User Capacity: Art or Science?

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Santa Monica Mountains National Recreation Area

- A unit of the National Park System; established in 1978
- Covers approximately 153,250 acres from Griffith Park to the Oxnard Plain
- Land ownership mixture of 55% protected parkland and 45% private lands
- Includes 5 State Parks
Tremendous Natural & Cultural Resources, Threatened

- An area of global biodiversity concern
  - [33 T&E species]
  - [50 Candidate or Species of Concern]
  - [100 Park Species of Concern]

- Over 1,000 documented archaeological sites

- Heavy use: Trail network is within an hour’s drive of 1 in every 17 Americans.
Numerous Recreational Opportunities: The SMMNRA Trail Network

Nearly 500 miles in public network

| Trails | 286 mi. |
| Roads (Unpaved/Paved) | 198 mi. |

Most common uses: hiking, horseback riding, and mountain biking.

<table>
<thead>
<tr>
<th>Trail Use Designation</th>
<th>Visitor Survey User Activities (July 2002, Western Area)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple Use</td>
<td>60%</td>
</tr>
<tr>
<td>Hiker/Equestrian</td>
<td>20%</td>
</tr>
<tr>
<td>Hiker-Only</td>
<td>20%</td>
</tr>
</tbody>
</table>
SMMNRA Interagency Trail Management Plan EIS/EIR Underway

Recreational Routes

- **Status**
- **Use Designation**
- **Regional Trail Systems**

Possible Actions

- Keep, Realign, Reengineer, Construct New, Close
- Evaluate and Assign Use Designation, Consider Alternative Management Strategies, Provide Adequate ADA Opportunities
- 6 Systems: Identify Alignments, Evaluate Feasibility

Recreational Facilities

- **Backbone Trail Backcountry Camps**
- **Trailheads**
- **Trail Signage**

Possible Actions

- Backcountry Camps: Construct and Operate on Permit System
- Improve Access, Upgrade Facilities at Existing Trailheads along Backbone Trail and Other Locations
- Implement Joint Agency Trail Rules Signage Strive for Uniform Appearance (Design, Materials)

Estimated Completion of TMP EIS/EIR: Mid- to Late 2015
Trail User Capacity Management at SMMNRA: The Science

Natural Science

Mountain Lion Tracking

- 65% of all GPS locations were greater than 1000m from urban areas.
- 23% of study area was within 100m of a trail.
- 18% of all GPS locations were within 100m of a trail.
- 16% of kills were located within 100m of a recreational trail.
- Only 2% of these kills were located less than 10m from a trail.

Mountain lions and other wildlife use trails, with documentation of use at night. How manage user capacity to support nocturnal, as well as diurnal, wildlife activities?
Natural Science

Vegetation

- Non-native invasive plant presence is greatest near trailheads and diminishes with distance from trails and trailheads. (NPS 2013, in review)

- Coastal sage scrub habitat is most vulnerable to trail-use related non-native species invasion, with multiple use trails having a greater impact than hiking-only trails. Chamise chaparral habitat is most resistant to impacts.
  - (Eric Esby, Master’s Thesis, 2014)

Invasives are common along trails and trails can diminish habitat quality. How manage trails and trail use to reduce continued spread?
2002 Recreational Visitor Survey

- Data collected at 33 trailheads over two weekends and two intervening weekdays in July
- Survey instrument (1,200) covered demographics, travel “shed”, visitation patterns, user types, user attitudes toward SMMNRA and toward other users.
- Visitor count (12,388) to tally total visitation broken down by user types
- Survey is likely outdated for demographics, user types, and total visitation.

Why Protect SMMNRA?

53%: To provide habitat for plants & animals
22%: To provide recreational opportunities
22%: Both habitat and recreation

Recreational Activity

<table>
<thead>
<tr>
<th>Activity</th>
<th>Western</th>
<th>Eastern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hiking</td>
<td>29.8</td>
<td>65.9</td>
</tr>
<tr>
<td>Mountain Biking</td>
<td>34.6</td>
<td>4.6</td>
</tr>
<tr>
<td>Jogging</td>
<td>11.7</td>
<td>8.4</td>
</tr>
<tr>
<td>Sightseeing</td>
<td>6.8</td>
<td>3.8</td>
</tr>
<tr>
<td>Dog walking</td>
<td>1.9</td>
<td>10.0</td>
</tr>
<tr>
<td>Horseback riding</td>
<td>5.2</td>
<td>1.5</td>
</tr>
<tr>
<td>Picnicking</td>
<td>2.6</td>
<td>1.5</td>
</tr>
<tr>
<td>Other</td>
<td>7.4</td>
<td>4.3</td>
</tr>
</tbody>
</table>

User Attitudes toward Others

Approximately 30% of users had “no problem” with other users, and for the most part, users viewed other users favorably or were neutral. 70% of users, however, cited the following problems:

- 28.1%: uncooperative behavior
- 24.9%: leaving animal wastes
- 22.2%: littering
- 20.5%: collisions or injury
- 20.5%: startling people
- 19.6%: damaging plants
- 17.7%: frightening wildlife
- 14.9%: making too much noise
- 6.3%: scaring horses
Trail User Capacity Management at SMMNRA: The Art

The Art: Field Observations, Experience, Professional Knowledge, and Judgment.

Internet Recommendations
And Increased Search and Rescue Events

Escondido Canyon, 102 Visitors Counted on 1-mile Road to Trailhead, Parking Lot for 14 Cars Max. Remainder Parking along Pacific Coast Hwy

Field observations indicate tremendous increase in visitation, particularly Saturday and Sunday mornings throughout SMMNRA parks.

Also worth noting:

Visitor Conflicts - Perceived and/or Documented
Field observations of parking indicate underused "Fee" parking lots and overused "Free" parking lots. Parking along roads has led to more car break-ins, triggering of car alarms, and dangerous walking on very busy roadways.
Trail User Capacity Management at SMMNRA: The Art

Field observations of resource damage from trails and trail use.

Unauthorized Trail Proliferation

Cross-country trails in burned area

Eroding, Dusty Trailheads

Encinal Canyon Trailhead

Bush Toilet in Arch Site

Mishe Mokwa Trailhead

Bush Toilet in Arch Site

Increased Nighttime Use

Barn Owl, Albertson Mtwy Bypass

Indicators

Increase in Illegal Construction

Backbone Trail Mulholland to Etz Meloy Mtwy “Embankment” Construction

Wildlife “Trail” Kill

Rancho Potrero Rancho Sierra Vista, Point Mugu State Park Boney Mtn Wilderness

Non-system trail expansion in State wilderness

Rancho Potrero Rancho Sierra Vista, Point Mugu State Park Boney Mtn Wilderness

Cross-country trails in burned area

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Trail User Capacity Management

How Manage Trails Based on Available Science and Artful Observations?

**General Management**
- Prepare or update trail use surveys/visitor counts.

**Natural Resource Management Strategies**
- Assign time and seasonal use limitations and/or closures.
- Avoid or reduce new trail construction, particularly in CSS.

**Natural and Social Management Strategies**
- Participate in Internet Social Media, Blogs, etc.
- Compare trail density with similar regions.
- Establish use by reservation or permit only.
- Provide clear trail directional signage.
- Provide sustainable and inviting trailheads.

**Social Management Strategies**
- Establish alternate use trail designation strategies.
- Reduce or eliminate entrance fees.
- Install “No Parking” and “No Parking After Hours” Signs on Roadways.
- Provide well-delineated trails to destinations or features.
- Increase ranger presence and volunteer patrol programs.
- Educate, educate, educate...

Cheeseboro Canyon Trail
Trail User Capacity Management

**General Management**


- Prepare or update trail use surveys and visitor counts.

**User Capacity Framework**

City of Rocks National Reserve, Draft GMP EIS
Trail User Capacity Management “Toolbox”

Natural Resource Management Tools - Examples

- Assign time and seasonal use limitations and/or closures.

Example User Capacity Issue: Growing nighttime recreation may have escalating aesthetic impacts and potential impacts on nocturnal amphibians and other wildlife.

Management:
- Restrict areas open for nighttime recreation.
- Restrict use to 10 days surrounding full moon.
- Set curfews for illuminated nighttime recreation.
- Restrict luminous intensity of lights.

Source: NPS Night Skies Program and Travis Longcore, UCLA

- Avoid or reduce new trail construction, particularly in CSS.

Example User Capacity Issue: Do we build the long-envisioned Coastal Slope Trail through ~3 mi. of coastal sage scrub habitat?

Management:
Consider preferences for new one-way long-distance trails or loop opportunities, preferably all avoiding CSS (per science).
Trail User Capacity Management “Toolbox”

Natural Resource and Visitor Management

- Monitor and Participate in Internet Social Media, Blogs, etc.

Example User Capacity Issue:
Recreation destinations go “viral” on internet and lead to over-capacity parking needs, false sense of safety, and observable resource damage.

Management:
- Provide agency-based reviews
- Notify webmasters of erroneous information.
- Respond in field with enforcement and education.
- Provide clear trail directional signage.

- Initiate use by reservation or permit.

Escondido Canyon Search and Rescue Event

Had quite an enjoyable hike here. On our way to the waterfall, we asked some returning hikers how much farther it was and were informed we were past the halfway point, and that the hike was fairly easy. We were therefore very confused when our hike became increasingly vertical, and very soon we were most definitely rock-climbing more than hiking. After a while, we realized we had taken a wrong turn after passing some no-trespassing signs/fences and seeing the waterfall dozens of meters below us. There were a couple of close scraps - the rocks would come loose sometimes, or the dirt would just slide away, but it made for quite a fun hike.

The view wasn't bad; the waterfall is more of a trickle than anything, but that could probably be due to the drought. As other Yelpers have mentioned, using GPS will take you to a random residential neighborhood - park instead at the road labeled "Winding Way".
Trail User Capacity Management “Toolbox”

Natural Resource and Visitor Management

- Provide sustainably designed trailheads with amenities necessary to support resource protection and provide for visitor comfort.

Example User Capacity Issue: Trailhead use, instead of advance planning, dictates parking capacity, circulation patterns, to the detriment of resources and the visitor experience.

Management: Trailhead “Toolkit”

Assign levels of facilities according to location and available funding resources. Suggestions:

<table>
<thead>
<tr>
<th>Expansion</th>
<th>All of “Moderate” and “Basic” facilities, plus expanded parking area, flush toilet, potable water.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate</td>
<td>All of “Basic” facilities, plus information kiosk and vault toilet, fence delineating parking.</td>
</tr>
<tr>
<td>Basic</td>
<td>Sustainable surfacing and drainage, trash receptacles, trailhead entrance sign and trail directional signage, gate, public street parking control signs (“No Parking”, etc.).</td>
</tr>
</tbody>
</table>
Trail User Capacity Management “Toolbox”

Visitor Management Tools - Examples

- Establish alternate use trail designation strategies.

Example User Capacity Issue: Demand continues for shared and non-shared trails continues. How accommodate the increasing numbers of, particularly, hikers and mountain bikers and the ongoing issue of user conflicts?

Management:

- Assign timeframes for shared use or non-shared use.
- Assign shared use single-direction route.
- Use State Parks’ Trail Use Designation Change PEIR for use designation evaluation

Decision-making Filters - Summary

- Can shared use occur in manner that does not impact park resources?
- Can shared use occur without impacting others' experience?
- Can shared use occur safely?

Examples

- Tahoe Rim Trail, Tahoe Meadows to Spooner Summit (9 miles): Mountain biking on even-numbered days.
- Tsali Recreation Area, North Carolina: 40 miles, alternating days of shared use.
- Golden, CO, Centennial Cone Park: 12 miles, weekend alternating days, shared use during the week.
- Golden, CO, Apex Trail: 2.3 miles, biking is one-way on odd numbered days
Thank you