

**FERC Project No. 2426**  
**South SWP Hydropower**  
***Recreation Facilities Demand Analysis and Condition Assessment Study***

**FIELD RESULTS AND DATA SUMMARY**

*May 6, 2019*

Consistent with Section 5.0 of the South SWP Hydropower (Project) Revised Study Plan and as approved in the Federal Energy Regulatory Commission (FERC) Study Plan Determination dated June 14, 2017, the California Department of Water Resources (DWR) and Los Angeles Department of Water and Power (Licensees) provide the following Field Results and Data Summary for Study 4.1.11, *Recreation Facilities Demand Analysis and Condition Assessment Study* (Study), which includes work completed to date, key findings, associated data files, variances, and remaining work. The Licensees consider this data to be public.

***Completed Work to Date:***

The Study is complete. In accordance with the FERC-approved Study, the Licensees completed the following three components: (1) Existing Facility Inventory, Condition Assessment, and Carrying Capacity Analysis; (2) Recreational Facilities Accessibility Assessment; and (3) a Recreation Demand Analysis. Note that the Facility Inventory Assessment and Facility Accessibility Assessment field work was completed concurrently. These components were conducted throughout the 14 Project recreation areas identified in the Study, along with the U.S. Department of Agriculture, Forest Service (USFS) non-Project, Frenchman's Flat dispersed use area, based on FERC's suggestions in their comments on the Study, because downstream areas are affected by Project operations. All survey sites are listed below and identified in figures included as an associated data file as applicable (SSWP\_Recreation\_Amenities\_MapBook).

Pyramid Lake recreation facilities include:

- Emigrant Landing Boat Launch
- Emigrant Landing Entrance Area
- Emigrant Landing Swim and Picnic Area
- Emigrant Landing Picnic and Fishing Area One
- Emigrant Landing Picnic and Fishing Area Two
- Vista Del Lago Visitor Center
- Vaquero Day Use Area
- Spanish Point Boat-in Picnic Area
- Serrano Boat-in Picnic Area
- Bear Trap Boat-in Picnic Area
- Yellow Bar Boat-in Picnic Area
- Los Alamos Campground
- Los Alamos Group Campground

Quail Lake recreation facilities include:

- Quail Lake Day Use Area (parking, portable restrooms, fisherman access paths)

Additionally, as part of the Study, a USFS dispersed use site, Frenchman's Flat (non-Project) downstream of the Project along Piru Creek, was evaluated at the request of USFS and FERC.

A summary of completed work is as follows.

### **Existing Facility Inventory, Condition Assessment, and Carrying Capacity Analysis/ Recreational Facilities Accessibility Assessment**

The Existing Facility Inventory Condition Assessment, and Facilities Accessibilities Assessment were all conducted in tandem. After those steps were completed, a carrying capacity analysis was undertaken for the developed facilities. Completed work in conjunction with the first two study components are discussed below.

#### ***Step 1 (Conduct Site Condition Assessments) and Step 2 (Field Reconnaissance)***

The Licensees conducted an inventory of recreation facilities and amenities that are provided throughout the 14 existing recreation facilities listed above, as well as the non-Project Frenchman's Flat dispersed use site. Each facility was inventoried for parking capacity, including location and number of parking spaces, boat and trailer parking spaces, accessible parking spaces, and other facilities, such as picnic and camping units.

Buildings inventoried in the Study included those identified by USFS. All buildings were evaluated for accessibility, health and safety needs, and general energy efficiency. A complete list of the buildings inventoried as part of the Study are included as part of an associated data file (SSWP\_Recreation\_Buildings\_MapBook\_20190307 and SSWP\_Recreation\_Buildings).

Paved and gravel surfaced roads providing access to recreation facilities and amenities were inventoried to document the condition of road surfaces, pull-outs, intersections, and other relevant information pertaining to features and their respective conditions. Global Positioning System data was collected at locations identified as being in poor condition and photographs were taken to show representative conditions of these areas. The roads were inventoried to include segments identified by USFS and recommended by FERC for inclusion, as listed in the June 14, 2017 Study Plan Determination. The complete list of roads inventoried is included in the associated data files (SSWP\_Recreation\_Roads\_MapBook\_20190417 and SSWP\_Recreation\_Roads).

The field researchers evaluated general use patterns by the public at each developed recreation site within the Project area. For each developed site, the field crews assessed the overall conditions of user-created sites and user-made trails.

An assessment of the accessibility features at the recreational facilities was also undertaken. All 14 sites were assessed for general conformance with guidelines associated with the Architectural Barriers Act Accessibility Standard, the Forest Service Outdoor Recreation Accessibility Guidelines, and the Forest Service Trail Accessibility Guidelines on National

Forest Service lands, as well as Americans with Disabilities Act elements.

The condition of the recreation facilities listed above were assessed and characterized based on the conditions listed in Table 1 below.

**Table 1. Conditions for Recreation Facility Characterization**

Facility Type	Poor	Fair	Good	Excellent
<b>Roads &amp; Parking</b> (circulation and condition of surface paving)	Across most areas, need reconditioning or replacement. Markings worn and less evident. Current conditions could pose safety hazards (pedestrians, bikes, and vehicles) and uncomfortable transit across surface.	Some areas are problematic, but no major safety concerns. May need fresh line markings (note as such when warranted).	Maintained; no rehabilitation within next 5 to 10 years.	New condition; no maintenance required.
<b>Recreation Site Building</b> (condition, including restrooms; statement of condition is reflection of maintenance and observed energy efficiency of buildings)	Structures in disrepair requiring immediate or near-term attention. Potential for significant rehabilitation. Problems could include leaks and sagging roofs or warped exposed wood surfaces.	Some aspects need rehabilitation, such as painting or replacement of roofing or modernization. Repairs should be made but no immediate needs.	Structure appears in sound, well maintained condition. No significant problems observed.	New condition; no maintenance required.
<b>Recreation Site Amenities</b> (condition and functionality of shade structures, water spigots, lighting structures, fencing, trash receptacles, picnic tables, barbeques, grills, drinking fountains, docks, etc.)	Likely that facility amenity should be replaced in near term or at least major overhaul, rehabilitation. Little evidence of maintenance.	Amenity or components appear damaged, less functional, or in need of replacement. Could be accommodated through routine maintenance.	Amenity appears in sound, well maintained condition. No significant problems observed.	New condition; no maintenance required.

<p><b>Signs</b> (presence/condition of Project and recreation signs, indicate content, form/structure, function and basic visibility, and style)</p>	<p>No information on sign. Sign does not exist (where it appears it once stood) and requires immediate repair or replacement, or is essentially dysfunctional in terms of likely utility or use/appeal to meet user needs. Sign structure is out of place with regard to style and appearance of other amenities.</p>	<p>Sign shows some damage or dilapidation; style not in conformance with other signs; structure requires maintenance; information present but requires updating because of poor readability (fading/markings) or relevance (outdated information).</p>	<p>Sign generally in good condition and well maintained. Information displayed is current and relevant for recreation users. No obvious disrepair or maintenance issues.</p>	<p>New condition; no maintenance required. Sign serves its intended purpose.</p>
<p><b>Access</b> (paved trail, natural surface trail, sidewalks, and other access to recreation facilities)</p>	<p>Pavement is crumbling and degraded, and should be replaced or removed. Natural surface trails in poor condition; includes erosion and washouts preventing access to trail users.</p>	<p>Surface shows age and is degraded, but functioning. Some areas are problematic but no major safety concerns. Could be accommodated through routine maintenance.</p>	<p>Trail surface or sidewalk condition appears in sound, well maintained condition. No significant problems observed.</p>	<p>New condition; no maintenance required.</p>
<p><b>Accessibility Compliance</b> (presence of accessible facilities)</p>	<p>Little or no consideration for people with disabilities access; clearly not consistent with ABAAS, FSORAG, FSTAG and ADA (non-USFS lands) guidelines.</p>	<p>Some accessible and accessible type facilities, but in disrepair or not up to date or current standards (e.g. slopes too steep, inadequate turning radius, poor approach surface, docks inaccessible).</p>	<p>Apparent high quality of accessibility. Facilities appear consistent with current standards.</p>	<p>New condition; facilities are built to the most current standards for ABAAS, FSORAG, FSTAG and ADA.</p>

Key:  
 ABAAS = Architectural Barriers Act Accessibility Standards  
 ADA = Americans with Disabilities Act  
 FSORAG = Forest Service Outdoor Recreation Accessibility Guidelines  
 FSTAG = Forest Service Trail Accessibility Guidelines

**Step 3 (Carrying Capacity Analysis)**

Recreation carrying capacity types were assessed at each developed recreation site within the Project area. For each developed site, qualitative and quantitative data was used to identify a comparative and general status with respect to likely ecological, social, and/or management capacity impacts, and to establish an existing capacity parameter (expressed in

qualitative terms, including “below,” “approaching,” “at,” or “exceeding” capacity).

### **Recreation Demand Analysis Study Component**

Subsequent to the inventory and supply-side information gathering steps, the next study component focused on recreation demand, and comprised of six steps: Step 1 (Observational Survey); Step 2 (Visitor Use Questionnaire or Recreation Intercept Survey); Step 3 (Review of Research Publications and Existing Information); Step 4 (Assessment of Regional Uniqueness and Significance of the Primary Recreation Opportunities within the Recreation Study Area); Step 5 (Interviews with User Groups and Recreation Providers); and Step 6 (Regional Demand Assessment).

#### ***Step 1 (Observational Survey) and Step 2 (Visitor Use Questionnaire)***

Observation surveys and in-person intercept surveys were conducted between May 26, 2018, and April 6, 2019, as agreed upon between the Licensees and USFS. The surveys were conducted and completed on three random weekends, three random weekdays, and two holiday weekend days (Memorial Day), for a total of nine survey days. Survey staff performed surveys at nine of the 14 locations (see list below) in the morning and afternoon, for up to two hours per visit. Field work in 2018 was conducted as follows: May 26 and May 27 (Holiday weekend); June 28 (weekday); July 30 (weekday); August 24 (weekday); August 25 (weekend); October 20 and 21 (weekend). In 2019 a field survey was completed on April 6, 2019 (weekend).

The nine locations listed below were selected based on consultation with the Licensees and USFS:

- Site 1: Emigrant Landing Boat Launch
- Site 2: Emigrant Landing Picnic and Fishing Area One
- Site 3: Emigrant Landing Picnic and Fishing Area Two
- Site 4: Emigrant Landing Swim and Picnic Area
- Site 5: Frenchman's Flat Dispersed Use Site
- Site 6: Los Alamos Campground
- Site 7: Quail Lake
- Site 8: Vaquero Day Use Area
- Site 9: Vista del Lago (Visitor Center)

Some questions that were included in the intercept survey came from the 2005 satisfaction “gold” form from the USFS National Visitor Use Monitoring (NVUM) program. The questionnaire was crafted to collect information from recreationists about recreation, activity participation, accessibility needs, areas visited, group size, user conflicts, perceived crowding, visitor profile (i.e. male/female, age, race) and preferences, visual impressions, and satisfaction with or desire for recreational opportunities and facilities in the Study area.

***Step 3 (Review of Research Publications and Existing Information)***

The following publications were obtained for use in evaluating regional recreation demand in the license application recreation analysis: California Department of Parks and Recreation (DPR) Survey on Public Opinions and Attitudes (SOPA) on Outdoor Recreation in California 2012; and the California Statewide Outdoor Recreation Plan (SCORP). The survey results in the SOPA help show that “an understanding of the outdoor recreation demands, patterns, preferences, and behaviors of California residents is essential to develop policies, programs, services, access, and projections of future use.” The SCORP provides guidance for recreation providers, including federal, State, local, and special district agencies.

Also evaluated were reports including DPR's 2005 Park and Recreation Trends in California report, its 2007 California Outdoor Recreation Survey, and its 2012 Survey of Public Opinions and Attitudes on Outdoor Recreation in California.

***Step 4 (Assessment of Regional Uniqueness and Significance of the Primary Recreation Opportunities within the Recreation Study Area)***

The regional uniqueness of Pyramid Lake recreation opportunities and amenities were evaluated by comparing the recreation offerings and use to offerings and use at five other reservoirs greater than 900 surface acres within 70 linear miles of Pyramid Lake. These included Castaic Lake (and afterbay lagoon), Lake Piru, Lake Evans and Webb (connected water bodies part of the Buena Vista Aquatic Recreation Area), Lake Casitas, and Lake Cachuma.

***Step 5 (Interviews with User Groups and Recreation Providers)***

Interviews with Project stakeholders were conducted, and meeting notes were compiled. Structured interviews with recreation providers included staff from Rocky Mountain Recreation Company, Buena Vista Aquatic Recreation Center, the Los Angeles County Sherriff's Office, USFS, Lake Casitas Recreation Area, Lake Piru Recreation Area, DPR, and Castaic Lake State Recreation Area.

***Step 6 (Regional Demand Assessment)***

An analysis of DWR recreation concessionaire visitation reports, along with USFS Recreation Demand and Use information, was undertaken to evaluate identified trends in uses and demand considerations focusing on recreation uses relevant to the Project area.

**Key Accomplishments/Summary of Findings to Date:**

**Existing Facility Inventory, Condition Assessment, and Carrying Capacity Analysis/  
Recreational Facilities Accessibility Assessment**

As discussed above, the Existing Facility Inventory Condition Assessment, and Facilities Accessibilities Assessment were all conducted in tandem. After those steps were completed a carrying capacity analysis was undertaken for the developed facilities. Findings are discussed below.

**Recreation Inventory Component, Step 1 (Conduct Site Condition Assessments) and Step 2 (Field Reconnaissance)**

Table 2 presents the findings of the recreation amenity inventory for the developed recreation facilities. In addition, user-created sites and trails were identified with evidence of dispersed camping uses found near the parking lot of Quail Lake and at the non-Project Frenchman’s Flat dispersed use area. Additionally, during the observation surveys, camping was observed along the shore of Quail Lake, even though it is not an allowed use. A user-made trail was found connecting Vaquero Day Use Area and Spanish Point, as well as one leading downslope to Vaquero Day Use Area from Vista Del Lago Visitor Center. These user-made trails are overgrown and show some signs of erosion and vegetation trampling.

As part of the inventory of recreational facilities, an accessibility assessment was undertaken for the recreation facilities and access routes within the Study area. Findings show there are several facilities and accessible features at many of the 14 developed recreation facilities (Table 1). In general, there was a good distribution of accessibility facilities. However, only some facilities conformed closely to the USFS accessibility standards. Emigrant Landing Boat Launch, Vaquero Day Use Area, and Yellow Bar Boat-in Picnic Area provide the most comprehensive accessible facilities.

**Table 2. Recreation Facilities Inventory List**

Recreation Facility	Recreation Amenities
Quail Lake Day Use Area	<ul style="list-style-type: none"> <li>• Gravel parking area for approximately 37 vehicles, 3 portable restrooms, 3 trash containers, about 3 miles total of gravel surface shoreline trail system, and 3 informational signs</li> </ul>
Los Alamos Campground	<ul style="list-style-type: none"> <li>• 93 individual camp sites with typically 1 picnic table and 1 fire ring per site, 3 ADA/accessible campsites, 4 ADA/accessible restrooms with flush toilets, 5 shade ramadas, 31 potable water spigots, 4 sinks, 16 bear-proof trash receptacles, and 2-lane RV/trailer dump station</li> <li>• Each site is equipped with a parking spur to provide one standard parking space</li> </ul>
Los Alamos Group Campground	<ul style="list-style-type: none"> <li>• 3 group camp sites, 15 tables, 3 shade ramadas, 3 grills, 3 campfire pits, 3 water spigots, 1 restroom building (unisex, flush toilets), 1 outdoor sink, 5 informational signs, and 3 dumpster trash receptacles</li> <li>• Parking spaces for approximately 45 vehicles across all 3 sites</li> </ul>
Emigrant Landing Entrance Station	<ul style="list-style-type: none"> <li>• 2 entrance station kiosks, 7 directional and information signs, boat inspection station, and 24 standard parking spaces</li> </ul>
Emigrant Landing	<ul style="list-style-type: none"> <li>• 1 restroom (unisex, ADA/accessible, flush toilets), 2 floating restrooms,</li> </ul>

Boat Launch	16 information signs, 3 standard parking spaces, 5 ADA/accessible parking spaces (2 van accessible), 73 oversized parking spaces (RV, boat, or bus parking spaces), 1 drinking fountain, 1 boat ramp with 8 launching lanes, and 2 boat docks
Emigrant Landing Picnic and Fishing Area One	<ul style="list-style-type: none"> <li>22 picnic sites (21 shade structures, 22 grills, 2 ADA/accessible tables, 34 standard tables), 2 restroom buildings (unisex, flush toilets), 21 information and directional signs, 6 trash receptacles, 1 drinking fountain, fish cleaning station, 85 standard parking spaces, and 5 ADA/accessible spaces</li> </ul>
Emigrant Landing Picnic and Fishing Area Two	<ul style="list-style-type: none"> <li>5 picnic sites, 5 shade ramadas (one has 3 combined shade ramadas counted as 1), 14 standard tables, 7 grills, 1 restroom building (unisex, flush toilets), 3 drinking fountains, 1 water spigot, 3 trash receptacles, 24 informational and directional signs, 1 pedestrian overlook structure, approximately 78 standard parking spaces, and 2 ADA/accessible spaces</li> </ul>
Emigrant Landing Swim and Picnic Area	<ul style="list-style-type: none"> <li>Swim beach with lifeguard tower; 31 picnic sites, 31 shade ramadas, 52 standard tables, 8 ADA/accessible tables, 34 grills, 2 restrooms (unisex, flush toilets), 13 information and directional signs, 5 water spigots, 2 drinking fountains, 7 trash receptacles, 133 standard parking spaces, and 2 ADA/accessible spaces</li> </ul>
Vista del Lago Visitor Center	<ul style="list-style-type: none"> <li>1 Visitors Center building with interpretive exhibits and ADA/accessible restrooms, 143 regular parking spaces, 10 oversized parking spaces (RV, boat, or bus parking spaces), 6 ADA/accessible spaces (2 van accessible), 1 FERC informational sign, 2 other informational signs, 11 trash receptacles, 2 telescope viewers, 1 overview lookout structure (1 bench, 1 info sign), and multiple standard parking lot lights</li> </ul>
Vaquero Day Use Area	<ul style="list-style-type: none"> <li>Swim beach with lifeguard tower, 14 picnic sites (1 ADA/accessible site, 13 regular), 14 grills, 13 standard tables, 1 ADA/accessible table, 5 bear-proof trash receptacles, 5 water spigots, 1 drinking fountain, 1 fire pit, 2 restroom buildings (unisex, ADA/accessible), 1 lifeguard building, 138 standard parking spaces, and 8 ADA/accessible spaces (3 van accessible)</li> </ul>
Spanish Point Boat-in Picnic Area	<ul style="list-style-type: none"> <li>12 picnic sites with 12 shade ramadas and 9 grills, 1 group barbeque site with 3 grills, 5 trash receptacles, 1 informational sign, 1 restroom building (vault toilets), 4 portal restrooms, 4 portable sinks, and 1 shoreline ski launch lane</li> </ul>
Serrano Boat-in Picnic Area	<ul style="list-style-type: none"> <li>6 picnic sites, 6 grills, 8 standard tables, 1 restroom building (unisex, vault toilets), 2 trash receptacles, and 1 boat dock</li> </ul>
Bear Trap Boat-in Picnic Area	<ul style="list-style-type: none"> <li>2 picnic sites, 3 shade ramadas, 3 tables, 2 grills, 2 trash receptacles, 2 restroom buildings (unisex, pit toilets), 1 information sign and 1 boat dock</li> </ul>
Yellow Bar Boat-in Picnic Area	<ul style="list-style-type: none"> <li>10 picnic sites with 17 standard tables and 3 ADA tables, 10 shade ramadas, 2 ADA/accessible unisex restrooms (vault toilets), 2 trash receptacles, 1 information sign, 1 ADA/accessible ramp to dock, and 1 ADA/accessible boat dock</li> </ul>
Non-Project USFS Dispersed Site – Frenchman’s Flat	<ul style="list-style-type: none"> <li>3 unimproved campsites, 3 picnic tables, 2 restrooms (vault toilets, one with 2 stalls and one with 1 stall), 7 information and directional signs, and 6 trash dumpsters</li> </ul>

*Key:*

ADA = Americans with Disabilities Act  
 FERC = Federal Energy Regulatory Commission  
 RV = recreational vehicle  
 USFS = U.S. Department of Agriculture, Forest Service



A listing of the condition findings by recreation area are provided in the associated data file (Recreation Facility Debrief). In general, most facilities were found to be in good or excellent condition as observed in the field. However, there were a few instances of signs, water faucets, and a campsite or picnic site that were found to be in fair or poor condition. Maps were created to show the amenities location throughout the project vicinity (SSWP\_Recreation\_Mapbook\_20190417).

### ***Recreation Inventory Component, Step 3 (Carrying Capacity Analysis)***

A qualitative and quantitative analysis of carrying capacity of each developed facility was undertaken, and the results are summarized by recreation site in an associated data file (Recreation\_Carry\_Capacity). Findings show that 11 of the 14 recreation facilities are approaching capacity on some summer weekends; however, the capacity concerns were only identified at the peak use periods, and most of the time the facilities are fully accommodating the demand.

### **Recreation Demand Study Component**

The recreation demand analysis study component included further analysis and a compilation of data sets from the information collected. The survey information collection from the recreation demand study component Step 1 and Step 2 was compiled into one report, which is an associated data file (sswp\_Obs and Intercept survey results) and the complete survey results are in associated date file (Intercept\_Survey-Detailed Results).

### ***Recreation Demand Study Component, Step 1 (Observational Survey) and Step 2 (Visitor Use Questionnaire)***

The survey results included observations of users and their different activities. Since the observation surveys were conducted on different types of days (weekends, weekdays, and holidays) user counts reflect peak use, standard use, and slower times at the recreation areas. This data also shows which recreation areas are more desirable and receive more use. The most popular areas on weekends were Emigrant Landing Boat Launch, Emigrant Landing Picnic and Fishing Area One, Emigrant Landing Swim and Picnic Area, Frenchman's Flat Dispersed Use Site, Quail Lake, and Vaquero Day Use Area. Observation monitoring forms included site, weather, time, number of people observed, activities observed, number of cars and boats observed, number of groups, average group size, perceived crowding, observed or perceived user conflicts, languages observed, number of pets observed, and any additional notes. In total, there were 107 interviews conducted at 9 sites over a period of nine survey visits. This gave insight into what users' needs are and how the Project area is being utilized.

On observation dates in the Study area, fishing (from shore) was identified as the most popular activity (55 percent) in comparison to hiking/walking (63 percent) for the 2014 Los Padres NVUM survey. Picnicking was the second most popular activity (53 percent); in the 2014 Los Padres NVUM, viewing natural features was the most popular activity (46 percent). Swimming was the third most popular activity (33 percent); by comparison, the 2014 Los Padres NVUM survey listed relaxing as the third most popular activity (34 percent). The site with the most diversity of activities was Site 4: Emigrant Landing Swim and Picnic Area, followed by Site 2: Emigrant Landing Picnic and Fishing Area One and Site 1: Emigrant Landing Boat Launch. The sites with the least diversity of activities were Site 5: Frenchman's Flat Dispersed Use Site and

Site 9: Vista del Lago (Visitor Center). See the associated data file (sswp\_Obs and Intercept survey\_results\_2018\_12\_14) to find a complete breakdown of all observation surveys. Observed or perceived user conflicts, such as issues at parking lots and boat ramps between user groups, alcohol related conflicts, etc. were noted, if observed. The few user conflicts that were observed are as follows:

- Emigrant Landing Boat Launch - Trailers parked in wrong direction in parking lot
- Emigrant Landing Boat Launch - Some of the oversized parking spaces are not adequate length for the boat trailers
- Frenchman's Flat Dispersed Use Site - Loud shouting at campsite 1; observed odors indicating potential drug use

The intercept surveys reported that Site 4: Emigrant Landing Swim and Picnic Area received the most responses (27 intercept surveys), followed by Site 1: Emigrant Landing Boat Launch (13 intercept surveys), and Site 2: Emigrant Landing Picnic and Fishing Area One (14 intercept surveys).

The primary purpose of the visit of those surveyed was recreation at 92 percent. Two percent of respondents were only stopping in to use the bathroom and 6 percent were only passing through, and going somewhere else.

Refer to the associated data file (Intercept\_Survey-Detailed\_Results) to see a complete breakdown of each question asked from the intercept survey form.

***Recreation Demand Study Component, Step 3 (Review of Research Publications and Existing Information)***

Several documents were reviewed to help understand use levels, trends, and outdoor recreation preferences. Additional USFS planning documents were reviewed to help identify forest management in the Pyramid Lake area. Documents examined included:

- Serving Culturally Diverse Visitors to Forests in California: A Resource Guide, USDA Forest Service, Pacific Southwest Region, June 2009.
- Visitor Use Report, Los Padres NF, USDA Forest Service Region 5, National Visitor Use Monitoring, Data Collected FY 2014.
- Visitor Use Report, Angeles NF, USDA Forest Service Region 5, National Visitor Use Monitoring, Data Collected FY 2014.
- Recreation Visitor Research: Studies of Diversity, General Technical Report, October 2008.
- Survey on Public Opinions and Attitudes on Outdoor Recreation in California 2012, California Department of Parks and Recreation, Natural Resources Agency, State of California, January 2014.
- Outdoor Recreation Trends and Futures: A Technical Document Supporting Forest Services 2010 RPA Assessment.
- Park and Recreation Trends in California, 2005, An Element of the California Outdoor Recreation Planning Program. California Department of Parks and Recreation.

- Meeting the Park Needs of All Californians, 2015 Statewide Comprehensive Outdoor Recreation Plan. California Department of Parks and Recreation.
- Outdoor Recreation in California's Regions, 2013, Issues, Strategies, Actions and Supporting Research. An Element of the California Outdoor Recreation Planning Program, California Department of Parks and Recreation.
- Alternative Camping at California State Parks, A Report on Results of a 2009-2010 Visitor Survey and a 2010 Management and Maintenance Survey. California Department of Parks and Recreation, 2011.
- Rim of the Valley Corridor, Draft Special Resource Study and Environmental Assessment, National Park Service, U.S. Department of Interior, April 2015.
- Environmental Assessment Report, Hardluck Recreation Area Complex, Los Padres National Forest, Ventura and Los Angeles County, California, USDA Forest Service, Los Padres National Forest, December 1978.
- Land Management Plan, Part 2 Los Padres National Forest Strategy, USDA Forest Service, Pacific Southwest Region, September 2005.
- Land Management Plan, Part 3, Design Criteria for the Southern California National Forests, Angeles National Forest, Cleveland National Forest, Los Padres National Forest, San Bernardino National Forest. USDA Forest Services, Pacific Southwest Region, September 2005.
- Final Environmental Impact Statement, Volume 1 & 2 (APPENDICIES) Land Management Plans, Angeles National Forest, Cleveland National Forest, Los Padres National Forest, San Bernardino National Forest. September 2005.

***Recreation Demand Study Component, Step 4 (Assessment of Regional Uniqueness and Significance of the Primary Recreation Opportunities within the Recreation Study Area)***

The assessment of regional uniqueness and significance of the primary recreation opportunities within the Study area yielded useful information in terms of comparing and contrasting the recreation opportunities and offerings available for flat-water recreation resources in the Project region. In evaluating five reservoirs with large water-based recreation developments in the region, Pyramid Lake tends to fall in the middle with respect to water surface area available – an important factor to consider in overall carrying capacity of the lakes for boating and other uses. Pyramid Lake was found to be unique in its close proximity to a major highway (Interstate 5), its consistently high lake levels, and the allowance for all types of watercraft to access most parts of the lake. Results of the uniqueness evaluation are summarized in the associated data file, SSWP\_Uniqueness\_comparative\_table.

***Recreation Demand Study Component, Step 5 (Interviews with User Groups and Recreation Providers)***

Structured interviews with recreation providers provided insights into recreation user needs and demand; based on the interviews, it was noted there is growing demand. Structured interviews with recreation providers included staff from Rocky Mountain Recreation Company, Buena Vista Aquatic Recreation Center, the Los Angeles County Sheriff's Office, USFS, Lake Casitas Recreation Area, Lake Piru Recreation Area, DPR, and Castaic Lake State Recreation Areas. Most interviews indicated a desire for more amenities in camping and day use recreation in the

region (refer to the associated data file “20180603\_SSWP\_Recreation\_Interviews\_Combined” for summaries of the interviews). The interviews also provided insights into successful approaches and operations at similar recreation facilities to Pyramid Lake; some of the findings that involved management practices could be adapted at Pyramid Lake recreation facilities in the future.

**Recreation Demand Study Component, Step 6 (Regional Demand Assessment)**

The regional demand assessment yielded information based on an assessment of all Study findings to date and is summarized below. Findings will be elaborated on in the DLA. Project recreation visitation records were collected and summarized in the associated data file, SSWP\_Annual\_Visitation\_Data\_Figures\_Pyramid\_Lake.

Based on the last eight years of recreation visitation records, about 87 percent of all use is day use, and 13 percent is overnight use. Monthly visitation records since 2011 show a similar steady use pattern for day use and overnight use. Records for boating indicated by the number of boat and personal water craft (PWC) launches show a fairly steady pattern of use, with 2015 showing an increase in boat launches, while monthly PWC launches appear to be trending downward.

USFS also estimates recreation use on forests through the NVUM program. The most recent data for the Los Padres National Forest indicate total estimated annual recreation visits to the forest in 2014 was 938,000, in comparison to 635,000 visits in 2009. The NVUM reports show the total Angeles National Forest visits were estimated to be 2,880,000 in 2016, 3,636,000 in 2011, and 3,031,000 in 2006 (USFS 2018).

For population growth, the California Department of Finance projections were evaluated. The population of Los Angeles County was approximately 9.8 million people in 2010, an increase of 3.1 percent from approximately 9.5 million people in 2000. California Department of Finance projections indicate that population growth in Los Angeles County is expected to continue increasing by approximately 11.3 percent, to over 10.9 million people by 2030 (Table 3). Urban areas within the county contain more concentrated population densities.

**Table 3. Historic and Forecasted Population and Population Density**

Los Angeles County	2000 Census	2010 Census	Percent Change (2000 through 2010)	2020 Projection	2030 Projection	Percent Change (2010 through 2030)
Population (people)	9,519,338	9,818,605	3.1	10,435,991	10,930,986	11.3
Population Density (people/square mile) <sup>1</sup>	2,346	2,420		2,572	2,694	

Sources: U.S. Census Bureau 2000, 2010; California Department of Finance 2014

Other relevant recreation demand information found in the documents reviewed in Step 3 above are outlined as follows.

In the 2009 City of Los Angeles Recreation and Parks Department Community-wide Needs Assessment, the City found that the Caucasian population participates in a wide range of activities, including both team and individual sports on land and water. The report also noted that the Caucasian population has more of an affinity for outdoor non-traditional forms of recreation. The needs assessment report notes that Hispanic and Latino Americans place more emphasis on the extended family, often desiring to gather in large recreational groups with multiple activities available, so all age segments of the group can participate. There is a preference for large group pavilions with picnicking amenities and multi-purpose fields, often used for soccer games. These are all integral to the communal pastime shared by many Hispanics (City of Los Angeles 2009).

Based on a review of several USFS reports by Deborah J. Chavez, Patricia L. Winter, and James D. Absher from the USFS Pacific Southwest Research Station, recreation needs today are different from those in the past; most recreation visitors to southern California forests were by persons of Caucasian American backgrounds, but trends now point toward an increase in visitation by ethnically diverse visitors. Examples of the change in ethnic use patterns and preferences can help inform future demand needs and include the following findings:

- For picnicking, while Caucasian visitors traditionally stay just a few hours and bring foods made at home, Hispanic and Latino Americans often come early in the day and stay all day, often making foods from scratch right on the site.
- Hispanic and Latino Americans often participate in larger groups than can be accommodated with individual site picnic tables, so many traditional site layouts do not fit their patterns of use (Chavez et al. 2008).

In 2009, “Serving Culturally Diverse Visitors to Forest in California: A Resource Guide” was published by USFS. The report notes that despite California’s changing demographics, racial and ethnic groups are underrepresented public land visitors. More than a third of all U.S. Hispanic and Latino Americans, Asian Americans, and American Indian populations live in California. Much of the federal outdoor recreation infrastructure was built many years ago and may need to be renovated and/or repositioned to better serve a wider range of culturally diverse visitors.

Relevant findings are as follows:

- In general, Californians want more amenities: water recreation, outdoor settings for larger groups, wider range of overnight camping facilities, and increase of shorter trails.
- There is a need for more large group shelters for picnics and more evenly distributed trash receptacles (verses large dumpsters).
- While national forests have seen an increase in new visitors in past years, there is a lack of ethnic diversity despite changes in area demographics.
- The lower socioeconomic classes under represented visitors to public lands.
- Outdoors are appreciated differently based on background (great diversity among Hispanic and Latino Americans and their recreational preferences).
- Visitors prefer clean and functioning toilets, picnic tables free of garbage and graffiti, and adequate lighting in campgrounds to feel safe.

- There is a need to have emergency telephones in campgrounds.
- There is a need for multilingual rangers.
- In the design of facilities, it is better to use icons in signage.
- Signs need to be bilingual with Spanish and English, and Hispanic and Latino Americans prefer site information be posted on site.
- Hispanic and Latino Americans tend to prefer forested sites with water features and amenities to support a day-long, extended-family social outing with extensive onsite meal preparation.
- Hispanic and Latino Americans enjoy picnicking, day hiking, camping, and large family gatherings in outdoor settings (Roberts et al. 2009).

**Associated Data Files** (All associated data can be found in the folder with this summary form. Note: Confidential CELL/privileged information will not be posted publicly.):

File Name	Data Description	File Type	File Location
Intercept_Survey-Detailed_Results	Intercept Surveys complete results	PDF	Project website
sswp_Obs and Intercept survey_results_	Recreation survey results	PDF	Project website
SSWP_Annual_Visitation_Data_Figures_Pyramid_Lake	Visitation records	EXCEL	Project website
SSWP_Uniqueness comparative_table	Table comparing Recreation areas	PDF	Project website
20180603_SSWP_Recreation_Interviews_Combined	Notes from the interviews conducted	PDF	Project website
SSWP_Recreation Facility_Debrief	All recorded amenities and condition	PDF	Project website
SSWP_Carry_Capacity	Recreation table detailing each recreation sites full carrying capacity	PDF	Project website
SSWP_Recreation_Roads	Description of all identified recreation roads	PDF	Project website
SSWP_Recreation_Buildings_Mapbook_20190307	Maps of identified buildings	PDF	Project website
SSWP_Recreation_Roads_Mapbook_20190308	Maps of identified recreation roads	PDF	Project website
SSWP_Recreation_Buildings	Photos of buildings and structure details.	PDF	Project website
SSWP_Recreation_Mapbook_20190417	Maps of recreation amenities in the survey areas	PDF	Project website

***Variations from Study Methods, Schedule, or Approach and Abnormalities in Expected Field Conditions:***

There were no variations in Study methods, schedule, or approach from the FERC-approved Study.

***Remaining Work:***

None. This study is complete.

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