathe fresh air	77.8
To see wildflowers	39.2
To see / hear wildlife	47.1
To enjoy scenic beauty	75.7
To escape the city / suburbs	58.2
To commune with nature	56.9
To experience fewer people	45.5
To attend and organized event	4.9
To undertake school research	0.6
To engage in adventure sports	18.2
To be with companion animals	14.5
To socialize with family / friends	37.8
To educate children about nature	7.1
Other	1.8

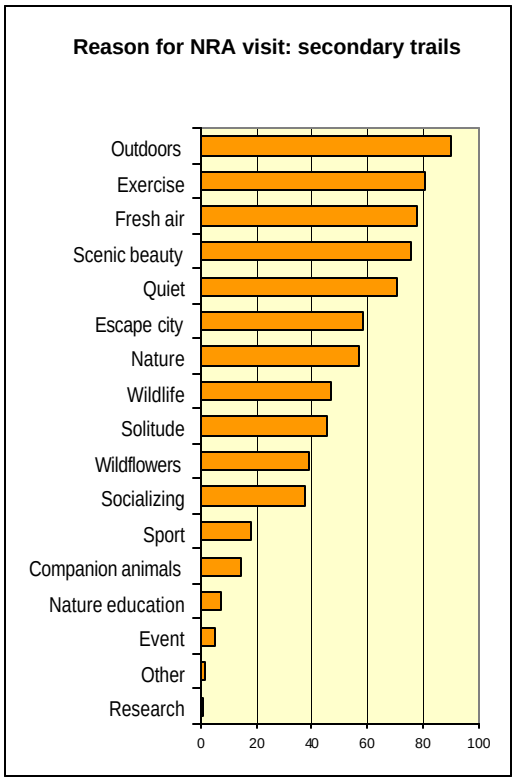


Figure 21 Reason for visit

Insofar as individual user groups are concerned, mountain bikers and equestrians were the most likely to regularly visit the same trail, whilst picnickers were inclined to visit other trails within the SMMNRA. Hikers, joggers, sightseers and dog walkers all reported regular use of the surveyed trailhead, with occasional forays to other trails (refer to ***Appendix 4b*** for data). Equestrians were also the most regular visitors to the SMMNRA with on average 4 visits per week. Dog walkers similarly reported very high visitation rates - approximately 3 visits per week, and joggers on average visited twice weekly. On

the other hand, sightseers and picnickers on average visited only twice a month. It is interesting that equestrians were also the most regular seasonal users of the SMMNRA, with 90% of equestrians who were surveyed visiting during the fall, winter and spring and 100% in the summer. On the other end of the spectrum, the seasonal use of the SMMNRA by sightseers was both variable and low. As with the overall survey, the season in which sightseers visited least frequently was winter.

Local park use

Respondents were also asked about their use of secondary or neighborhood parks, and why they visited such parks rather than the SMMNRA. Although the SMMNRA is a large-scale regional recreation area, it is situated in close proximity to adjacent urban communities. For this reason, it is conceivable that many trail users consider the SMMNRA as their local park and use it accordingly. However, only 35.4 % indicated that they never used local or neighborhood parks (***Table 20*** and ***Figure 22*** below). The average number of visits to the local park was also comparatively high with respondents using their local park about 4 times a month. Approximately half of the respondents favored local parks when they had limited time (51.7%), about a third (35.7%) because such parks were more accessible, and over a quarter (26.8%) because they provided different recreational opportunities. Only 12.3% of respondents indicated that local parks were easier to take children for recreational activities.

User group analysis

When examined by user group, some interesting results were found (***Appendix 4b*** presents data for user groups). Notably 30% equestrians reported never visiting a local park and 40% of equestrians said they only visited their local or neighborhood park to experience different recreational opportunities, as did 46.2% of picnickers. Dog walkers reported using their local park due to limited time (30%) and easier access (30%). Finally, almost 60% of hikers, mountain bikers and sightseers reported that they visit their local park in preference to the SMMNRA only due to time constraints.

Table 20 Reason for local park visit

Qu. 6a: Reason for visiting local or neighborhood park	
Reason (N=325)	*%*
Limited time	51.7
Easier access	35.7
Different recreation opportunities	26.8
Community gardening	1.5
Group recreation opportunities	8.3
See neighborhood friends	7.4
Easier to take children	12.3
Other	3.4

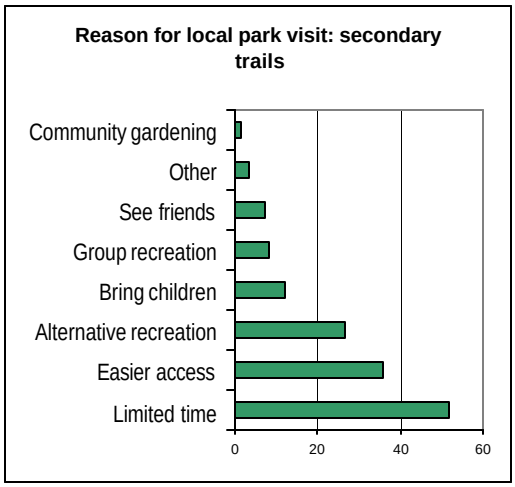


Figure 22 Reason for local park visit

Environmental knowledge and sources of information

Respondents obtained information about the Santa Monica Mountains, and their flora and fauna, from a wide variety of sources. The most commonly cited ways of learning about the area was through nature observation and by reading books and magazines. But clearly SMMNRA signs and brochures were also important information sources (refer to ***Table 21*** below). In addition, previous visits and information provided by family and friends were frequently cited sources of information. Approximately a third (29.2%) of respondents indicated that they lived in the vicinity and thus knew about the mountains from their daily experience.

Table 21 Sources of nature information

Qu. 7: Source of knowledge of SMM fauna and flora			
Reason (N=325)	*%*	*Reason*	*%*
Ranger-led nature walks	8.6	Television	19.7
School	16.3	Previous visits	35.4
Park brochures	31.7	Family / friends	35.7
Park signs	33.2	Live in the area	29.2
Nature observation	47.1	Organized groups	8.6
Books	41.8	Internet	1.8
Magazines	26.2	Other	1.2

User group knowledge sources

When data for secondary trails are examined based upon user groups, equestrians once again emerge as an unusual group. A considerable proportion (30%) of equestrians reported that they derived their information from ranger-led nature walks. They also cited park brochures (30%) as a source of information about nature in the mountains and nature observation (30%). However, the most notable group was dog walkers, with 70% citing nature observation as a source of information, and roughly half also reporting park signs and books as important sources of information. It is also interesting that over two-thirds (66%) of joggers reported books as an important source of knowledge about the Santa Monica Mountains. Full data is available in ***Appendix 4b***.

Reasons for protecting the mountains

As far as user's attitudes towards nature are concerned, over half of the respondents (56.3%) expressed ecocentric attitudes. Anthropocentric views were much less common, with only a fifth of respondents prioritizing recreation as the main reason to protect the mountains (see ***Table 22*** and ***Figure 23*** below). However, a fifth of respondents were unwilling to choose one of the options (despite survey directions), suggesting that they placed an equivalent valuation on both habitat and recreation. Analyzed by user group, over 70% of sightseers expressed ecocentric attitudes, as did

60% of hikers and just over half (53%) of the mountain bikers and joggers surveyed. Equestrians were the group that most strongly favored recreation opportunities as the reason to protect the mountains (40%). Full data is available in ***Appendix 4b***.

Table 22 Protection of SMMNRA

Qu. 8: Reason to protect Santa Monica Mountains	
Reason (N=325)	*%*
To provide recreational opportunities	20.9
To provide habitat for plants and animals	56.3
No opinion	2.5
Other	0.6
Both	19.4
To provide recreational opportunities	20.9

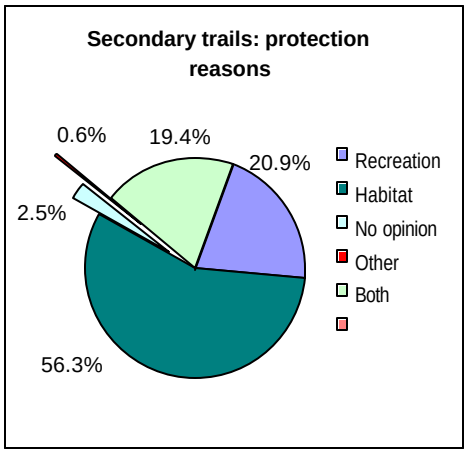


Figure 23 Protection reasons

User Group Interaction Patterns

Questions were placed on the survey asking respondents if they felt that other users on the trails affected their experience. Indeed, 75.6% of those surveyed indicated that their trail visits were influenced by the presence, activities, or behavior of other trail users. Nonetheless, this was not necessarily due to negative impacts; hiking and running/jogging were, on average, seen somewhat positively, whereas mountain biking, equestrian activities, picnicking, and dog walking were seen as ranging from neutral to somewhat positive (***Table 23***). Many respondents reported that even though they had negative experiences with some types of activities, the numbers of problematic incidents was very small, and they were unwilling to complain about incidents that were infrequent.

Table 23 Impact of trail user behaviors

Qu. 9b: Impact of other users on trail experience			
Category	*N =*	*Mean*	*Key*
Mountain biking	232	3.52	
Horseback riding	225	3.91	
Hiking	238	4.64	*5 = Strongly positive*
Running / jogging	231	4.56	*4 = Somewhat positive*
Picnicking	231	4.21	*3 = Neither*
Dog walking	232	3.61	*2 = Somewhat negative*
Other	33	2.30	*1 = strongly negative*

Nevertheless, respondents did note that some trail user activities presented problems, even if this was infrequently (see ***Table 23*** and ***Figure 24*** below). The most often-cited problem was leaving animal wastes. Uncooperative behavior, such as rudeness or unwillingness to yield on the trail, was the second most frequently reported problem. Given that the predominant activity at secondary trails was hiking the above-mentioned problems are perhaps unsurprising. Hikers appeared more likely to object to other users when their expectations were that the trail should be primarily used for hiking. Other types of problems however, were important when examined together. For example, over a quarter of the respondents were concerned that trail users' activities either damaged plants or frightened animals, corroborating the finding that many trail users' attitudes were ecocentric. Other complaints included potential for collisions and resulting injury (almost one-fifth reported this as a problem), as well as litter, being startled by other people, and excessive noise from some. Interestingly, encountering dogs off leash was cited as a problem for only 1.5% of respondents.

Table 23 Reason for negative impact

Qu. 9c: Why do other trail user activities present a problem	
Reason (N=325)	*%*
Damage plants	21.8
Uncooperative behavior	25.8
Frighten wildlife	20.0
Startle people	20.3
Make too much noise	16.6
Litter	23.1
Scare horses	6.2
Leave animal wastes	26.5
Potential collisions / injury	19.4
Other	3.4
Dogs off leash	1.5

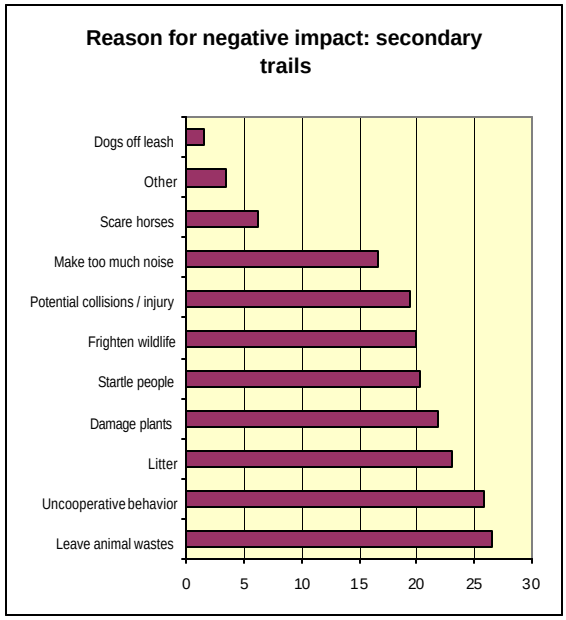


Figure 24 Reason for negative impact

Mode of transit and barriers to access

On average, it took visitors over half an hour to get to secondary trails (35 minutes). Almost all visitors arrived by automobile (88.6%) and those who did not come by car traveled to the SMMNRA by walking or jogging (5.5%), by bicycle (3.1%) or by horseback (1.2%). These results suggest that access to the SMMNRA via public transportation is unavailable or sufficiently time-consuming and/or inconvenient to justify regular use. A lack of public transport may constitute a barrier to access for those people who are under-represented in the survey sample, and this has equity implications that need to be taken into account during future trail management planning exercises (see ***Section 6*** of the report).

Less than 2% of visitors surveyed at secondary trails reported having a physical disability, but a slightly higher proportion (6%) reported that they had experienced some sort of barrier to trail use unrelated to their physical condition at the survey location. Some respondents (8%) also reported experiencing barriers to access at other SMMNRA locations.

Primary (Destination) Trails

User demographics

The median age of survey respondents at primary or destination trails was 41 years of age, with a sex ratio of 58.4% males to 41.6% female visitors. Approximately 30% of respondents reported having children under 18 years of age, with a median of 2 children. These values were consistent with the distribution of household types reported, which were 31.5% single and 27.9% couples without children under 18, leaving 20.2% of respondents in the two parents with children under 18 category. A much smaller proportion of the sample was comprised of single parents with children under 18 and people living in multigenerational households. They constituted only 5.1% and 7.2% respectively.

Respondents at the primary / destination trails were slightly more affluent than those who used secondary trails, with only 19.9% reporting annual incomes below $50,000 and almost 60% falling within the $50,001 to $200,000 income range. However, slightly fewer respondents earned over $200, 000 (9.7%) when compared with those who visited secondary trails. The rate of home ownership (63%) is comparable with that of secondary trail users, as is the ratio of visitors with a college education (86.6%).

Eleven percent of respondents at the destination trails identified themselves as Hispanic or Latino, while 73% of respondents reported their race as white. Asians comprised 5.3% of destination trail users and only 1.9 % stated that they were black or African-American. An even smaller fraction - just 1.2% were Native American and only 0.2 % were Native Hawaiian or Pacific Islander. Notably, almost a fifth (17%) of respondents did not wish to identify themselves as belonging to any particular racial group. As far as nationality is concerned, over 78% of people surveyed were born in the United States, with the next most frequent countries of origin being Iran (1.7%), Canada (1.2%) and England (1%).

However, visitors to the primary trails came from a wide variety of countries, representing 45 different nationalities (see ***Appendix 5a***). For those respondents born outside of the USA, the median residency was almost 24 years. With regard to language, approximately 80 percent of visitors spoke English at home, while 2.4% reported speaking English and Spanish and 1.7% reported speaking only Spanish. Interestingly, 7.7% of respondents stated that they were Amharic speakers.

User visitation rates and patterns

Of the 587 survey respondents at the destination trail sites, nearly 89.7% were return visitors (see ***Table 25*** and ***Figure 25*** below). A third of visitors (30.7%) came to the trail by themselves, a quarter (24.8%) came with family members, over a third (33.6%) were with friends and only 7% were with friends and family. Very few visitors came to the trails with an organized group or club. The median group size was 3 people and 271 respondents brought pets or companion animals to the trail with them.

Table 25 Primary trail visitation

Visitor type (N=587)	*%*
Return visitors	89.7
First time visitors	10.3
Total	100.0

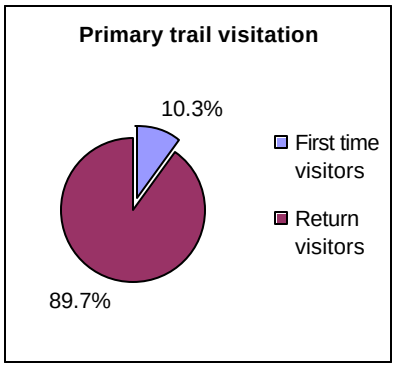


Figure 25 Primary trail visitation

User activities

The most popular activities on the destination trails were hiking (73 %), sightseeing (52 %), mountain biking (28 %), and jogging (24 %). Bird watching, picnicking, walking dogs and photography were all somewhat popular pursuits (***Table 26***).

Table 26 User activities

Qu. 2a: Activities engaged in during visit			
Activity (N=587)	*%*	*Activity*	*%*
Sightseeing	51.1	Horseback riding	4.9
Hiking	73.6	Rock climbing	7.0
Picnicking	13.8	Painting / crafts	1.5
Mountain biking	28.6	Photographing	11.2
Bird watching	16.7	Sunbathing	4.4
Walking dog(s)	15.8	Wading swimming	3.1
Jogging	23.9	Other	6.8
Camping	7.8		

As far as principal planned activity was concerned, hiking was the most popular pursuit, chosen by 46.3 % of visitors. Mountain biking was the next most frequently listed principal activity (20.9%) followed by jogging, which was selected by just over 10% of destination trail users who responded to the survey (see ***Table 27*** and ***Figure 26*** below).

Table 27 Principal activity

Qu. 2b: Principal activity during visit	
Activity (N=261)	*%*
Hiking	46.3
Mountain biking	20.9
Jogging	10.2
Sightseeing	5.4
Dog walking	5.6
Horseback riding	3.5
Picnicking	2.0
Total	**93.9**

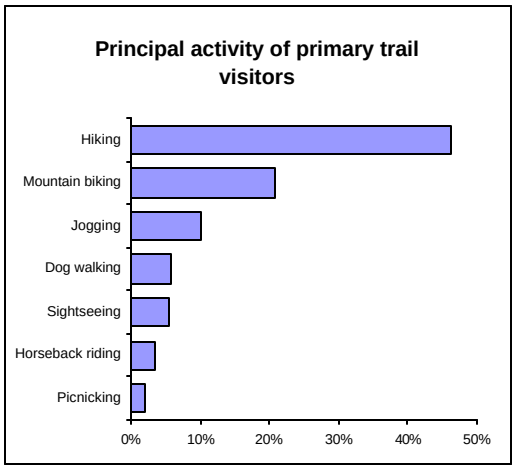


Figure 26 Primary trails: main activity

Reason for visit to the SMMNRA

The most common reasons given for visiting the SMMNRA were, in descending order, to be outdoors, to exercise, to enjoy scenic beauty, to breathe fresh air, and to enjoy the quiet (see ***Table 28*** and ***Figure 27*** below). Communing with nature, escaping from the city/suburbs and to see / hear wildlife were also important reasons for visiting destination trails, indicating that many respondents find that trail visits are a way to discover serenity and enjoy nature within the city limits.

On average, survey respondents either spent or planned to spend 2.31 hours on the primary trails. Almost 80% of respondents indicated that the trail where they were surveyed was the trail they normally visited, but most interestingly only 30% reported that they visited other trails in the National Recreation Area. The frequency of visits was quite high, with the average visits being almost eight per month. Respondents reported that they visited most often in the summer and spring, and mostly on weekends, especially in the morning.

In regard to the user groups' visitation behaviors, dog walkers (96.9%), equestrians (95%) and joggers (92.6%) were the most regular and consistent users of the primary trails, preferring to return to the same trail rather than visiting other trails. As with the secondary trails, picnickers reported a strong tendency to visit other trails, with only 22% returning to the surveyed trail on a regular basis. Dog walkers were also the most frequent visitors, averaging almost 3 visits per week. Equestrians were likewise frequent visitors averaging almost 3 visits per week and joggers regularly visited more than twice

a week. Picnickers and sightseers were less frequent visitors, coming to destination trails within the SMMNRA on average twice a month. In terms of seasonal visitation, equestrians consistently visit during all seasons, with a slightly lower visitation rate in winter. Dog walkers were also consistent visitors across all seasons. The greatest season variation by user group occurred within picnickers. Although 66.7% of picnickers reported visiting the destination SMMNRA trails in the summer, this declined precipitously to just 8.3% in the spring and fall and no visits were reported for the winter. In contrast to the secondary sites, sightseers reported moderate visitation rates year round. For further details, refer to ***Appendix 5b***.

Table 28 Reason for visit

Qu. 3: Reason for visiting the SMMNRA	
Reason (N=587)	*%*
To exercise	86.7
To be outdoors	87.2
To enjoy the quiet	63.9
To breathe fresh air	70.9
To see wildflowers	37.1
To see / hear wildlife	47.2
To enjoy scenic beauty	72.7
To escape the city / suburbs	51.8
To commune with nature	47.7
To experience fewer people	37.1
To attend and organized event	5.8
To undertake school research	0.5
To engage in adventure sports	18.2
To be with companion animals	13.5
To socialize with family / friends	35.1
To educate children about nature	8.2
Other	2.9

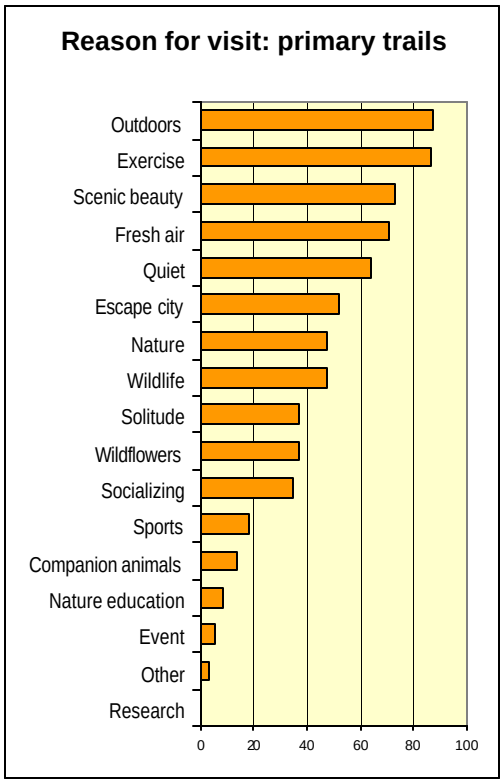


Figure 27 Reason for visit: primary trails

Local park use

On average, respondents reported that they visit local or neighborhood parks four times a month. The principal reason that respondents gave for visiting a local or neighborhood park, rather than the SMMNRA, was limited time. Easier access and different recreation opportunities were also frequently listed reasons (see ***Table 28*** and ***Figure 28*** below).

A considerably higher number of respondents (14%) for destination trails than for secondary trails cited the ease of taking children to the park as a reason for visiting the local park in preference to the National Recreation Area. This evidence supports the assertion that secondary trails within the SMMNRA are used as a substitute for neighborhood parks.

Table 29 Reason for local park visit

Qu. 6a: Reason for visiting local or neighborhood park	
Reason (N=587)	*%*
Limited time	47.2
Easier access	32.5
Different recreation opportunities	26.4
Community gardening	1.9
Group recreation opportunities	7.8
See neighborhood friends	8.0
Easier to take children	14.0
Other	3.7

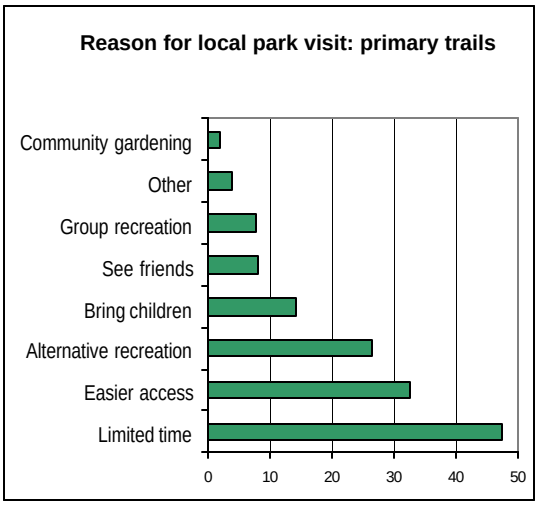


Figure 28 Reason for local park visit

User group analysis

For primary sites, the user group data pertaining to local park visits is characterized by quite different patterns to that for secondary sites. Most interestingly, the patterns for primary park use reflect the regional nature of the trailheads. Whereas for secondary trailhead sites there were several user groups characterized by a significant percentage of individuals who reported never visiting their local park, or only when time was limited, or for different recreational opportunities (for example equestrians and dog walkers), the user group data for primary sites emphasizes their regional function. Although a high proportion of equestrians (30%) still reported never visiting their local park, all other user groups were below 15% for non-use of local parks.

Instead, the category that received proportionally greater attention from trail users was different recreational opportunities. Hikers, mountain bikers, joggers, sightseers and equestrians all had selection rates above 20% for this category, with many groups approaching 30% of their constituency reporting that they sought different recreational opportunities in their local parks. The group with the highest composition for this category was picnickers (41.7%). The most frequently listed reason for visiting local parks instead of the National Recreation Area, across all user groups, was limited time. This was followed by easier access and then different recreational opportunities. Almost half of the sightseers surveyed at primary sites (48.4%) reported using their local parks due to limited time and easier access. Complete cross-tabulated data are presented in

Appendix 5b). 'Picnickers' was the group with the highest proportion reporting that they visited their local parks for group recreational opportunities.

Environmental knowledge and sources of information

The most frequently indicated sources of knowledge about the Santa Monica Mountains wildlife were nature observation, books, and previous visits. However, as with secondary trails, park signs and park brochures were also important sources of information for respondents, as was information derived from living in the area (***Table 30***). Interestingly, school was cited by a fifth of respondents as a source of information, a higher rate than for the overall survey results, and a slightly higher rate than the secondary trailheads. Ranger-led nature walks played a slightly more important role as they did at secondary trailheads, perhaps due to the prominent nature of destination trailheads.

User group knowledge sources

Examining this data by user group reveals that equestrians reported the highest reliance on nature observation (60%). This was a noticeable difference when compared to secondary trailheads, where dog walkers reported the highest reliance. At secondary trailheads only 30% of equestrians listed nature observation as an important source of information. Dog walkers (46.9%) and hikers (49.2%) also responded that they depended more on nature observation. Hikers depended most strongly on ranger led nature walks, sightseers and picnickers most strongly on school, as did mountain bikers and hikers upon park brochures and hikers, mountain bikers and joggers upon park signs (refer to ***Appendix 5b***).

Table 30 Sources of nature information

Qu. 7: Source of knowledge of SMM fauna and flora			
Reason (N=587)	*%*	*Reason*	*%*
Ranger-led nature walks	10.4	Television	22.3
School	21.8	Previous visits	35.9
Park brochures	32.2	Family / friends	31.5
Park signs	33.7	Live in the area	31.3
Nature observation	45.5	Organized groups	5.6
Books	39.5	Internet	1.5
Magazines	29.3	Other	2.2

Reasons for protecting the mountains

Just over half of the respondents at destination trails exhibited ecocentric attitudes toward Santa Monica Mountains. The protection of plants and animals was very important to respondents, with 51.4% citing habitat preservation as the most important reason for protection. Only a fifth (22.7%) of respondents cited recreation as the key reason for protection (see ***Table 31*** and ***Figure 29*** below). Approximately twenty-three percent of respondents were not willing to select ecocentric or anthropocentric priorities

exclusively. They answered that both reasons were equally important. The user groups exhibiting the strongest ecocentric attitudes were hikers, joggers, sightseers and picnickers, all with about 60% of respondents favoring this option. The user groups with the most anthropocentric attitudes at primary trailheads were dog walkers and mountain bikers, each with about 40% of respondents favoring this reason.

Table 31 Protection of SMMNRA

Qu. 8: Reason to protect Santa Monica Mountains	
Reason (N=587)	*%*
To provide recreational opportunities	22.7
To provide habitat for plants and animals	51.4
No opinion	1.7
Other	0.5
Both	22.8
Total	99.1

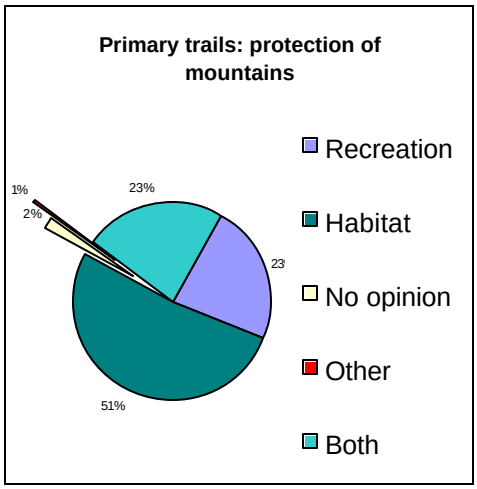


Figure 29 Reason for protection

User Group Interaction Patterns

Approximately 80% of survey respondents indicated that other users impacted their trail experience, although the impacts were just as often positive as negative. Mountain biking received the most negative reviews, averaging between somewhat negative and neutral and dog walking was also not as favorably perceived as other activities. Horseback riding hiking, running and jogging, and picnicking had mean scores between somewhat positive and strongly positive levels (***Table 32***). As might be expected, average scores of different activity groups were consistently lower when the those users self-ratings were excluded from the mean, suggesting that user groups often have a more positive view of fellow users than others do of them.

Table 32 Impact of trail user behaviors

Qu. 9b: Strength of impact of other users on trail experience			
Category	*N =*	*Mean*	*Key*
Mountain biking	445	3.66	
Horseback riding	435	4.14	
Hiking	450	4.57	*5 = Strongly positive*
Running / jogging	443	4.42	*4 = Somewhat positive*
Picnicking	440	4.32	*3 = Neither*
Dog walking	446	3.68	*2 = Somewhat negative*
Other	46	2.09	*1 = strongly negative*

Among the reasons given for negative impacts, uncooperative behavior was the most common, followed by leaving animal wastes, startling people and leaving litter on trails (***Table 33*** and ***Figure 30***). Although the top complaints were behaviors that obviously impacted the recreational experience, there was also clearly a strong sensitivity to the effects of trail users upon wildlife and its habitat.

Table 33 Reason for negative impact

Qu. 9c: Why do other trail user activities present a problem	
Reason (N=587)	*%*
Damage plants	17.2
Uncooperative behavior	27.8
Frighten wildlife	16.5
Startle people	20.6
Make too much noise	14.7
Litter	20.3
Scare horses	5.8
Leave animal wastes	23.5
Potential collisions / injury	19.4
Other	3.7

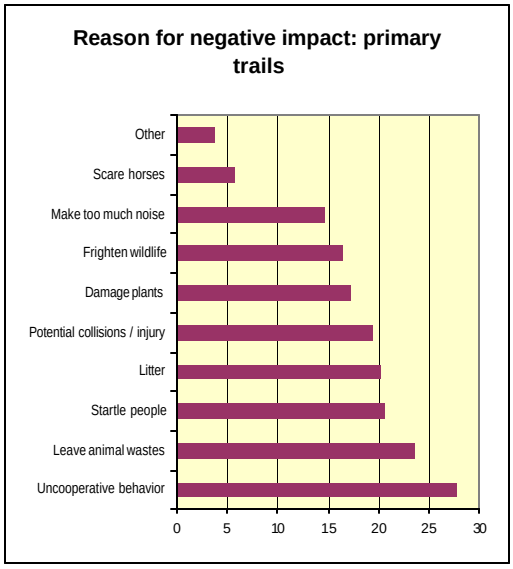


Figure 30 Reasons for negative impact

Mode of transit

The median travel time for survey respondents was almost 24 minutes. This is surprising when compared to secondary trailheads where the median travel time was 35 minutes. Initially one would think that primary trailheads would have a larger catchment area due to regional attractions at many of the trailheads – such as Paramount Ranch, and hence longer travel times. However, it appears that people were willing to travel longer to visit more secluded or less popular trails. Almost 91% of trail users arrived by private car, truck, SUV, or van. However, 4.4% walked or jogged to the trailhead, and over 3.9% biked. Less than 1% of trail users at destination / primary trails arrived on horseback. None of the trail users surveyed arrived via public or group transportation, which is an issue that warrants further attention in future planning for the SMMNRA.

Barriers to access

Only 2% of survey respondents reported a physical disability, but almost 5% indicated that they had experienced barriers to access at their survey location. Approximately 9% of respondents also reported encountering encountered barriers at other National Recreation Area trails, clearly an issue that warrants further investigation.

Eastern and Western Trails

There is an extensive network of trails within the SMMNRA, providing good access to much of the SMMNRA. These trails are located within the area bounded by Point Mugu at the western extremity of the SMMNRA, to the Hollywood district of the City of Los Angeles at the eastern extent. In general, western trail sites are proximate to the suburban communities of the San Fernando and Conejo Valleys, and affluent areas of Santa Monica, Malibu, and West Los Angeles. The western sites that we identified were also based upon a combination of size determined by observed count numbers and survey returns over 30 surveys. Eastern sites, in contrast, are closer to the dense urban communities of metropolitan Los Angeles, and the central and eastern portions of the San Fernando Valley (see ***Figure 31 below***). We consider survey responses from these two portions of the SMMNRA separately, with a view towards making meaningful recommendations for future trail management.

The western, and much larger portion of the SMMNRA, is comprised of those trail sites west of Topanga Canyon Boulevard, illustrated in ***Table 34*** below.

Table 34 Western Trails

Trail number	Trail name
44	Rancho Sierra Vista
8	Paramount Ranch
43	Cheeseboro Canyon (inner & outer lots)
22	Sycamore Canyon
21	Malibu Creek State Park

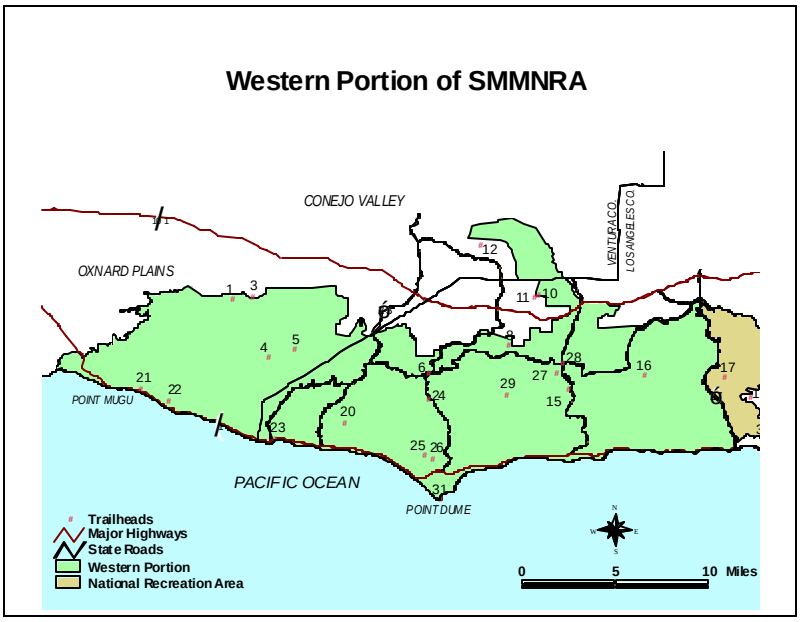


Figure 31 Western portion of SMMNRA

The eastern portion (***Table 25*** and ***Figure 32***), east of the Topanga Canyon Boulevard, includes:

Table 35 Eastern Trails

Trail number	Trail name
45	Franklin Canyon
40	Runyon Canyon
36	Wilacre
32	Temescal Gateway Park
17	Topanga State Park - Trippet Ranch

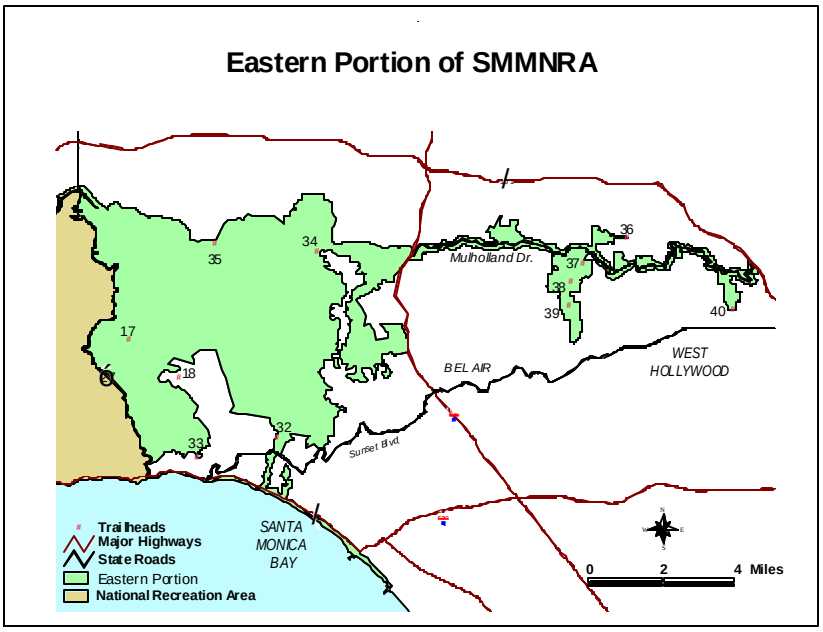


Figure 32 Eastern portion of SMMNRA

Despite the much larger number of trail sites in the western portion of the SMMNRA, usage rates of the eastern sites are very high. Sample sizes for the western and eastern portions of the SMMNRA were 320 and 267 respectively.

Comparison of the trails

The demographics of users at trails in these two regions of the SMMNRA differed significantly. Males were over-represented at western trail sites, and western respondents were more apt to have children under 18, less likely to live in single person households or with unrelated adults. eastern trail respondents were far less affluent, and less apt to be homeowners, although more had attended or graduated from college, and the respondent

sample from these trailheads was more racially and ethnically diverse, and included more immigrants. At both sites, immigrants were long-term US residents.

Certain user visitation patterns were similar, with most respondents in both regions being return visitors, and most arriving either alone, or with family or friends. However activity patterns varied sharply, with hiking being far more common at the eastern sites, along with dog walking. Mountain biking was far less frequent. Although reasons for visiting the trails were similar, there were differences that might be expected given that the eastern sites are closer to heavily urbanized areas – reasons associated with getting away from the city and enjoying various aspects of nature were somewhat more important to eastern site users. Visits were longer among western site users, and they were more apt to visit other trails, but on average users of trails in both regions visited 4 times per month. Reasons for visiting a local or neighborhood park, as well as frequency of such visits, were quite similar, although eastern trail visitors were less apt to indicate that different recreation opportunities drew them to local parks rather than the SMMNRA.

Turning to attitudes toward the Santa Monica Mountains, sources of knowledge varied somewhat between respondents surveyed at sites in the two regions, with school, ranger-led walks, park brochures and signs, and books being less often cited as sources among those at eastern trailheads. eastern site respondents were, however, somewhat more apt to cite habitat protection for plants and animals as the primary reason for protecting the Santa Monica Mountains.

Similar shares of users indicated that other trail users impacted their experience. However, respondents from the eastern sites expressed more negative influences with respect to mountain biking. This might be due to high rates of trail congestion on eastern trailhead locations. The nature of problems cited did, indeed, vary between the two regions' trailhead sites. eastern respondents were more likely to be concerned about plant damage, frightening wildlife and people, noise, but were especially apt to cite litter and animal waste as problems.

Reflecting the more urban aspect of eastern trails, median travel times to the SMMNRA were lower than for respondents at western trails, but travel modes were similar. Slightly more respondents reported a physical disability at the eastern sites, but the incidence of barriers was similar.

A complete set of tables on results from both the western and eastern portions of the SMMNRA are presented in ***Appendices 6a to 7b***.

Western Trails

User demographics

The median age of trail users who responded to the survey was 41, and almost two-thirds were men. Only 37% reported having children; those who did on average had two children. This is not surprising, given the distribution of household types in the sample. A

quarter of respondents were in single person households, and 28% were in two-person households without children.

Most respondents were affluent, with less than 15% reporting household incomes of less that $50,000. In fact, over 55% had household incomes of $75,000 or more, and 10% were in the $200,000 plus range. Reflecting the relative affluence of the sample's respondents, over 70% owned their homes, and over 80% had attended or graduated from college.

With respect to race/ethnicity, immigration status, and duration of residence in the US, only about 11% of respondents identified themselves as Latino or Hispanic; three-quarters of the respondents considered themselves white. Less than 6% were Asian, and African-Americans constituted less than 1% of the sample at these western sites. Thus not surprisingly, over 80% were native-born, with the remainder originating (in declining rank order) from the United Kingdom, Canada, Mexico, Italy, the Philippines, and other countries. On average, respondents who were not native-born had lived in the US for 20 years. Over 90% spoke English at home, with most of the small remainder speaking Spanish.

User visitation rates and patterns

At these sites, 320 respondents completed surveys. The vast majority were return users (***Figure 33***).

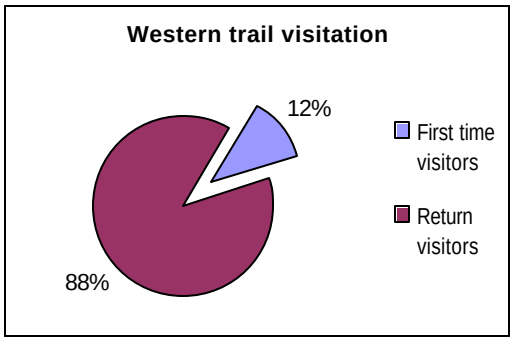


Figure 33 Visitation on Western Trails

Many people (over 25%) arrived either on their own, or with a small number of people; the median group size was 2. Altogether, 166 animals (mostly dogs) also accompanied trail visitors. The most common type of group was composed of friends (35%), followed by family (27%).

The dominant activities at these sites were hiking, sightseeing, and mountain biking. Hiking was particularly popular, with almost 60% of respondents reporting that they had, or planned to, hike during their visit to the SMMNRA. However, jogging, bird watching, photography and picnicking were also relatively common activities (***Table 36***).

Table 36 User activities

Qu. 2a: Activities engaged in during visit			
Activity (N=320)	*%*	*Activity*	*%*
Sightseeing	50.0	Horseback riding	7.5
Hiking	59.4	Rock climbing	7.5
Picnicking	13.4	Painting / crafts	1.6
Mountain biking	42.8	Photographing	12.2
Bird watching	16.9	Sunbathing	2.5
Walking dog(s)	10.3	Wading / swimming	5.0
Jogging	21.9	Other	6.9
Camping	10.3		

The most common single activity, however, was mountain biking, with over a third of all respondents indicating that this was their main planned activity. Hiking was a close second, but other activities were much less apt to be cited as their principal activity at the SMMNRA (***Table 37*** and ***Figure 34***).

Table 37 Principal activity

Qu. 2b: Principal activity during visit	
Activity (N=309)	*%*
Hiking	29.8
Mountain biking	34.6
Jogging	11.7
Sightseeing	6.8
Dog walking	1.9
Horseback riding	5.2
Picnicking	2.6
Other	7.4
Total	**100.0**

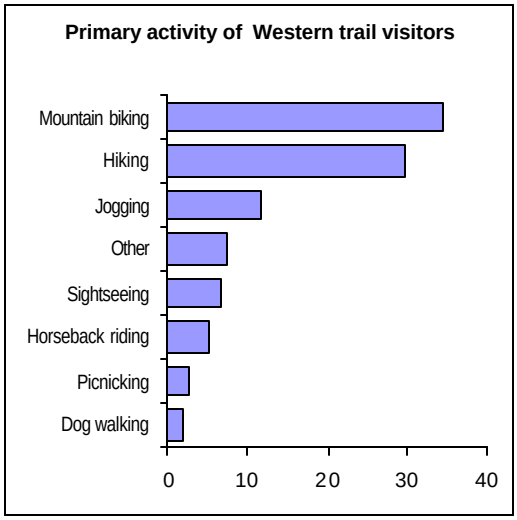


Figure 34 Principal activity

Survey respondents at western trail sites provided a variety of reasons for visiting the SMMNRA (***Table 38*** and ***Figure 35***). The most oft-cited reason was to be outdoors, closely followed by the desire to exercise, breathe fresh air, enjoy the quiet and enjoy scenic beauty. However, between 40-50% also indicated that they came to see or hear wildlife, escape the city/suburbs, and commune with nature. Socializing with family or friends, experiencing fewer people, and engaging in adventure sports were also relatively common responses (25-46%).

Table 38 Reason for visit

Qu. 3: Reason for visiting the SMMNRA	
Reason (N=320)	*%*
To exercise	84.4
To be outdoors	85.9
To enjoy the quiet	62.8
To breathe fresh air	68.8
To see wildflowers	38.1
To see / hear wildlife	50.0
To enjoy scenic beauty	73.4
To escape the city / suburbs	47.5
To commune with nature	43.1
To experience fewer people	34.4
To attend and organized event	8.1
To undertake school research	0.6
To engage in adventure sports	25.6
To be with companion animals	13.1
To socialize with family / friends	36.6
To educate children about nature	9.7
Other	3.4

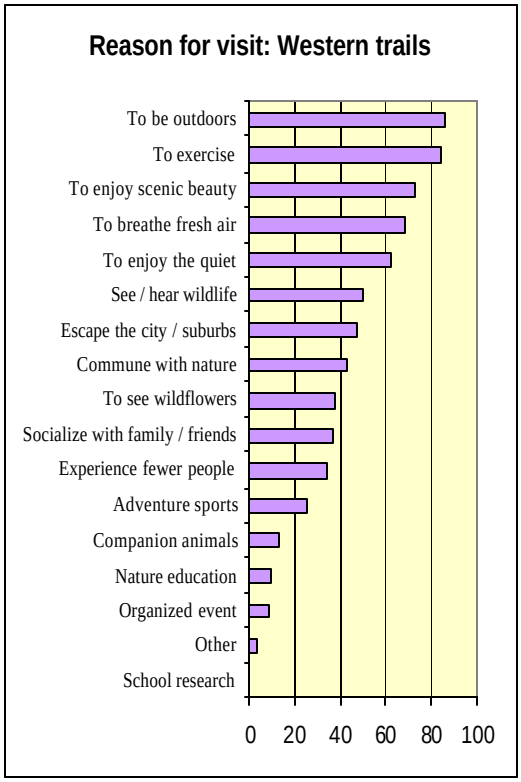


Figure 35 Reason for visit

On average, trail users who responded to the survey had either spent, or planned to spend, 2 hours at the SMMNRA. Almost three-quarters reported that the trailhead where the survey had been administered was the trail that they normally visited (74%). But a similar share indicated that they did, at times, visit other trails in the mountains. The average number of visits per month reported – four – was surprisingly high, indicating that many were regular, frequent trail users.

Respondents were also asked about their use of local or neighborhood parks, and why they visited such parks rather than the SMMNRA. Because the SMMNRA, while being a large-scale regional recreation area, is nonetheless in close proximity to adjacent urban communities, it is conceivable that many users consider the SMMNRA as their local park and use it accordingly. However, only 11% indicated that they never used local or neighborhood parks (***Table 39*** and ***Figure 36***). Most favored local parks when they had limited time, because such parks were more accessible, and because they provided different recreational opportunities. Almost one-fifth indicated that local parks were easier to take children for recreational activities.

Table 39 Reason for local park visit

Qu. 6a: Reason for visiting local or neighborhood park	
Reason (N=320)	*%*
Limited time	46.6
Easier access	33.8
Different recreation opportunities	31.3
Community gardening	0.9
Group recreation opportunities	9.4
See neighborhood friends	9.4
Easier to take children	18.3
Other	5.0
Not applicable/ Don't visit	10.9

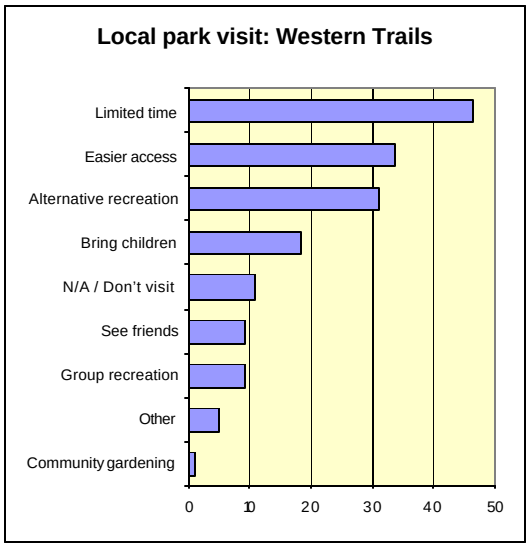


Figure 36 Local park visit

Despite the fact that almost 90% of respondents indicated that they did use local or neighborhood parks to some extent, median visits per month were half that reported for SMMNRA visits.

Attitudes toward the Santa Monica Mountains

Respondents obtained information about the Santa Monica Mountains and their flora and fauna from a wide variety of sources. The most commonly cited ways of learning about the area was through nature observation, and by reading books. But clearly SMMNRA signs and brochures were important sources, as were previous visits, and information provided by family and friends. Over one-third indicated that they lived in the vicinity, and thus knew about the mountains from everyday experience (***Table 40***).

Table 40 Sources of nature information

Qu. 7: Source of knowledge of SMM fauna and flora			
Reason (N=320)	*%*	*Reason*	*%*
Ranger-led nature walks	13.4	Television	23.1
School	24.1	Previous visits	36.9
Park brochures	38.8	Family / friends	32.2
Park signs	35.9	Live in the area	35.9
Nature observation	45.3	Organized groups	6.9
Books	43.1	Internet	1.9
Magazines	30.0	Other	3.1

Ecocentric attitudes toward nature were expressed by respondents; anthropocentric views were much less common. When asked about the most important reason to protect the

Santa Monicas, almost half indicated that protection was justified in order to provide habitat for plants and animals (***Table 41*** and ***Figure 37***). Only 25% saw recreational opportunities afforded by the mountains as more critical as a rationale for protection. Almost a quarter, however, were unwilling to prioritize (despite survey directions), suggesting that they placed an equivalent valuation on both habitat and recreational purposes fulfilled by the Santa Monica Mountains.

Table 41 Protection of SMMNRA

Qu. 8: Reason to protect Santa Monica Mountains	
Reason (N=320)	*%*
Recreation opportunities	24.7
Habitat: flora & fauna	49.4
Both	24.4
No opinion	1.3
Other	0.6
Total	100

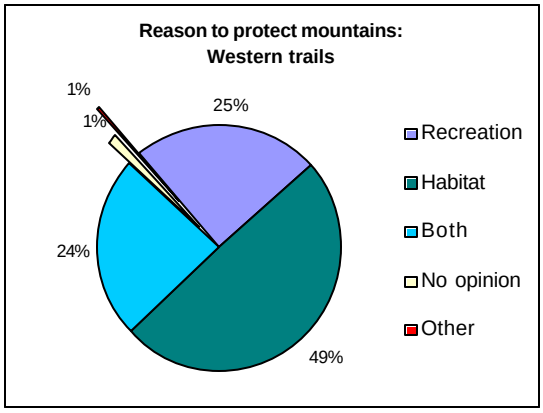


Figure 37 Reason to protect mountains

User group interaction patterns

Survey respondents were asked if other users on the trail impacted their experience. Over three-quarters indicated that indeed, their trail visits were influenced by the presence, activities, or behavior of other SMMNRA visitors. Nonetheless, this was not necessarily due to negative impacts; hiking and running/jogging were, on average, seen somewhat positively, and mountain biking, equestrian activities, picnicking, and dog walking were seen as ranging from neutral to somewhat positive (***Table 42***). Anecdotal reports from many respondents suggest that even though respondents had negative experiences with some types of activities, the overall number of serious incidents was very small.

Table 42 Impact of trail user behaviors

Qu. 9b: Strength of impact of other users on trail experience				
Category	*N =*	*Mean*	*Exclusive mean*	*Key*
Mountain biking	233	3.52	3.05	*5 = Strongly positive*
Horseback riding	222	3.52	3.44	*4 = Somewhat positive*
Hiking	236	4.28	4.22	*3 = Neither*
Running / jogging	228	4.19	4.08	*2 = Somewhat negative*
Picnicking	227	3.82	3.81	*1 = strongly negative*
Dog walking	228	3.39	3.39	
Other	18	2.22	***	

Nevertheless, respondents did note that some trail user activities presented problems, if infrequently (***Table 43***). The most frequently cited problem was uncooperative behavior, such as rudeness, unwillingness to yield on the trail, and so on. Other sorts of problems, however, were important when taken together: for example, over a quarter of the respondents were concerned that activities either damaged habitat or frightened animals – revealing awareness of how trail users can degrade habitat and disrupt wild animals. Other complaints included potential for collisions and resulting injury (almost one-fifth reported this as a problem), as well as the presence of animal wastes and litter, users startling other people (and to a much lesser extent, horses), and users making excessive noise. Encountering dogs off leash was only cited as a problem by 1% of the respondents.

Table 43 Reason for negative impact

Qu. 9c: Why do other trail user activities present a problem	
Reason (N=320)	*%*
Damage plants	13.8
Uncooperative behavior	27.5
Frighten wildlife	13.8
Startle people	18.4
Make too much noise	12.8
Litter	16.9
Scare horses	5.9
Leave animal wastes	17.8
Potential collisions / injury	19.4
Dogs off leash	0.9
Other	4.4

User access to the SMMNRA

The median travel time for visitors who responded to the survey was 20 minutes. Almost 90% of users arrived by private car, truck, sport utility vehicle, or van. The remainder walked or jogged, and rode in on bicycles or horses. These results suggest that access to the SMMNRA via public transportation is either not available, or sufficiently time-consuming and/or inconvenient for regular use.

Barriers to access

Less than 2% of visitors surveyed reported having a physical disability, but a slightly higher share (6%) reported that they had experienced some sort of barrier to trail use unrelated to the physical condition of the trail at the survey location, as well as at other SMMNRA sites (8%).

Eastern Trails

User Demographics

The median age of survey respondents at the eastern sites was 38, with a 51-49 percent male-female split. Among the 21 percent of respondents with children under 18, a median of two children was reported. These values were consistent with the distribution of household types reported, which were 38 percent single, 28 percent couples without children under 18, leaving 14 percent two parents with children under 18, just 3 percent single parents with children under 18, and 5 percent multigenerational households.

Respondents at the eastern sites were less affluent than their western counterparts, with 26 percent reporting annual incomes below $50,000 and only 18 percent in the $150,000 and above range. The median income range was $75,000-$100,000. Although the 53 percent home ownership rate was consistent with lower income levels in the East, the 90 percent college graduate rate was surprisingly high.

Twelve percent of respondents at the eastern sites identified themselves as Hispanic or Latino, while 71 percent of respondents reported their race as white. Five percent of respondents were Asian, 3 percent were Black or African-American, and 19 percent of respondents did not wish to identify themselves as belonging to any particular racial group. Over 77 percent of people surveyed were born in the United States, with nearly 4 percent born in Iran, 2 percent from the United Kingdom, and nearly 2 percent from Germany, followed by diminishing numbers from South Africa, France, and a notable 12 percent from other countries. The median number of years in the United States was 22 for non-native born respondents. Almost 94 percent of people spoke English at home, while 9 percent reported speaking Spanish and nearly 3 percent each speaking Farsi and French.

User visitation rates and patterns

Of the 267 survey respondents at the eastern sites, nearly 92 percent were return visitors (***Table 44*** and ***Figure 38***).

Table 44 Eastern trail visitation

Visitor type (N=267)	*%*
First time visitors	8.2
Return visitors	91.8
Total	100.0

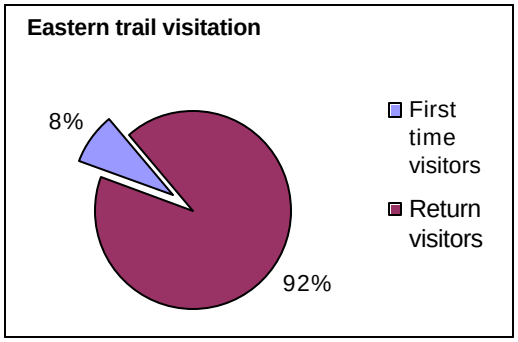


Figure 38 Eastern trail visitation

Thirty-seven percent of people came to the trailhead on their own, nearly 32 percent came with friends, and 23 percent with family members. The median group size was 2 people, zero pets although 105 respondents brought pets or companion animals to the trailhead with them.

The most popular activities at the eastern trailhead sites were hiking (90 percent), sightseeing (52 percent), jogging (26 percent), and walking dogs (23 percent). Bird watching, picnicking, and mountain biking were somewhat popular pursuits (see ***Table 45*** below).

Table 45 User activities

Qu. 2a: Activities engaged in during visit			
Activity (N=267)	*%*	*Activity*	*%*
Sightseeing	52.4	Horseback riding	1.9
Hiking	90.6	Rock climbing	6.4
Picnicking	14.2	Painting / crafts	1.5
Mountain biking	11.6	Photographing	10.1
Bird watching	16.5	Sunbathing	6.7
Walking dog(s)	22.5	Wading / swimming	0.7
Jogging	26.2	Other	6.7
Camping	4.9		

As far as primary planned activity, hiking was the most popular, chosen by 66 percent of visitors. Dog walking was the principal activity for 10 percent of trail users, followed by jogging, chosen by over 8 percent of visitors (***Table 46*** and ***Figure 39***).

Table 46 Principal activity

Qu. 2b: Principal activity during visit	
Activity (N=261)	*%*
Hiking	65.9
Mountain biking	4.6
Jogging	8.4
Sightseeing	3.8
Dog walking	10.0
Horseback riding	1.5
Picnicking	1.5
Other	4.3
Total	**100.0**

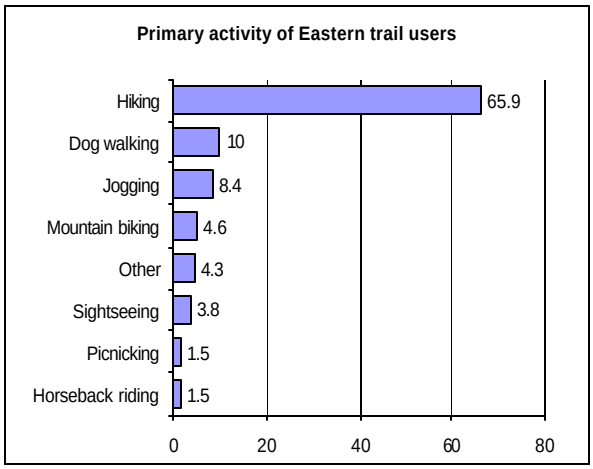


Figure 39 Principal trail use activity

The most common reasons given for visiting the SMMNRA were, in descending order, to exercise, to be outdoors, to breathe fresh air, and to enjoy scenic beauty (see ***Table 47***

and ***Figure 40*** below). Between 50 and 70 percent cited the quiet, communing with nature, and escape from the city/suburbs as reasons for their visit, indicating that many people find trail visits to be a way to achieve a sense of peace and escape into nature within city limits, in some cases just a block away from a heavily commercialized urban thoroughfare (Wilacre Park, adjacent to Ventura Boulevard).

Table 47 Reason for visit

Qu. 3: Reason for visiting the SMMNRA	
Reason (N=267)	*%*
To exercise	89.5
To be outdoors	88.8
To enjoy the quiet	65.2
To breathe fresh air	73.4
To see wildflowers	36.0
To see / hear wildlife	43.8
To enjoy scenic beauty	71.9
To escape the city / suburbs	56.9
To commune with nature	53.2
To experience fewer people	40.4
To attend and organized event	3.0
To undertake school research	0.4
To engage in adventure sports	9.4
To be with companion animals	13.9
To socialize with family / friends	33.3
To educate children about nature	6.4
Other	2.2

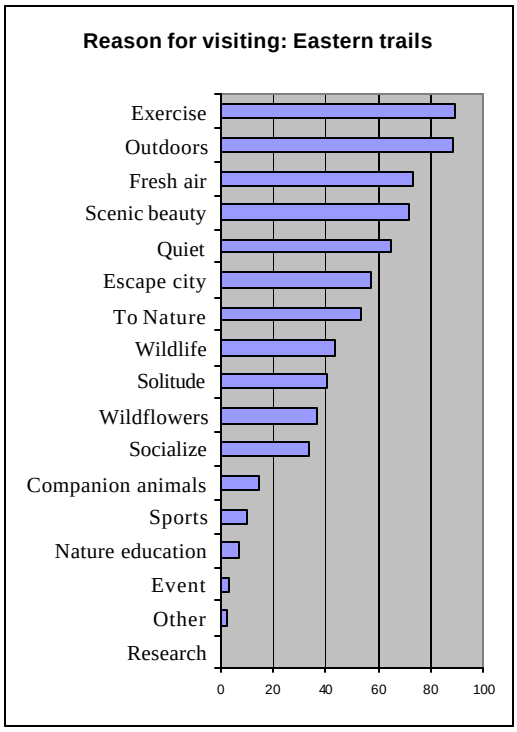


Figure 40 Reason for visit

On average, survey respondents either spent or planned to spend 1.5 hours on the trail. Over 80 percent of respondents indicated that the trailhead where they were surveyed was the trail they normally visited, but over 60 percent nonetheless reported that they visited other trails in the SMMNRA as well. Thirteen percent said they never visited a local or neighborhood park instead of the SMMNRA, although a sizable number of respondents live so close to SMMNRA trailheads that that they consider the SMMNRA to be their local park. The top reason for visiting a local or neighborhood park rather than the SMMNRA was limited time, followed by easier access and different recreation opportunities (***Table 48*** and ***Figure 41***).

Table 48 Reason for local park visit

Qu. 6a: Reason for visiting local or neighborhood park	
Reason (N=267)	*%*
Limited time	47.9
Easier access	31.1
Different recreation opportunities	20.6
Community gardening	3.0
Group recreation opportunities	6.0
See neighborhood friends	6.4
Easier to take children	11.2
Other	2.2
Not applicable/ Don't visit	13.1

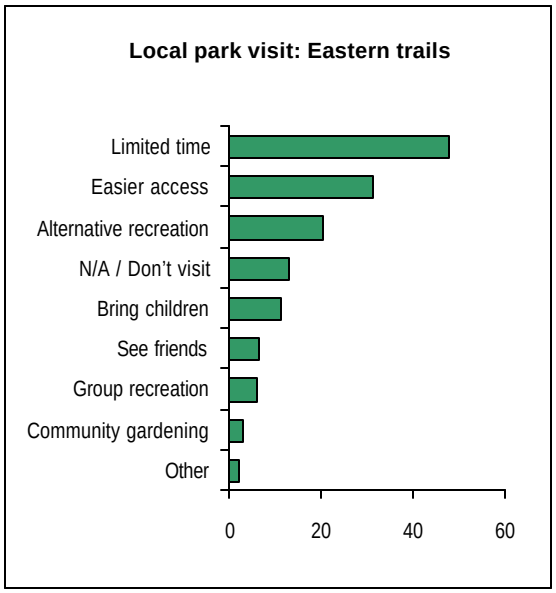


Figure 41 Reason for local park visit

Despite the fact that almost 90% of respondents indicated that they did use local or neighborhood parks to some extent, median visits per month were half that reported for SMMNRA visits.

Attitudes toward the Santa Monica Mountains

The most frequently indicated sources of knowledge about Santa Monica Mountains wildlife were nature observation, books, and previous visits, although over a quarter of respondents indicated that their knowledge came from living in the area (***Table 49***).

Table 49 Sources of nature information

Qu. 7: Source of knowledge of SMM fauna and flora			
Reason (N=320)	*%*	*Reason*	*%*
Ranger-led nature walks	6.7	Television	21.3
School	19.1	Previous visits	34.8
Park brochures	24.3	Family / friends	30.7
Park signs	31.1	Live in the area	25.8
Nature observation	45.7	Organized groups	4.1
Books	35.2	Internet	1.1
Magazines	28.5	Other	1.1

Ecocentric attitudes toward Santa Monica Mountains protection were strongly dominant, with 54% citing habitat provision as the most important reason for protection and only 20 percent citing recreation (***Table 50*** and ***Figure 42***). Twenty-one percent of respondents

were not willing to select ecocentric or anthropocentric priorities exclusively, answering that both reasons were equally important.

Table 50 Protection of SMMNRA

Qu. 8: Reason to protect Santa Monica Mountains	
Reason (N=267)	*%*
Recreation opportunities	20.2
Habitat: flora & fauna	53.9
Both	21.0
No opinion	2.2
Other	0.4
Total	100

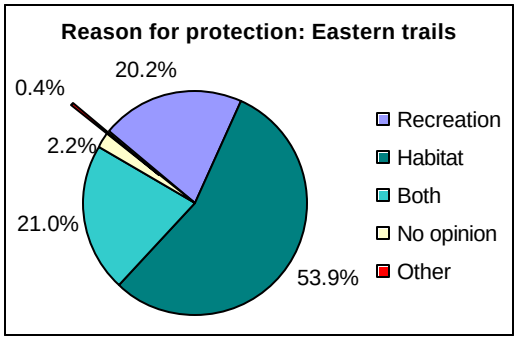


Figure 42 Reason for protection

User group interaction patterns

Eighty percent of survey respondents indicated that other users impacted their trail experience, although the impacts were just as often positive as negative. Mountain biking received the most negative reviews, averaging between somewhat negative and neutral. Horseback riding and dog walking were rated between neutral and somewhat positive, and picnicking, hiking, and jogging had mean scores between somewhat positive and strongly positive levels (***Table 51***). As might be expected, average scores of different activity groups were consistently lower when those users self-ratings were excluded from the mean, suggesting that user groups often have a more positive view of fellow users than others do of them.

Table 51 Impact of trail user behaviors

Qu. 9b: Strength of impact of other users on trail experience				
Category	*N =*	*Mean*	*Exclusive mean*	*Key*
Mountain biking	180	2.90	2.83	*5 = Strongly positive* *4 = Somewhat positive* *3 = Neither* *2 = Somewhat negative* *1 = strongly negative*
Horseback riding	165	3.56	3.51	
Hiking	204	4.68	4.73	
Running / jogging	198	4.29	4.27	
Picnicking	179	4.07	4.08	
Dog walking	198	3.48	3.40	
Other	27	2.00	***	

Among the reasons given for negative impacts, leaving animal wastes was the most common, followed by uncooperative behavior, leaving litter on trails, startling other people, and damaging plants (see ***Table 52*** below). Although the top complaints were behaviors that most immediately affect the recreational experience, there was also clearly a strong sensitivity to effects on quality of wildlife habitat.

Table 52 Reason for negative impact

Qu. 9c: Why do other trail user activities present a problem	
Reason (N=267)	*%*
Damage plants	21.3
Uncooperative behavior	28.1
Frighten wildlife	19.9
Startle people	23.2
Make too much noise	16.0
Litter	24.3
Scare horses	5.6
Leave animal wastes	30.3
Potential collisions / injury	19.5
Dogs off leash	2.6
Other	3.0

User Access to the SMMNRA

The median travel time for survey respondents was 15 minutes. Ninety-two percent of trail users arrived by private car, truck, SUV, or van, but a significant 5 percent either walked or jogged to the trailhead, and over 2 percent biked, contributing to an important minority of neighborhood resident users. None of the trail users surveyed arrived via public or group transportation.

Thirty-seven percent of people came to the trailhead on their own, nearly 32 percent came with friends, and 23 percent with family members. The median group size was 2 people, zero pets although 105 respondents brought pets or companion animals to the trailhead with them.

Barriers to access

Nearly 3 percent of survey respondents had a physical disability, and exactly 3 percent indicated that they had experienced barriers to access at their survey location. Over 9 percent said they had encountered barriers at other SMMNRA sites.

Travel Patterns

One principal component of the survey was the determination of the distance that visitors were prepared to travel to utilize the National Recreation Area. Whilst some visitors traveled from outside the United States, and some from interstate, they cannot be considered regular users, and were omitted from analysis. Visitors traveling from cities as far away as San Francisco and San Diego were also omitted on this basis.

Data were gathered from each survey respondent regarding the nearest major intersection to their origin (home, or in some cases, another location being the geographic point from which the respondent started their trip to the SMMNRA). This data was geo-coded, meaning that it was matched against a discernable geographic location using a

Geographic Information System (GIS). This information is presented in ***Figure 43***. The result is a snapshot view of the geographic location of SMMNRA visitor origins. However, by itself, this information is of limited value. To facilitate a better understanding of the distances that visitors are prepared to travel so as to use the SMMNRA on a regular basis, it was necessary to calculate the distance decay for the SMMNRA.

Distance decay model

The range that regular visitors to the SMMNRA are prepared to travel varies as a function of distance. The distance traveled has an inverse relationship with the number of visitors, because there is a point at which distance from the SMMNRA becomes prohibitive. Beyond that point, the frequency of park visitors drops off dramatically, because it is not worth the time or stress to travel to the SMMNRA on a regular basis. This is what is generally known as distance decay. Thus, many more visitors will use the National Recreation Area on a regular basis because they live in close proximity, compared to those visitors who have to travel a considerable distance. The areas in which these visitors reside can be regarded as the *catchment* for the National Recreation Area.

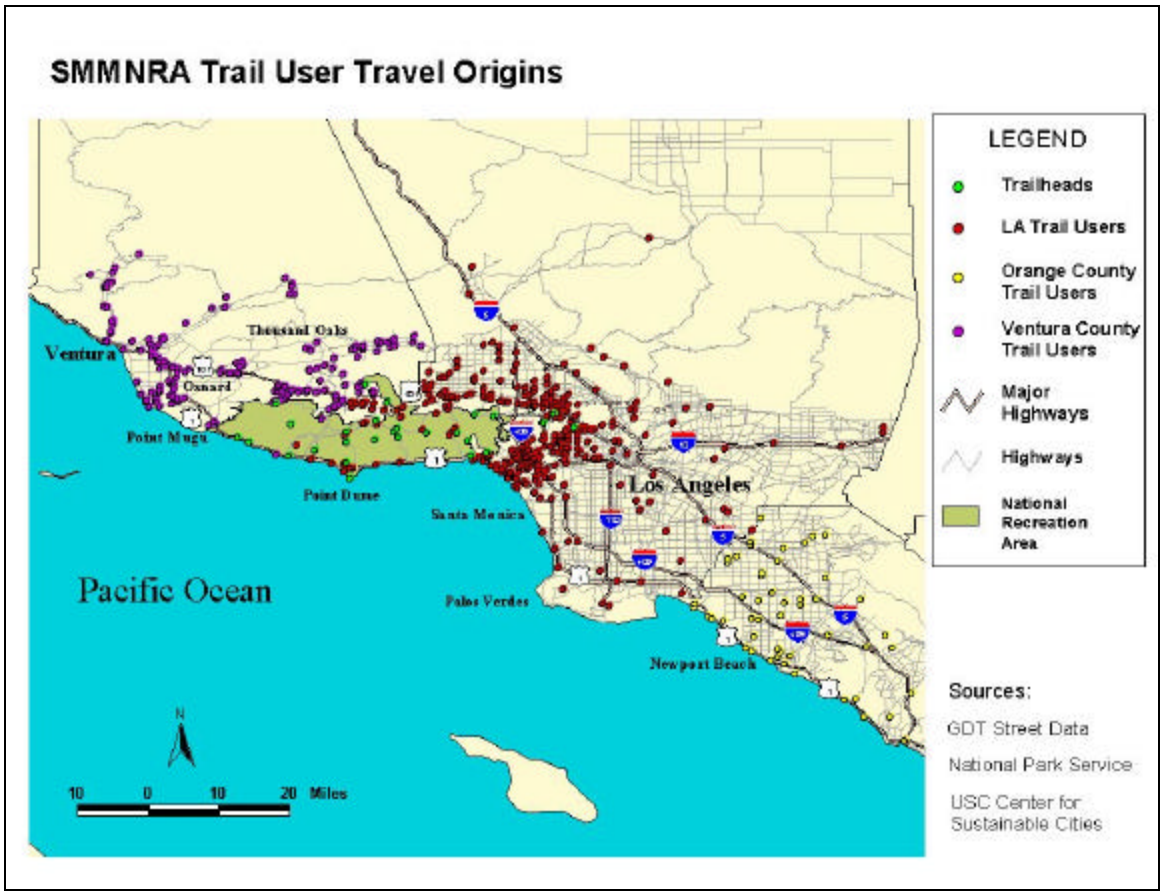


Figure 43 User Travel Origins to the SMMNRA

Using the methods proposed by Talen (1998), frequencies of distances traveled by park users were fitted to a gravity model (Darragh, et. al., 1983)[13]. Absolute distances were determined between the visitor's point of origin and their destination within the SMMNRA. A radius of circular catchment areas for each trailhead was determined by taking the limit of the gravity model as the frequency of visits drops to zero.[14] This modified gravity model was fitted to the survey data for each of the trailheads. The results are illustrated in ***Figure 44*** below. As can be seen, the critical point beyond which travel becomes problematic is approximately 22 miles from the SMMNRA.

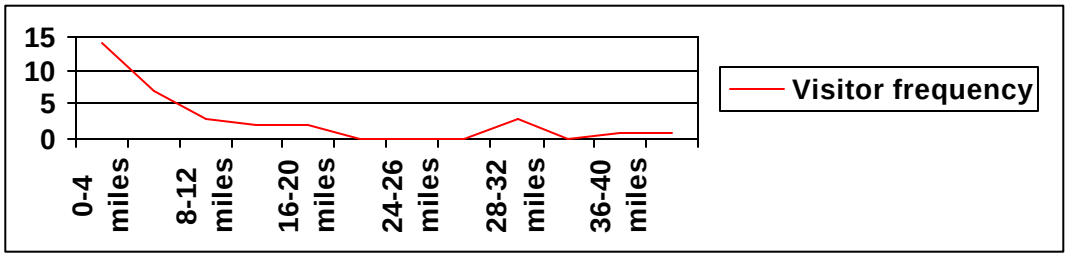


Figure 44 Visitor Frequencies by Distance at Rancho Sierra Vista

Catchment determinations

The radius of catchment area for each primary trailhead was determined to be the distance at which the frequency of visitors dropped to zero. By extending a buffer of the determined radius around each of the trailheads, an area is mapped that contains all origins that a park visitor could reasonably travel from in order to visit the particular trailhead (see ***Table 53***).

Table 53 Catchment Radii

Catchment Radii for Large Sites	
Site	*Radius (Miles)*
Rancho Sierra Vista	18.8
Malibu Creek State Park	19.2
Sycamore Canyon	14.9
Paramount Ranch	26.6
Cheeseboro (Inner & Outer Lot)	16.7
Trippet Ranch	13.2
Franklin Canyon	6.6
Wilacre	6.0
Temescal Canyon	9.3
Runyon Canyon	8.2

[13] This general principle is simply 'the farther the distance, the fewer people willing to make the trip'.
[14] Essentially, the gravity model, when thus constrained, becomes: $V = aD^{ß}$, where V is the visitor frequency, D is distance, and a and ß are parameters to be fitted.

The catchment areas are generally much larger from western sites (Rancho Sierra Vista, Malibu Creek State Park, Sycamore Canyon, Paramount Ranch, and Cheeseboro) than for eastern sites (Topanga State Park - Trippet Ranch, Franklin Canyon, Wilacre, Temescal Canyon, and Runyon Canyon; see ***Figures 45 and 46*** below). This observation concurs with the determination that many SMMNRA visitors, especially visitors to the eastern Sites, view the SMMNRA as their local park. The westerns Sites, especially Paramount Ranch, have a more regional draw.

An important consideration in trail management planning is the notion of representativeness. This is an evaluation of how representative SMMNRA visitors are of the overall catchment area from which visitors are drawn. In order to determine the representativeness of park user demographics, it was first necessary to determine the catchment area of the SMMNRA, and from that determination gather a demographic profile of potential park users (those residents living inside catchment areas). After the radius of the circular catchment area[15] for each primary trailhead was determined, demographic information was gathered from the 1990 US Census using the zip codes encompassed by the catchment area as the unit of measure.

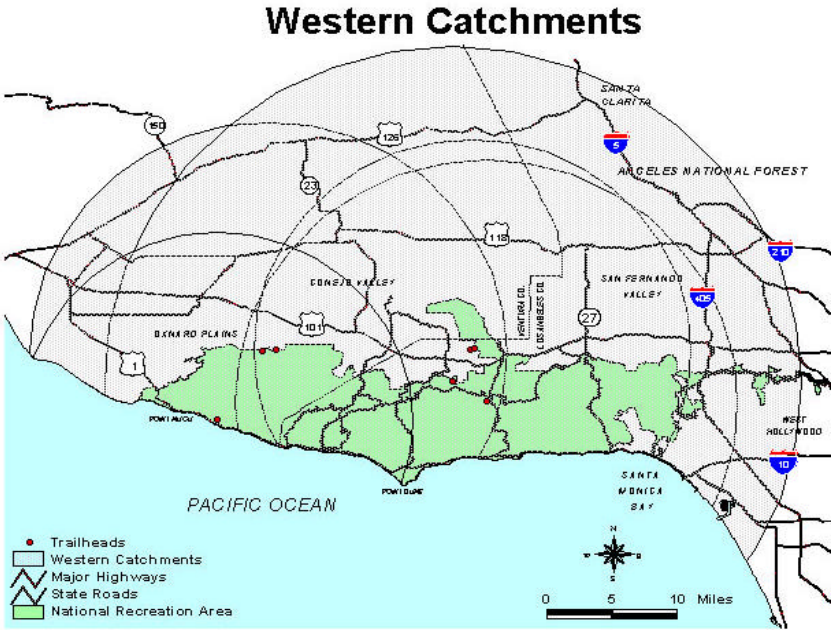


Figure 45 Catchment Areas of Western Trailheads

Catchment demographics for western trails

The park user demographics for western catchments (derived from 1990 US census data) were skewed toward white, non-Hispanic, upper income individuals. While

[15] Determining a circular catchment area is problematic because, underlying the circular area is a transportation network with nodes of population density. This pitfall is negated slightly due to the highly developed, urban nature of the Los Angeles area, but it nonetheless exists.

the catchment demographics for each of the major western trailheads are roughly in line with the demographics of Los Angeles County, whites are over-represented (comprising 75% of the park user population compared to 66% for the overall catchment) and people of color are significantly under-represented amongst SMMNRA visitors (in the survey Asians comprised only 5.6%, African-Americans 0.9%, Hispanics 10.7% while other races or respondents who did not wish to answer comprised 18.5%). Demographic comparisons between catchment residents and the trailhead user data for people of color are revealing. Asian residents in the western catchment comprised 9%, African-American catchment residents comprised 10% and Hispanic / Latino residents comprised 27%. Other races comprised 15% of the western catchment overall population. There is little doubt that African-American and Latino residents within the park catchment do not use the SMMNRA to the same extent as their white counterparts.

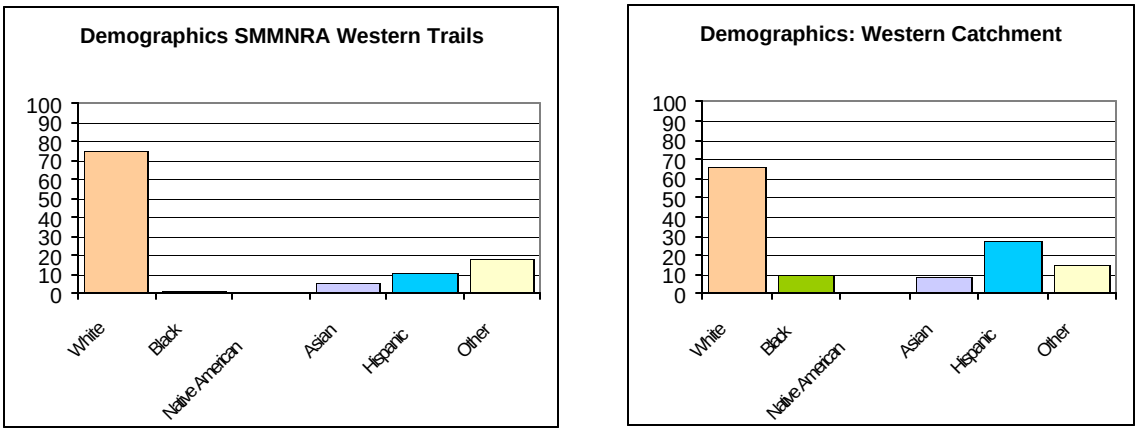


Figure 46 Comparison of Trail Users and Catchment Demographics: West Trails

Perhaps more striking still, was the disparity between the average income of the population residing in the catchment area compared to the average income of SMMNRA visitors derived from survey data. While the average income of survey respondents was between $100,000 and $125,000[16] the average annual income of the population residing in the catchment area is only approximately $40,000.

Catchment demographics for eastern trails

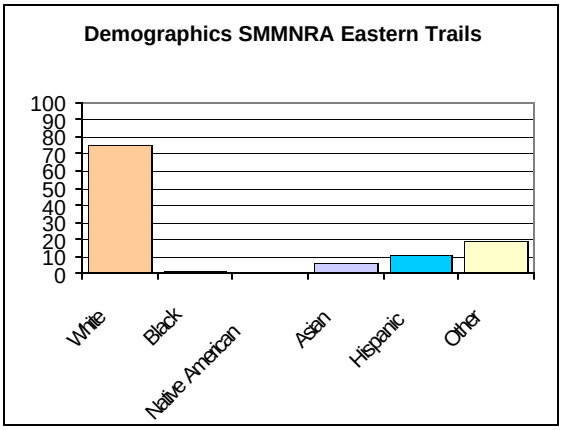
Demographics for the catchment area of eastern trailheads were also compiled using 1990 US Census data. Again the park user demographics were skewed toward white, non-Hispanic, upper income individuals. Whites were over-represented (comprising 71.2%[17] of park users compared to 61% of the catchment population) and

[16] This figure was calculated by converting the ordinal data gathered from the survey to numeric.
[17] Note that this figure refers to eastern trail users, not the overall survey respondents.

other races were under-represented (Asians 4.9%, African-Americans 3.0%, Hispanics 11.5% and other races or respondents who did not wish to answer comprised 21%).

Figure 47 Catchment Areas of Eastern Trailheads

Once again, comparisons between people of color living within the eastern catchment for the SMMNRA trails and the actual trail users are dramatic. With regard to demographic comparisons with the trailhead data, Asian residents in the catchment comprised 10%, African-American catchment residents comprised 11% and Hispanic / Latino residents comprised 30%. Other races comprise 17% of catchment residents. This is a significant disparity. It is evident that eastern trail users are not representative of the population living within the trail catchment area.



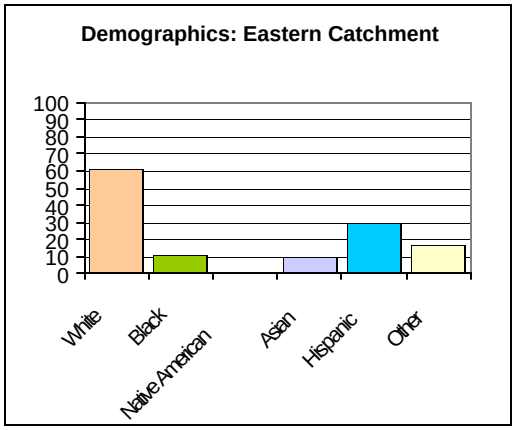


Figure 48 Comparison of Trail Users and Catchment Demographics: East Trails

Finally, in regard to comparison of average incomes between eastern trail users and eastern catchment demographics, it is clear that a disparity is once again present. The average income of survey respondents visiting eastern trailheads was identical to survey respondents visiting large western trailheads, and again, this income is much higher than the average income of residents of the eastern trails overall catchment area, which was $35,000 per annum – five thousand less than for their western catchment counterparts.

These data have implications for effective trail management. The patterns of park use and leisure preferences identified in the literature review in ***Chapter 2*** are confirmed by this survey. There are evident disparities between the socio-economic characteristics of trail users within the SMMNRA and the broader population residing within the trailhead catchments. Clearly people of color are under-represented amongst the trail users of the SMMNRA. Whether this is due to social marginalization, economic reasons, culturally influenced leisure preferences or other factors cannot be readily determined, and should be the subject of further research. However, there are actions that can be taken by the National Park Service and its partner agencies to redress these disparities in the interim, and this is the subject to which we turn in the final section of this report.